ROB MANSPERGER

UX LEADER | DESIGN STRATEGIC THINKER | STORYTELLER

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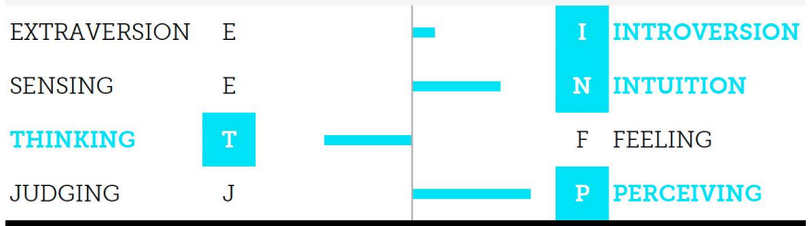
rmansperger@gmail.com

+1 603.233.3802

ABOUT ME

MYERS-BRIGGS TYPE INDICATOR

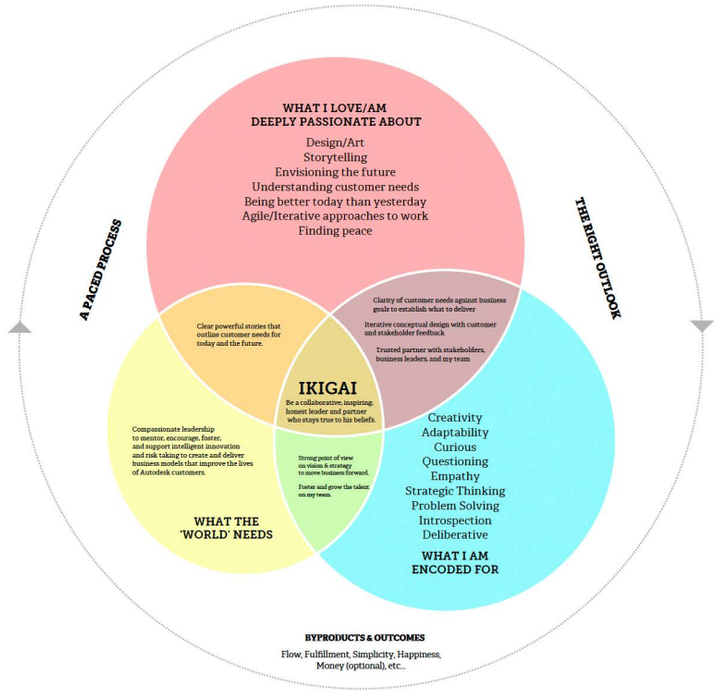
INTP



INTROVERSION: 5 INTUITION: 14 THINKING: `3 PERCEIVING: 18

CLIFTON STRENGTHS

IKIGAI 2.0



What do I love / am deeply passionate about?

Call it "bliss", "love", "passion", or anything else you want. Passion is one of the biggest ingredients in purpose - that's why this is the first and largest circle.

What am I genetically encoded for?

There's a key distinction here to start with: strengths/talents/gifts vs skills. Skills play an important role in how anything manifests and comes to life in the world. And, if you delve deeper into those skills, you may find deeper reasons for why you even have those skills at all. Skills are a byproduct of what you love/are passionate about and your talents/gifts. Knowing skills aren't exactly what we're looking for, we can focus on what this second circle is about: knowing thyself.

What does the world need?

Some people question whether this circle is even needed. After all, I could keep everything I learn and synthesize to myself. By not sharing anything, I could save a ton of time and energy which could be reinvested into more learning and synthesizing. However, this circle is 100% necessary if you are truly aiming for life purpose and meaningful fulfillment.

Note: The term 'world' can be narrowed down to be in reference to family or company to help get thoughts going.

WHAT KIND OF LEADER DO I WANT TO BE?

Leadership is about collaboration and inspiring others to do their best work and to be the best people they can be. I aim to be direct and collaborate with my team members by delegating tasks, leading by example, and making sure they know I care.

As a leader, it's my job to know my employees well. I need to find out what they are passionate about and enjoy doing. Once I establish these things, I can build rapport and begin to help foster and nurture the talent on the team so they can be prepared to face the opportunities before us to reach the future state.

As a leader, it's important to have integrity in all that I do. This means being self-aware, having humility, being honest, removing ego, being accountable, and having resilience.

As a leader, it's important to be as transparent as I can be to build and maintain trust with my team, my customer partners, and my peers.

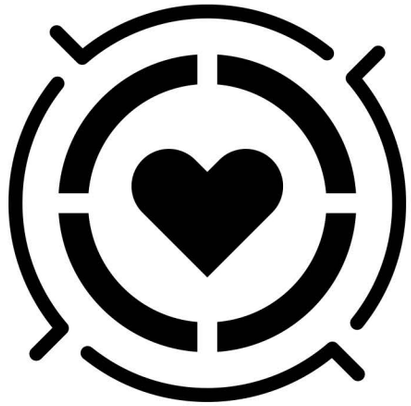
As a leader, it's important to show my vulnerability, sharing my successes and my opportunities to grow so my team understands we have psychological safety. I acknowledge that I am far from perfect, but strive to be better today than I was yesterday by challenging my own assumptions and biases.

As a leader, it's important to take time for myself to learn and grow, but to also know when to put the needs of my team and my peers above my needs. Afterall, a leader is only as strong as the team they serve.

As a leader, it's important to challenge the status quo in order to evolve our thinking and ways we work to improve efficiency, focus on customer needs rather than a checklist of features, and to drive innovation both small and large.

As a leader, it is important to foster empathy through displaying curiosity. By asking probing questions and working alongside my team and business partners, it opens up the opportunity for honest critique. Halle Ko, Executive Design Director at Frog New York says "in the vast majority of situations your role is not to hand down The Answer, but to foster creative solutioning that generates an array of possible answers."

CORE AND TEAM VALUES



OWN IT
Embrace persistence and personal growth as crucial drivers of success.

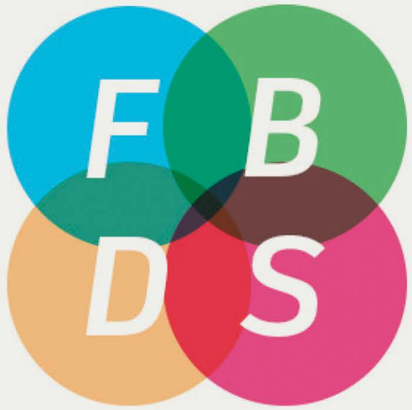
BE HUMBLE. BE HUMAN
Foster respect for authenticity to build meaningful and lasting relationships.

HAVE FUN!
Cultivate positivity, perseverance, and a touch of laughter to make an impact while enjoying the journey.

BUILD TOGETHER
Promote collaboration, camaraderie, and a customer-focused approach as the foundation for collective achievement.

BE A PROBLEM-SOLVER
Empower yourself to redefine challenges and exercise creative freedom.

BE INNOVATIVE
Invest in the resources necessary to lead the field in both concept and execution.



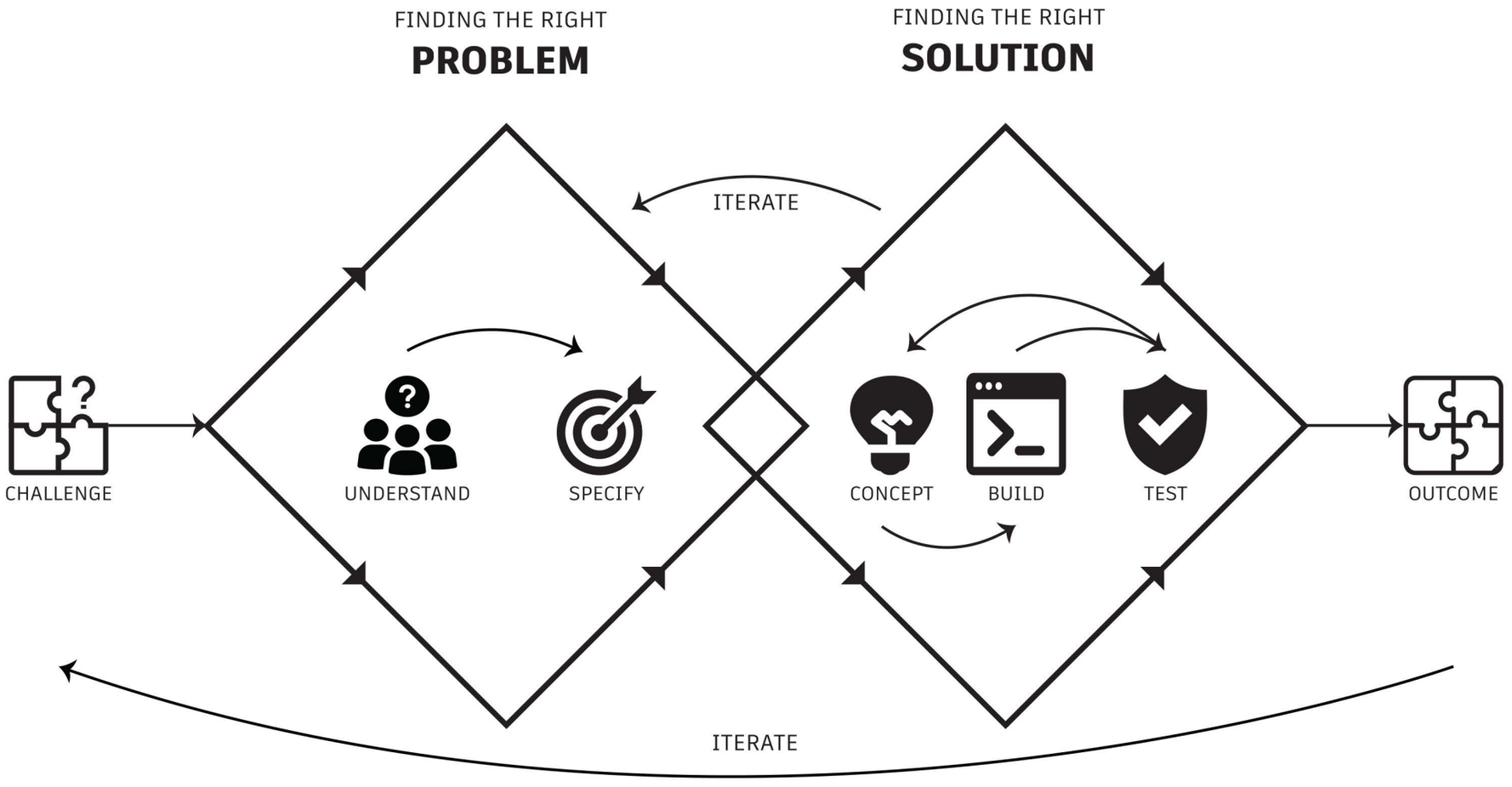
FAST
We are fast and responsive to the changing world of business.

BRAVE
We are brave in tackling our customers' most serious issues and needs.

DECISIVE
We are decisive with our insights, opinions, and recommendations.

SIMPLE
We make the complex simple by applying clarity and focus to the things that really matter.

DESIGN PROCESS
IDEAL STATE



DEFINE
What problem are we looking to solve? Initial thinking without bias to a solution.

EXPLORE
New view and perspective to align on common understanding of customer need.

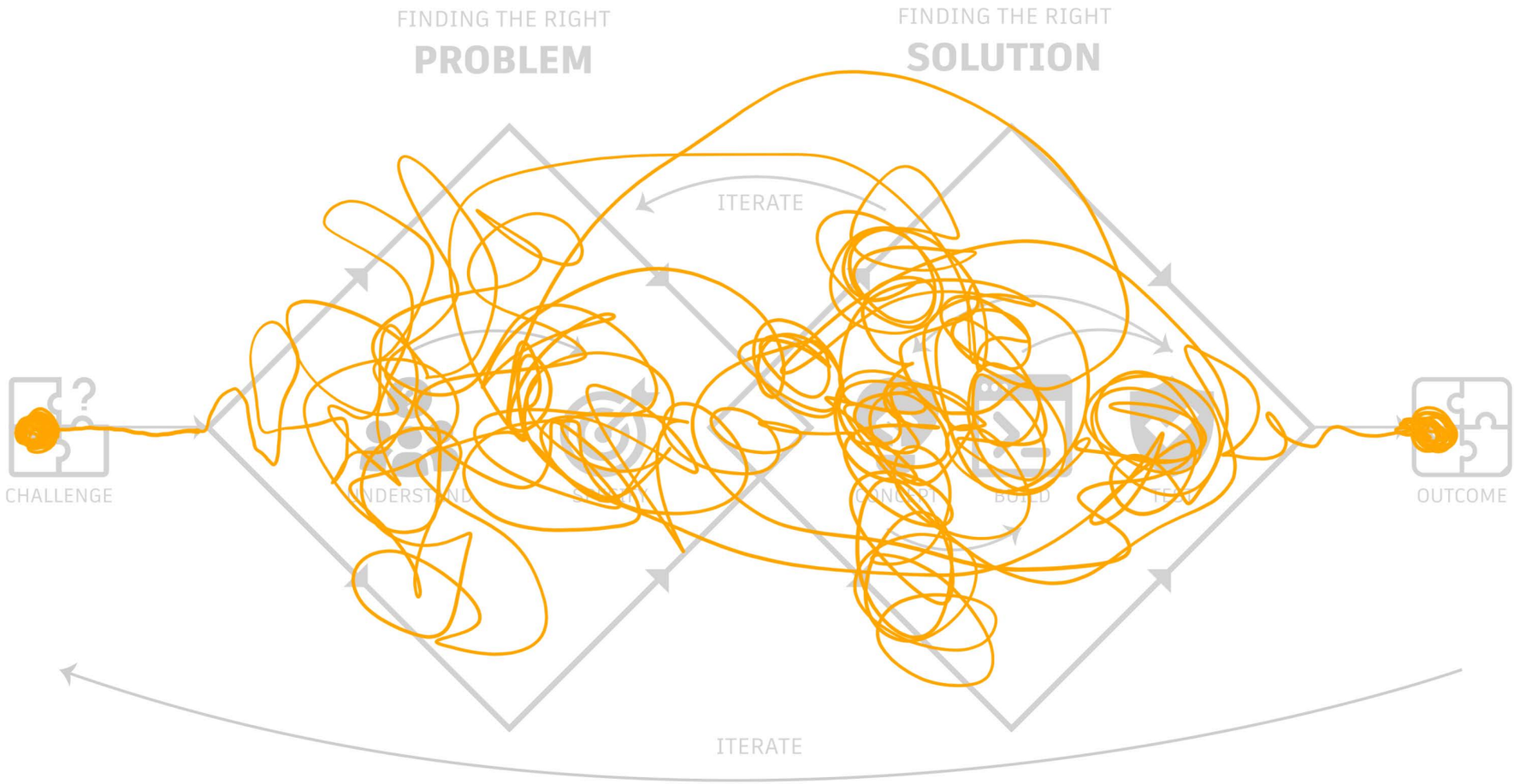
SYNTHESIZE
Consolidate, refine, prioritize on agreed to hypothesis of solution space.

IDEATE
Brainstorm approaches and experiments. Create increments.

GUIDE & REFINE
Results analyzed & evaluated with customers. Next actions decided.

EVOLVE
Celebrate achievements and track learnings & analytics. Plan next steps.

DESIGN PROCESS
THE MESSY REALITY



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CAREER MILESTONES

BFA, COMMERCIAL ART
SYRACUSE UNIVERSITY
1989-1993

FREELANCE
ILLUSTRATOR / GRAPHIC DESIGNER
1993-2019

INTERN
LUMA DESIGN
1995-1997

SR. VXD
ALMUS & LEE
1997-2000

SR. VXD / UXD
DENOVIS
2000-2004

SR. UXD
VERTIGO
2004-2006

UX ARCHITECT
PIXELMEDIA
2006-2010

UX PRODUCER
MAKIBIE
2010-2012

AUTODESK

2018 - PRESENT
SR. MANAGER, EXPERIENCE DESIGN & ANALYTICS
AS THE LEAD FOR EXPERIENCE DESIGN, I AM RESPONSIBLE FOR SHAPING THE USER EXPERIENCE OF PRODUCTS AND SERVICES SUCH AS CIVIL 3D, INFRAWORKS, AND RECAP PRO, AMONG OTHERS.

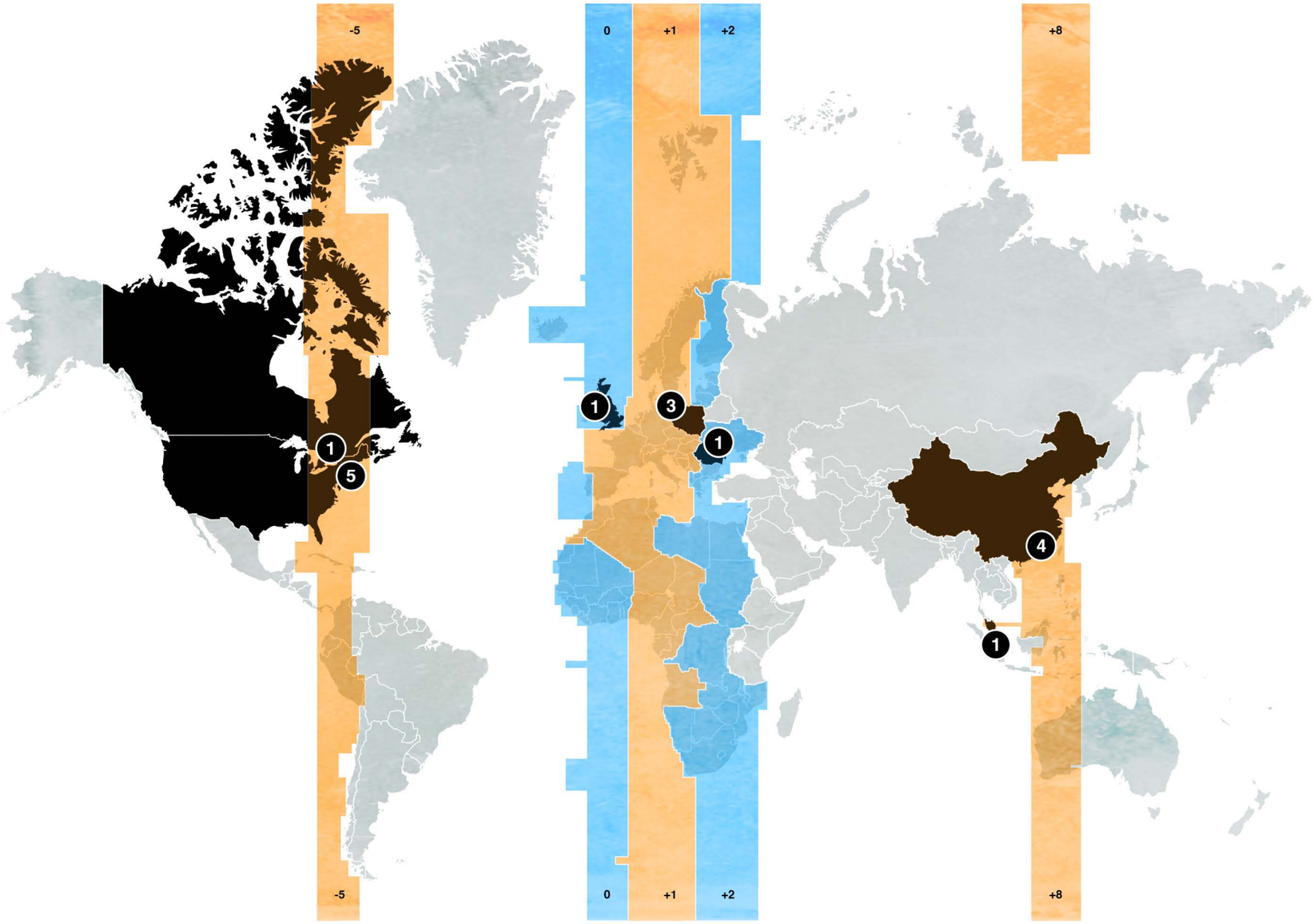
IN MY ROLE, I OVERSEE A TEAM OF USER EXPERIENCE DESIGNERS, USER EXPERIENCE ARCHITECTS, AND CONTENT EXPERIENCE DESIGNERS LOCATED WORLDWIDE. I ENSURE THAT OUR 20+ SCRUM TEAMS FOLLOW BEST PRACTICES AND DELIVER VALUABLE SOLUTIONS THAT ARE BOTH USABLE AND SATISFYING FOR OUR USERS.

ADDITIONALLY, I COLLABORATE ACROSS DIFFERENT GROUPS WITHIN THE COMPANY TO ALIGN EXPERIENCES AND SHARE BEST PRACTICES. I ACTIVELY CONTRIBUTE TO BOTH STRATEGY AND EXECUTION, WORKING CLOSELY WITH PEERS ON THE INFRASTRUCTURE LEADERSHIP TEAM. I APPROACH PROBLEM-SOLVING USING USER-CENTERED METHODOLOGIES, APPLYING THEM AT BOTH THE PROJECT LEVEL AND THE BROADER BUSINESS STRATEGY LEVEL.MY ABILITY TO ALIGN DESIGN EFFORTS WITH BUSINESS PRIORITIES IS COMPLEMENTED BY A DEEP UNDERSTANDING OF BUSINESS HEALTH AND GOALS. FURTHERMORE, I POSSESS EXPERTISE IN SOFTWARE HEALTH, INCLUDING TOPICS SUCH AS SOFTWARE ARCHITECTURE, RESILIENCY, AND SECURITY.

2015 - 2018
TEAM MANAGER / PRINCIPAL USER EXPERIENCE DESIGNER / PRODUCT OWNER
AS THE LEAD FOR EXPERIENCE DESIGN, I HELP THE RESPONSIBILITY OF SHAPING THE USER EXPERIENCE FOR THE DIVISION, WITH A SPECIFIC FOCUS ON THE SYSTEMS ENGINEERING GROUP VERTICAL, ENCOMPASSING MECHANICAL, ELECTRICAL, AND PLUMBING (MEP). I SUCCESSFULLY MANAGED TWO CROSS-FUNCTIONAL TEAMS COMPRISING DEVELOPERS, QUALITY ASSURANCE ENGINEERS, AND USER EXPERIENCE DESIGNERS. WORKING CLOSELY WITH THE PRODUCT MANAGER AND CUSTOMER PARTNERS, I ACTIVELY ENGAGED IN HANDS-ON DESIGN WORK TO ENHANCE PRODUCT FUNCTIONALITY.

2012 - 2015
PRINCIPAL EXPERIENCE DESIGNER / PRODUCT OWNER
IN MY ROLE AS PRINCIPAL UX DESIGNER AND PRODUCT OWNER, I ACTIVELY CONTRIBUTED TO EXTENDING THE FUNCTIONALITY OF REVIT MEP THROUGH HANDS-ON DESIGN WORK. I SERVED AS BOTH A UX DESIGNER AND PRODUCT OWNER ON AGILE DEVELOPMENT TEAMS, LEVERAGING USER RESEARCH TO DRIVE REQUIREMENTS, CRAFTING USER STORIES, AND DELIVERING DESIGN CONCEPTS TO THE TEAM. ADDITIONALLY, I COLLABORATED WITH THE BROADER REVIT UX TEAM TO UNIFY UX PATTERNS AND ARCHITECTURE, ENSURING A COHESIVE EXPERIENCE AND PLANNING FOR FUTURE PLATFORM ADDITIONS.

MY XD TEAM



EXPERIENCE DESIGN & ANALYTICS TEAM

16 MEMBERS ACROSS **7 COUNTRIES** AND **5 TIME ZONES**

UNITED STATES

ROB MANSPERGER, SENIOR MANAGER, EXPERIENCE DESIGN
AUSTIN JEPHSON, SR. PRINCIPAL EXPERIENCE DESIGNER
DANIELLE WILLIAMS, SENIOR EXPERIENCE DESIGNER
KEVIN DOLLEY, PRINCIPAL CONTENT EXPERIENCE DESIGNER
PRATEEK HEJMADY, EXPERIENCE DESIGN ARCHITECT

CANADA

AISHWARYA ANAND SINGH, SENIOR EXPERIENCE DESIGNER

UNITED KINGDOM

HUIMIN ZHUANG, SENIOR EXPERIENCE DESIGNER

POLAND

JOANNA ORZEL, SENIOR EXPERIENCE DESIGNER
MAGADELINA B, SENIOR EXPERIENCE DESIGNER
YASMIN AL ISSA, CONTRACTOR

ROMANIA

FLAVIA DOBRESCU, SENIOR EXPERIENCE DESIGNER

CHINA

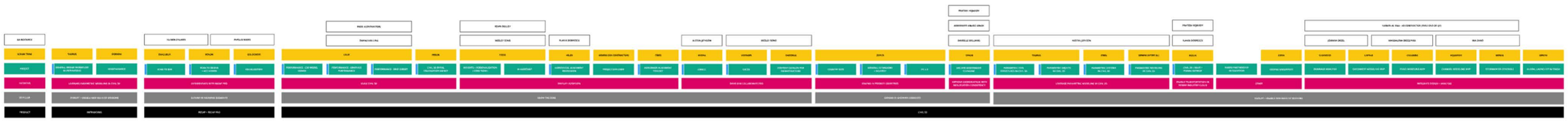
MARA MA, MANAGER, EXPERIENCE DESIGN
MIA ZHAO, EXPERIENCE DESIGNER
RIGEL FANG, CONTRACTOR
WESLEY SONG, SR. PRINCIPAL EXPERIENCE DESIGNER

SINGAPORE

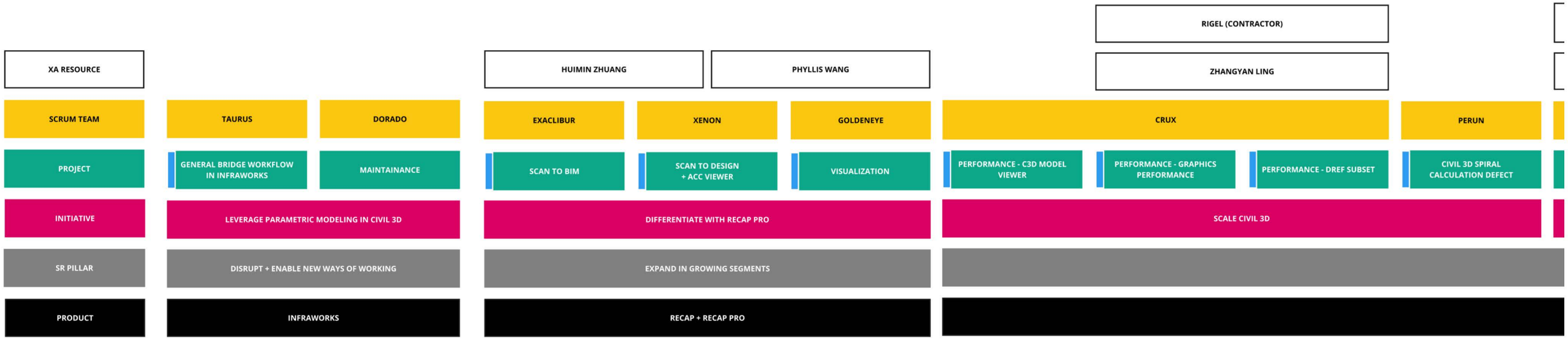
PHYLLIS WANG, EXPERIENCE DESIGNER

XD TEAM RESOURCING
TYING TO HIGHER-LEVEL GOALS

OVERALL RESOURCING



DETAIL VIEW OF RESOURCING



QUOTES FROM COLLEAGUES AND CUSTOMERS

“You have always been a person I’ve looked up to and felt embodied the best of us.”
Harlan Brumm

“You have been one of the most thoughtful, kind, passionate, insightful, and downright decent people I have had the pleasure to work with.”
Sol Amour

“From our interactions – especially at TechX – it was clear to me that you radiate both competence and integrity.”
Abby Lott

“I truly appreciate all the support, encouragement, and positivity you've brought to everyone around you. You have always been a source of inspiration, and I truly enjoyed having you as a manager and mentor. Your caring nature and fun spirit made our workplace a better place. And your leadership has made a significant impact on both my professional growth and the overall work environment.”
Jingyi Wen

“Though not your direct report, I was fortunate to collaborate with you and your team. Your support, guidance, and insights meant a lot, even beyond Autodesk.”
Cathy Fang

“You have been a great colleague, manager, and remain a great friend.”
Andrew Bushnell

“Even though its been awhile since we worked together, I still remember the clarity and thoughtfulness you brought to everything you did. Any team that values insight and expertise would be lucky to have you.”
Onur Orhon

“You had a huge impact on those your directly and indirectly supported at Autodesk.”
Heather Lech

“I will never forget witnessing your talent to illustrate and storyboard customer experiences. It was inspiring to me and is a timeless skill.”
Jessamyn Edwards

“As a customer, it was absolutely clear to me how much you cared about your work. We spent a lot of time together at a Gunsligner during the difficult MAP integration into Revit. It just wasn’t ready, but it was so evident to me how much you cared about making it better. Your integrity was evident in spades, and I have never forgotten that experience because of it. That experience has been part of what has made me champion Autodesk from the other side of the fence.”
Andrew Duncan

“I really enjoyed working on your team and benefitted from your candor and mentorship!”
Elizabeth Yount

“You are a standout leader, and I always appreciated your thoughtfulness and creativity. Really a cut above.”
Diane Carr

“My too-few interactions with you reminded me that are really interesting, thoughtful, and deeply talented people at Autodesk that pushed us all to do better. Thank you for your impact.”
Michelangelo Capraro

“You are one of the most engaged, genuine, and curious humans I had the pleasure of interacting with during my time in tech. I always took note of how invested you were in both the products and the people at Autodesk. You are a very inspiring person.”
Jen Cooper

“You are amazing and one of the biggest reasons I’ve loved my time at Autodesk. I’ll miss having you around as a colleague, mentor, and friend at work.”
Jason Oliveira

“You have been a supportive and motivating presence for me, and you are always my mentor. I want to thank you for everything you have done for the team and for me personally.”
Mara Ma

“I hope you know how much I admired you as my manager for the space you enabled me to grow. You have and will continue to be a person that is a huge positive influence on who I am as a human being. I will miss not having you around.”
Prateek Hejmady

“You have been such an amazing mentor, and a fantastic role model for me. From the moment I started transitioning into manager role, you have always been there for me - providing guidance, support, checking on me when I needed help, hopping on calls to answer my questions and more.

You are not just an amazing colleague and manager but an extremely empathetic, resilient, witty and an absolutely wonderful human being. I have always admired your grace and authenticity throughout all our interactions. I feel so lucky to have worked with you closely for past couple of years.”
Devashree Desai

“Thank you for helping me trust my own opinions and instincts at work. When I am in a room full of loud voices and I choose to be calm rather than raise my own voice, it's because you showed me how to do that.”
Sarah Cunningham

“I have valued your contribution, collaboration and insight very much over our time working together.”
Alexander O’Connor

“You’ve always been someone I’ve looked up to, and I deeply appreciate the support and guidance you’ve given me, especially in connecting me to the company: our coffee chat from 3 years ago still feels like yesterday.”
Shengxi Wu

QUOTES FROM COLLEAGUES AND CUSTOMERS

“I had the opportunity to be interviewed by you last year, and you provided incredible insights and feedback. It was a great experience connecting with you.”
Vikrant Kumar

“The team won’t be the same without your creativity, wisdom, and talent to empower colleagues around you. I’m truly grateful that you were my mentor this past year. I learned so much and got a lot of inspiration from our conversations.”
Daria Golubeva

“You had an amazing reputation at ADSK. I only heard great things said about you and your work.”
Jeff Lashins

“I’ll never forget how you supported me when I reported to you.”
Helena Wahlstrom

“I'll miss you as a leader and as a human that brought lightness and creativity every day to work. You made every project we worked on together so much better.”
Andrea Fajardo Valerio

“I remember partnering with you at last year’s TechX accessibility booth and immediately appreciating your warmth, approachability, and insight. Sharing ideas with you was effortless, and your integrity and thoughtfulness truly stood out. Any team would be fortunate to have a leader like you.”
Alan Ho

“My team and I have really learned a lot from you as a leader and great thinker! What a warm and caring person you are always empowering the people around you to be better and do better.”
Bjorn Saunes

“You've made a huge and lasting impact on me and my thinking of how design professionals and overall team managers should be...that I take forward to my new endeavors.”
Madhura Chavan

“I am glad you were the very first Autodesk person I met because you set a high standard for what a great colleague is. You made me feel very welcome in an uncertain time.”
Alvaro Ruiz

“Over the last 8 years it has been great having you as my manager, by my side, fighting for me, celebrating accomplishments, and helping me through the various work and personal challenges that we all face. I've always appreciated your honesty, integrity, sharp wit, love of science fiction, open communication, and all the other little things you did to help us be successful at work and enjoy life.”
Austin Jephson

“You’ve been the best, most sincere manager I’ve had the pleasure to work with. Thank you for all the support, empathy, and advocacy you have given me over the past 4 years. The team is going to miss you terrribly.”
Danielle Williams

“It's been a pleasure working with you over the past few years. I admire the enthusiasm you brought to the team, along with your authentic self.”
-Dan Lohmeyer

“You should be proud of your career and impact. Rest assured, you’ve had a great impact on our team, products, and initiatives.”
-Dan Philbrick

“I've appreciated working with you. Your thoughtfulness and leadership as a people manager have truly made a difference. You've always been a great support and a pleasure to collaborate with and I've learned so much from you.”
-Rayna Wang

PORTFOLIO

.01
INVESTIGATING A DESIGN CONCEPT INTENDED TO SUPPORT THE GROWTH OF THE DIGITAL COMICS MARKET.

.02
REIMAGINING INFRASTRUCTURE: EARLY-STAGE DESIGN CONCEPTS FOR PARAMETRIC DESIGN IN ROAD ENGINEERING.

.03
VISIONARY BLUEBPRINT: TRANSFORMING MARKET CHALLENGES INTO PRODUCT EXCELLENCE.

.04
OFFERING DESIGN SUGGESTIONS AND CONSTRUCTIVE FEEDBACK TO COLLEAGUES DURING DESIGN REVIEW SESSIONS.

.05
ENABLE MEP DESIGNERS TO ANALYZE CLOSED-LOOP HYDRONIC NETWORKS WITHOUT PHYSICALLY CONNECTING EQUIPMENT.

.06
DESIGNING AN INTUITIVE MOBILE APP FOR MECHANICAL DESIGNERS TO QUICKLY MODEL HYDRONIC PIPE NETWORK LAYOUTS.

.07
DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

.08
OFFERING STRUCTURED ENROLLMENT SUPPORT FOR EMPLOYEES TO CONFIDENTLY NAVIGATE THEIR BENEFITS.

INVESTIGATING A DESIGN CONCEPT INTENDED TO SUPPORT THE GROWTH OF THE DIGITAL COMICS MARKET.

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According to Fortune Business Insights (June 16, 2025), the global comic book market is estimated to reach approximately USD 17.69 billion in 2025, with continued growth projected to USD 26.75 billion by 2032. Digital comics are experiencing robust expansion, with an anticipated CAGR of 5.5% from 2024 to 2029. This increase is attributed to factors such as enhanced convenience and accessibility offered by smartphones and tablets, greater adoption by younger, tech-savvy audiences, and increased interest driven by cross-media synergy with comic-based films and television series. Despite this digital momentum, physical comics continue to command a larger share of the market due to their significance for collectors and readers who appreciate the tactile experience.

To further stimulate growth in the digital comics segment, providing users with features that allow them to view the complete published work, toggle text on or off, and switch between inked or penciled artwork could enhance the reading experience and potentially drive higher sales of digital editions. And rather than create a standalone app, I explored adding these capabilities into already established apps, such as Google Play Books.

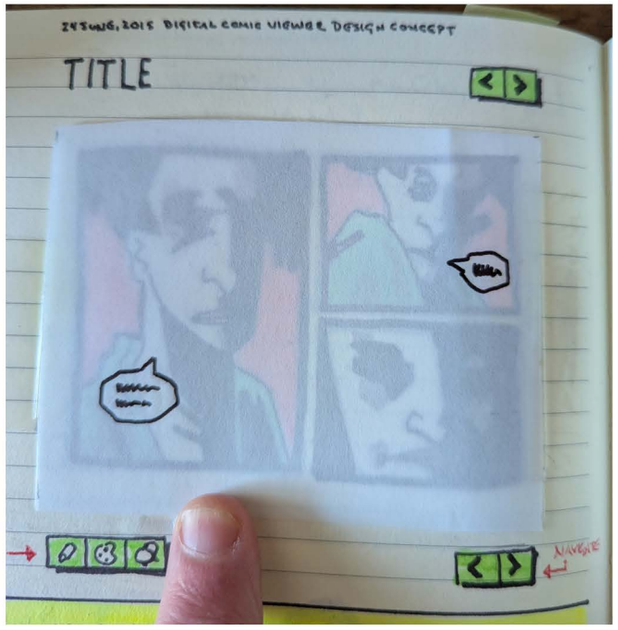
Results/Outcomes

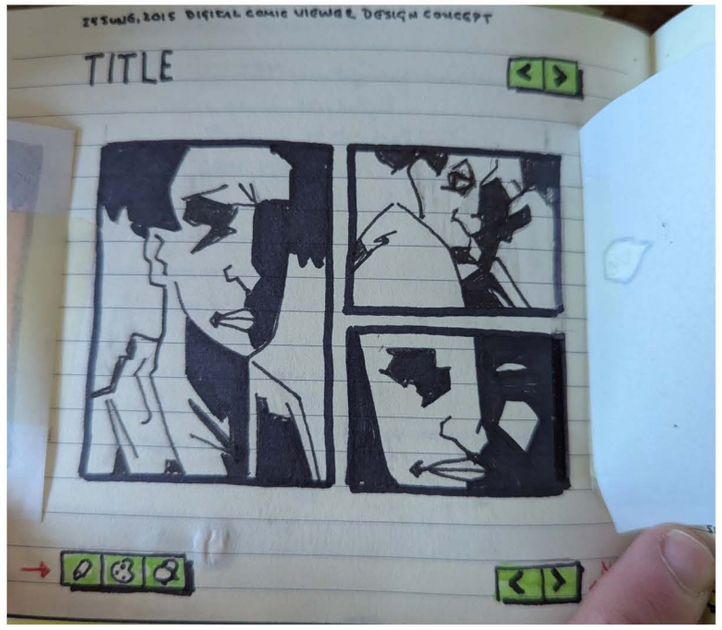
“This type of solution would entice me to purchase more digital comics than I do currently. I love this abilitiy to explore the art in different stages!” - Scott

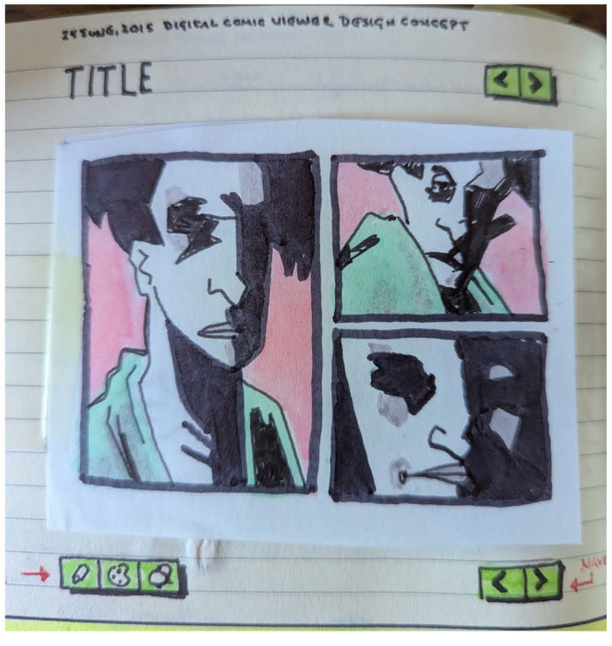
“This type of control over how I view digital comics would really change the game for publishers! I hope this goes farther.” - Joe

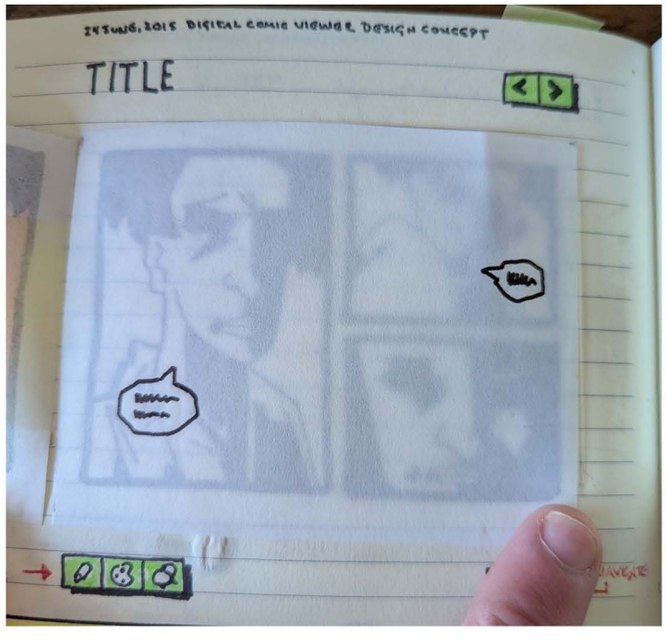
“This would definitely provide digital comics an edge over spending my money on physical copies.” - Paige

ORIGINAL SKETCHBOOK CONCEPT FOR STANDALONE APP FROM 2015



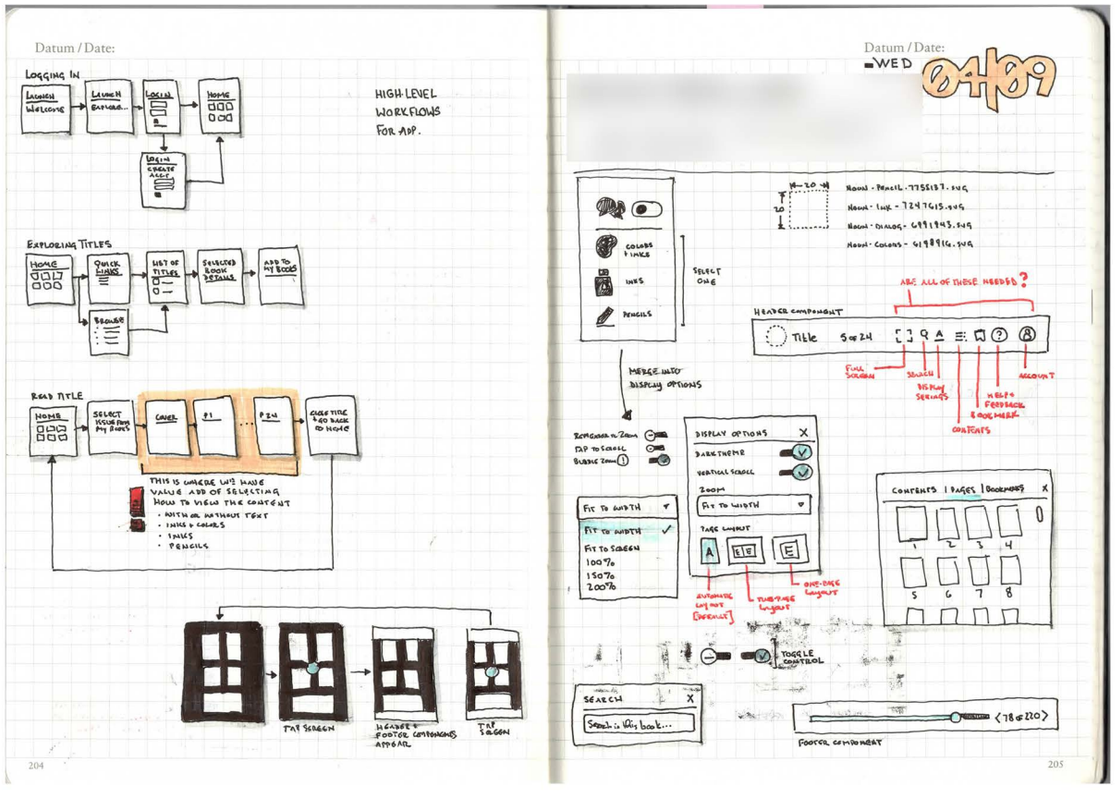


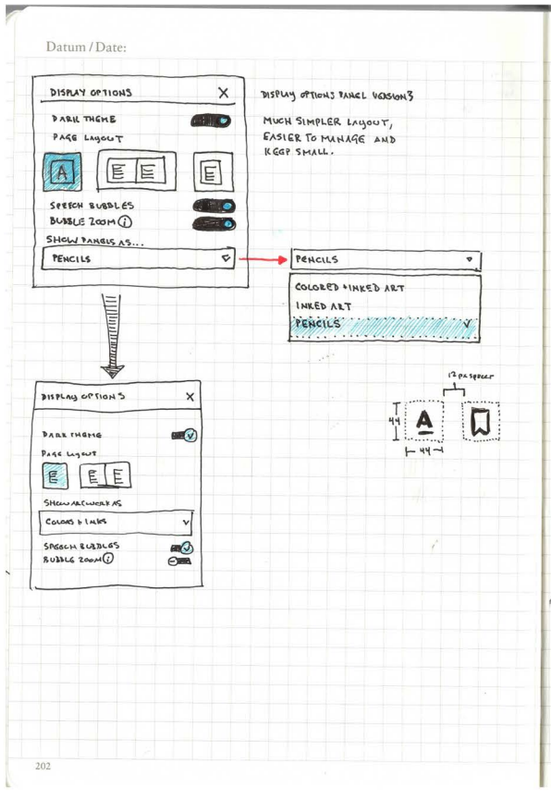


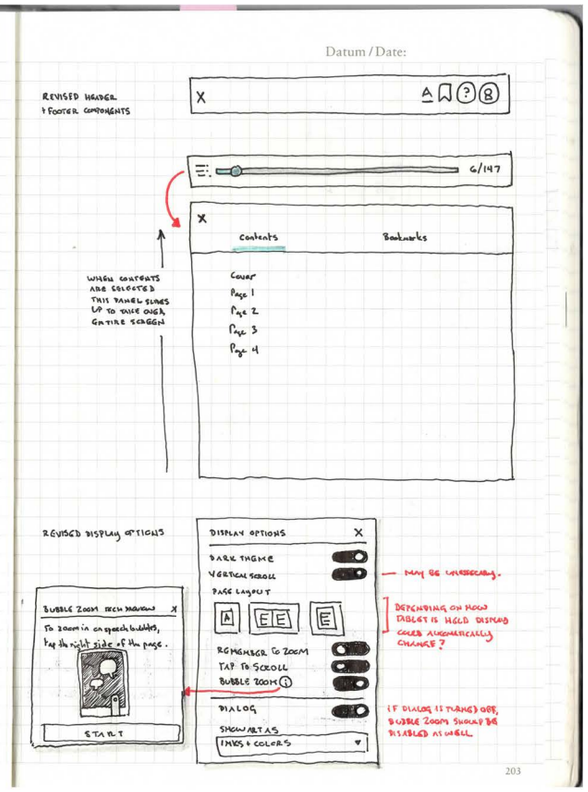


INVESTIGATING A DESIGN CONCEPT INTENDED TO SUPPORT THE GROWTH OF THE DIGITAL COMICS MARKET.

ITERATING ON THE CONCEPT 2025



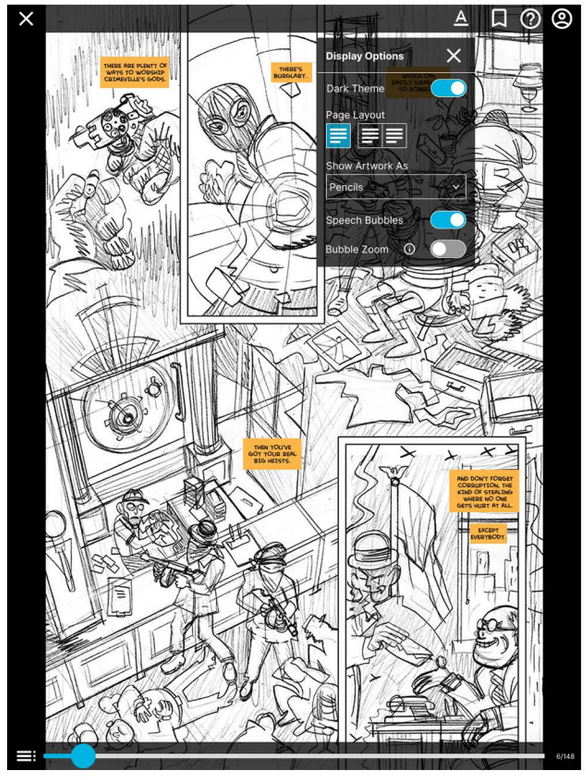


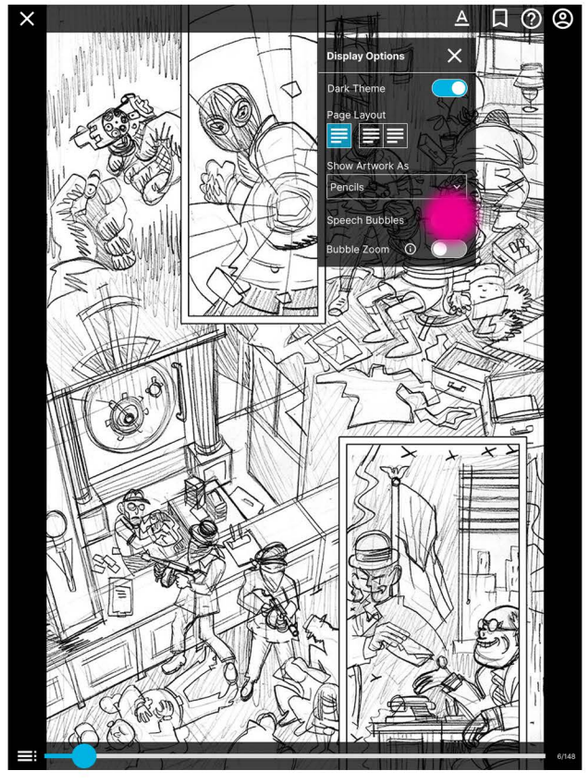


INVESTIGATING A DESIGN CONCEPT INTENDED TO SUPPORT THE GROWTH OF THE DIGITAL COMICS MARKET.

FINAL DESIGN CONCEPT

INVESTIGATING A DESIGN CONCEPT INTENDED TO SUPPORT THE GROWTH OF THE DIGITAL COMICS MARKET.





REIMAGINING INFRASTRUCTURE: EARLY-STAGE DESIGN CONCEPTS FOR PARAMETRIC DESIGN IN ROAD ENGINEERING.

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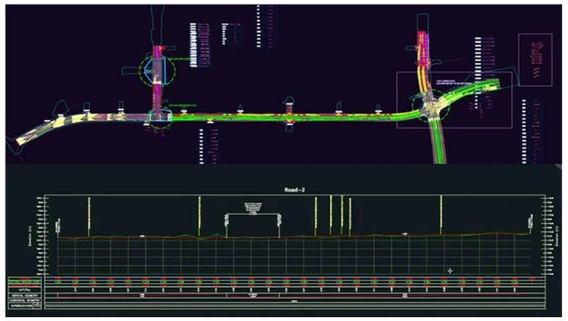


2D CAD drawings of roads use two-dimensional lines, polylines, arcs, text, and annotations. This approach can result in time lost due to re-work. Additionally, varying perspectives from multiple stakeholders may require road and infrastructure engineers to r edesign the same project multiple times. Parametric road modeling simplifies road design and terrain modeling, making the process more efficient and reducing the need for re-work.

The transition from traditional 2D design to a 3D-model-oriented design is driven by the ability to detect conflicts during the planning stage and to manage or reduce construction time. This transition can lead to more cost-effective projects. Parametric modeling will facilitate seamless data transfer between products such as Civil 3D, Revit, and Forma. It will also enable more granular editing within a collaborative project environment.

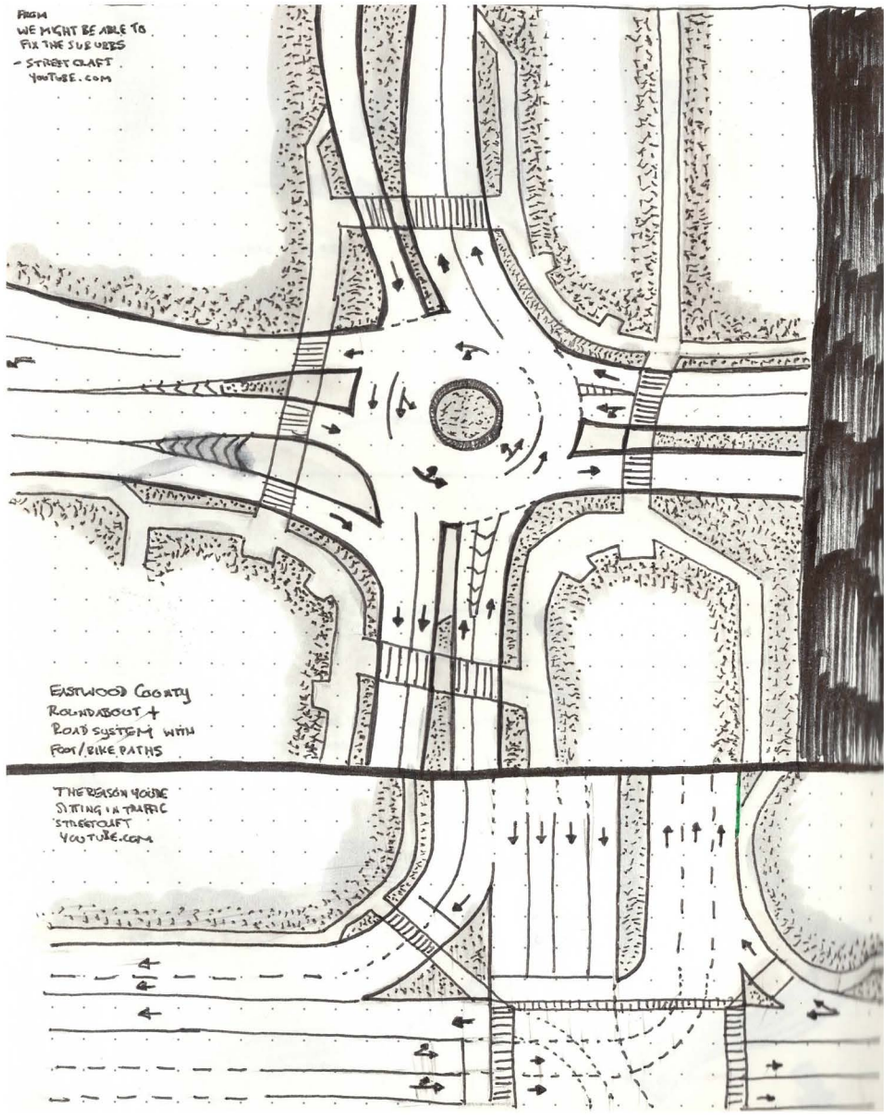
My work was early-stage concept thinking to help identify the need for investing in the initiative and to provide initial high-level thinking for a Discovery Team.

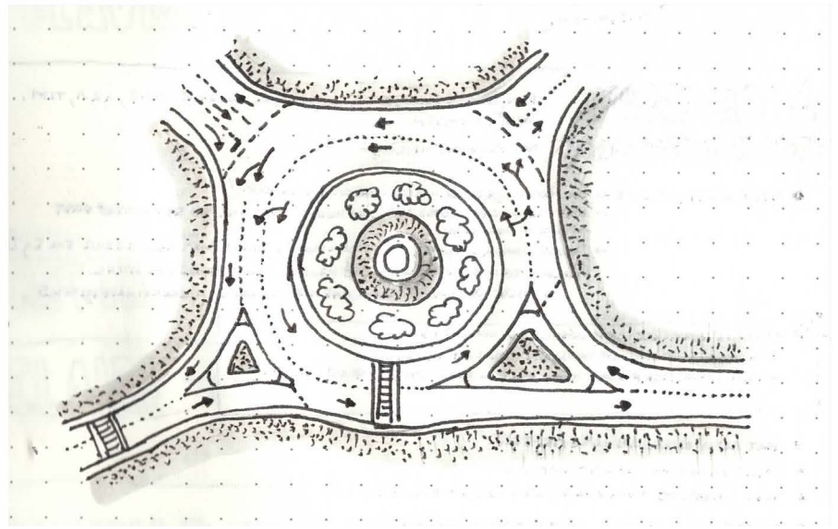
Other people involved

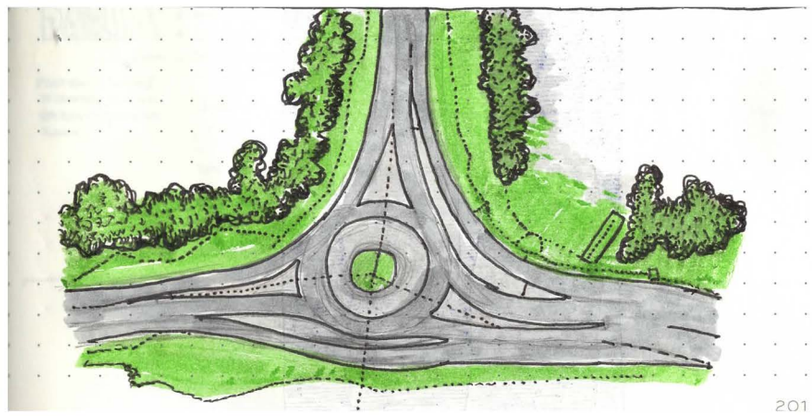
Distinguished Software Architect

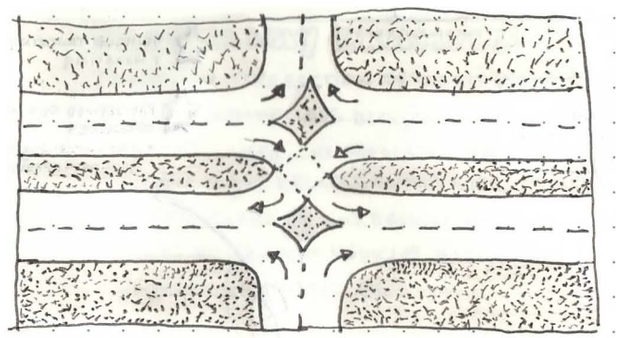
Senior Product Manager

THE TYPES OF COMPLEX ROADS WE NEED TO MODEL



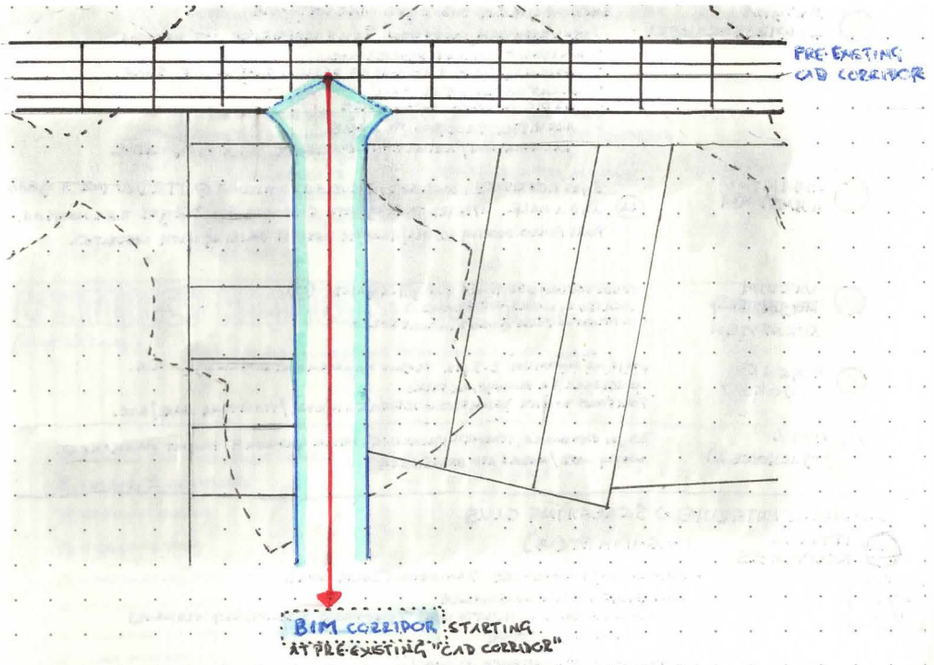




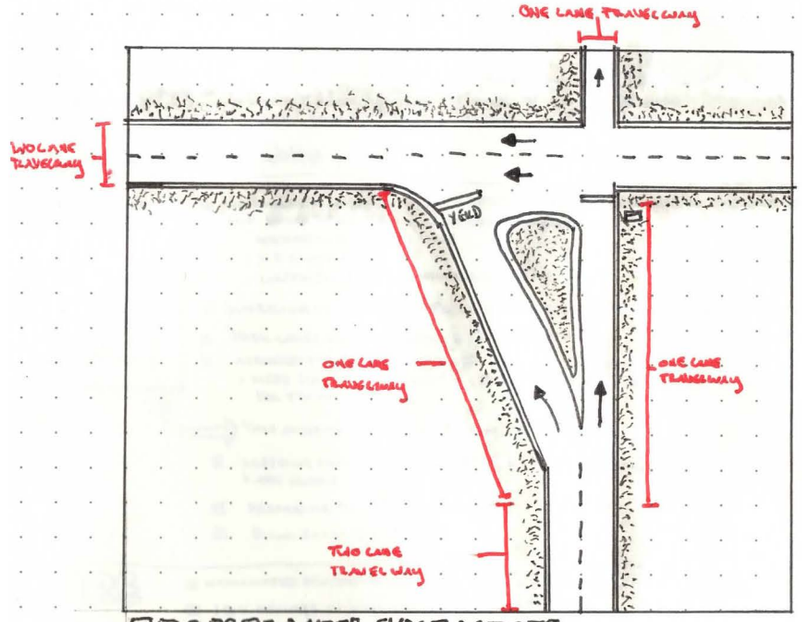


REIMAGINING INFRASTRUCTURE: EARLY-STAGE DESIGN CONCEPTS FOR PARAMETRIC DESIGN IN ROAD ENGINEERING.

DESIGN CONSIDERATIONS



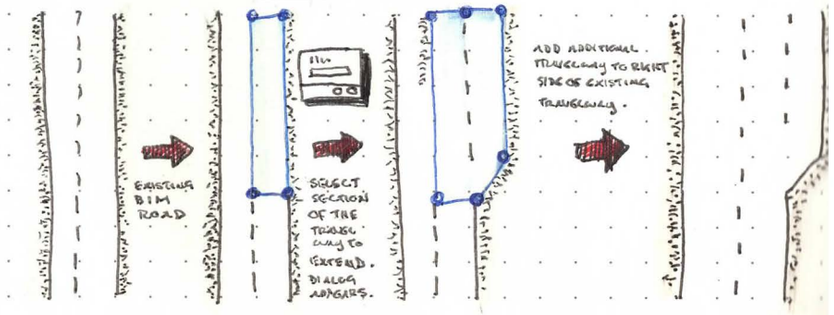
THE CIVIL ENGINEER OPENS THE EXISTING DRAWING CONTAINING THE EXISTING LAND CONDITIONS + MAJOR ROAD CORRIDOR THAT THE NEW ROAD CORRIDOR WILL EXTEND FROM. FROM THE RIBBON IN CIVIL3D OR THRU CONTEXTUAL CONTROLS IN THE CANVAS ITSELF, THE ENGINEER LAUNCHES THE BIM CORRIDOR ("CORRIDOR 2.0") ENVIRONMENT. THE BIM CORRIDOR ENVIRONMENT DISPLAYS THE EXISTING CAD DRAWING AND THE AVAILABLE BIM CORRIDOR TOOLS. THE CIVIL ENGINEER CREATES THE ALIGNMENT OF WHERE THE CORRIDOR WILL GENERALLY BE PLACED AND ENTERS BASIC CRITERIA FOR THE CORRIDOR [SPEED, # LANES, ETC.] FOR DESIGN CONTEXT. THE CIVIL ENGINEER TRIGGERS AUTODESK GPT AND TYPES "FOR THE SELECTED ALIGNMENT, OPTIMIZE THE PLACEMENT. GIVEN THE DESIGN CRITERIA." AUTODESK GPT PROVIDES A FEW ALTERNATIVE PLACEMENTS AND RATIONALE FOR THE ALTERNATIVES. THE CIVIL ENGINEER SELECTS THE OPTION THEY DETERMINE TO BE BEST FOR THE PROJECT. THE ALIGNMENT REPAINTS TO THE SELECTED POSITION. WITH THE ALIGNMENT SELECTED, THE CIVIL ENGINEER CHOOSES THE ROAD TEMPLATE FROM THE TOOLS. THE ROAD CORRIDOR PAINTS AROUND THE ALIGNMENT + ADHERES TO THE DESIGN CRITERIA + EXISTING CONDITIONS. THE ROAD CORRIDOR BLENDS INTO THE CAD ROAD CORRIDOR SEAMLESSLY PROVIDING A COMPLETE AND ACCURATE MODEL THAT CAN BE ANALYZED AS NEEDED.

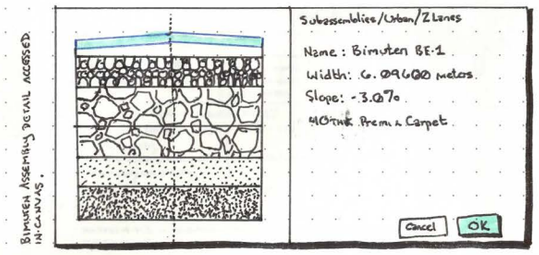


TRAVELWAY EXAMPLES

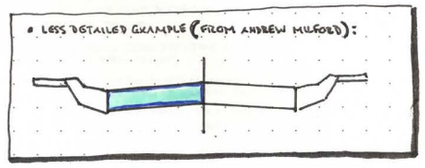
TRAVELWAY IS THE SECTION OF THE STREET IN WHICH VEHICLES TRAVEL, AND INCLUDES BICYCLE LANES, TRAVEL LANES, TURNING LANES, AND MEDIANS. THE DESIGN OF THE TRAVELWAY IS RELATED TO THE STREET'S VEHICLE TRAFFIC CAPACITY AND DESIGN SPEED, AS WELL AS THE NEEDS FOR TRANSIT VEHICLES, BICYCLISTS, AND EMERGENCY VEHICLES.

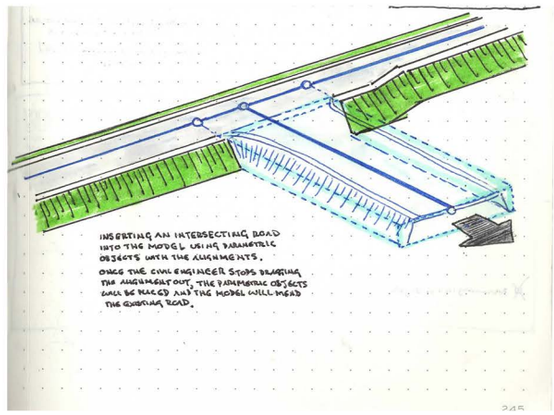
TRAVELWAY - LANES GOING IN A SINGLE DIRECTION





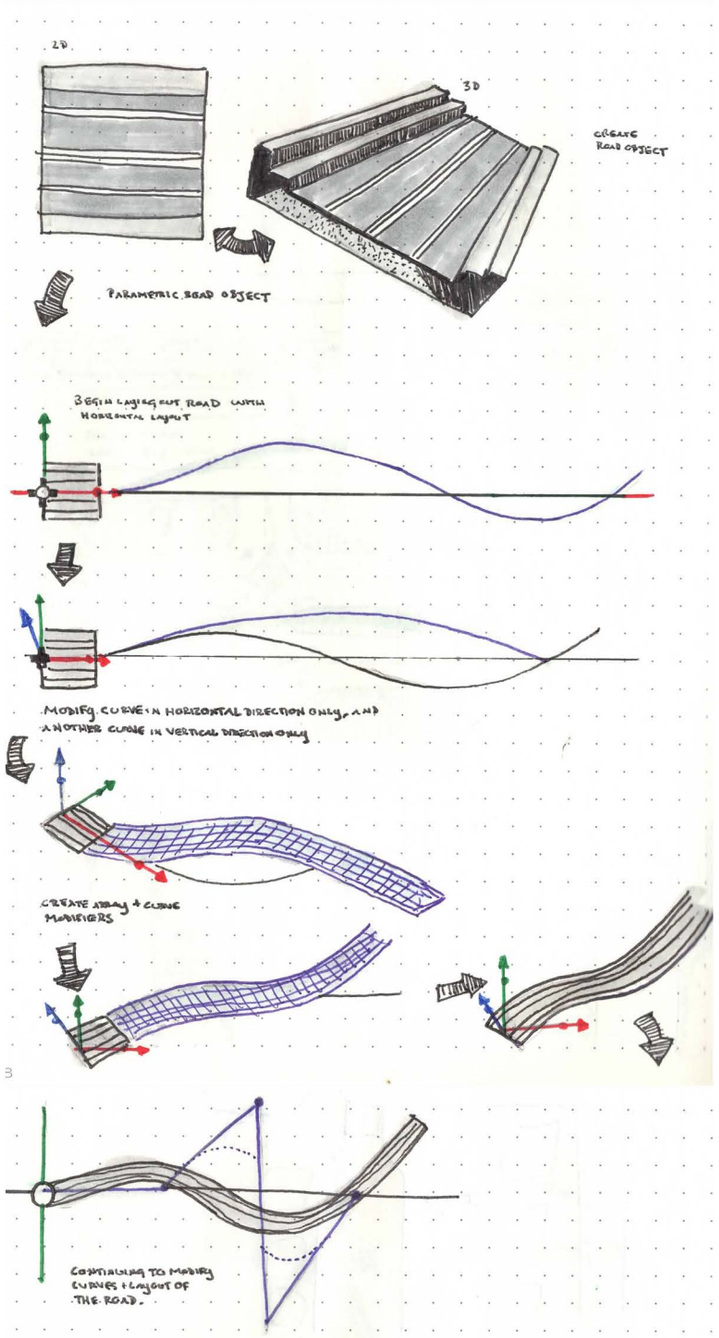
- BUILD COMPONENTS TO USE IN THE MODEL
- ONCE IN THE MODEL, THIS INSTANCE OF THE COMPONENT CAN CONTINUE TO BE MODIFIED. FOR EXAMPLE, THE PREMIX CARPET COULD BE DECREASED / INCREASED IN THICKNESS.
- EACH PIECE OF THE ASSEMBLY COMPONENT IS A "LEGO BRICK" FROM A LIBRARY OF PARTS.
- THIS TYPE OF UI SHOULD BE PART OF THE ASSEMBLY MANAGER INTERFACE BUT ALSO SHOULD BE EXPOSED AS A MODAL DIALOG FOR CHANGING ELEMENTS OF AN ASSEMBLY INSTANCE IN CANVAS OR TO GET DETAILS IN CANVAS SO THE END-USER'S FOCUS ISN'T DIVERTED ALL OVER THE PLACE.
- ASSEMBLIES CAN BE AS DETAILED/GRANULAR AS AN INDIVIDUAL USER NEEDS THEM TO BE.



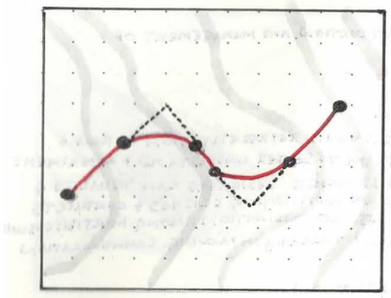


REIMAGINING INFRASTRUCTURE: EARLY-STAGE DESIGN CONCEPTS FOR PARAMETRIC DESIGN IN ROAD ENGINEERING.

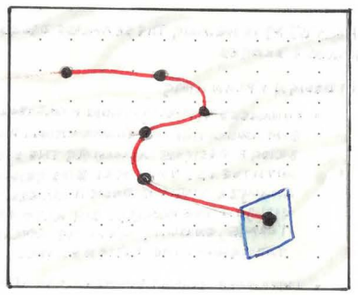
DESIGN CONCEPT 01



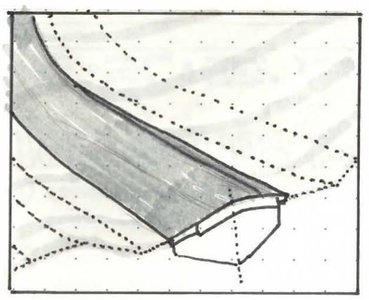
DESIGN CONCEPT 02



CIVIL DESIGNER CREATES AN ALIGNMENT. AS HE PLACES THE ALIGNMENT THE SYSTEM, LEVERAGING A.I. MAPS THE ALIGNMENT TO THE SURFACE CONDITIONS AS BEST IT CAN.

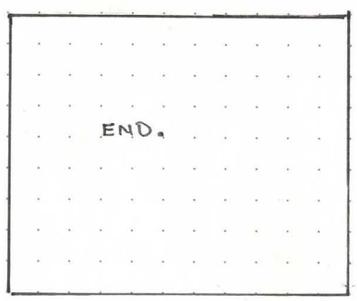


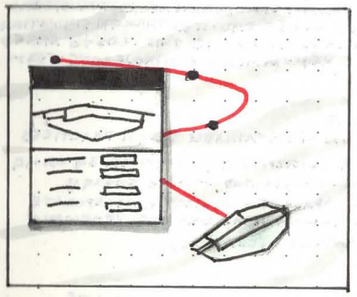
THE CIVIL DESIGNER SWITCHES TO 3D VIEW AND SELECTS THE REFERENCE POINT.



CIVIL DESIGNER SELECTS "GENERATE" AND THE SYSTEM GENERATES THE COMPLETE ROADWAY AND GRADING BASED ON ALL KNOWN CONDITIONS AND LOCAL STANDARDS.

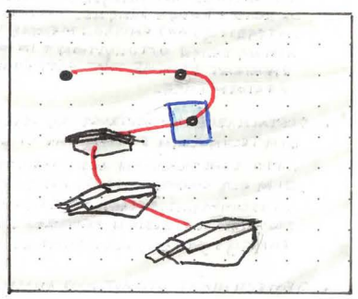
NOTE: DESIGNER NEEDS TO SELECT ALL COMPONENTS BEFORE SELECTING GENERATE COMMAND.





THE CIVIL DESIGNER SELECTS THE ROAD TYPE HE WANTS FROM THE BASE COMPONENTS AND THEN MODIFIES AS NECESSARY FOR THINGS LIKE NUMBER OF LANES, SIDEWALKS, ETC.

THE SYSTEM ADDS GRADING BASED ON SURFACE DATA.



THE CIVIL DESIGNER CONTINUES TO ADD THE ROAD COMPONENTS AND MODIFICATIONS TO EACH REFERENCE POINT.

VISIONARY BLUEPRINT: TRANSFORMING MARKET CHALLENGES INTO PRODUCT EXCELLENCE.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

Establishing a 5-10 year high-level vision for how to drive the Building and Infrastruture Design (BID) business forward and help teams understand the direction the organization was heading and how to begin thinking about their work in new ways to arrive at the northstar.

The vision focused on six key story vignettes that illustrated the key areas of opportunity and provided high-level guidance on the expected customer experience, but allowing teams to think through finer details themselves.

Results/Outcomes

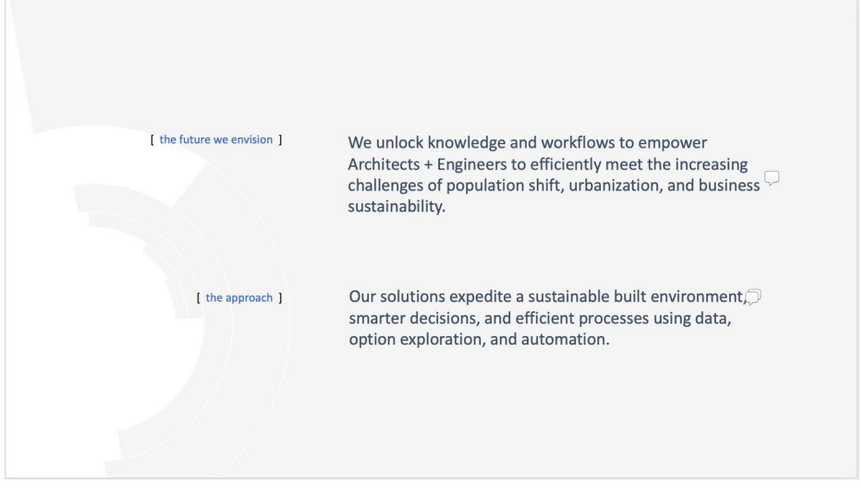
1. Established key areas of opportunity.
2. Established understanding of how existing products would be able to work together for more collaborative workflows with seamless data exhange enabling new ways of working.
3. This work informed the roadmaps of each product line group.

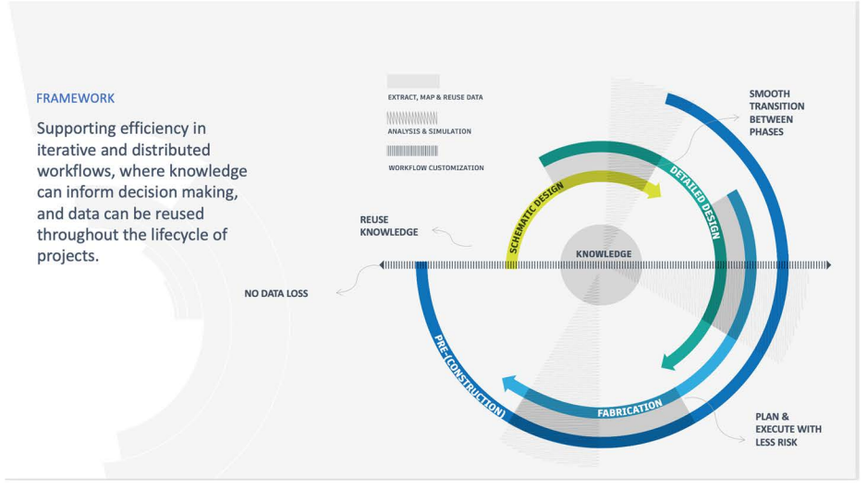
Other people involved

2 Product Managers

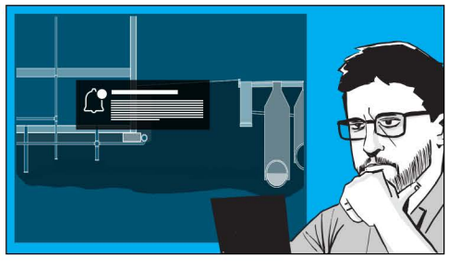
3 Software Design Architects

3 Experience Designers

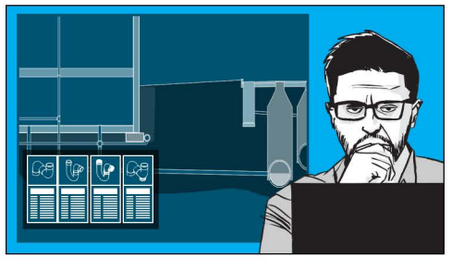




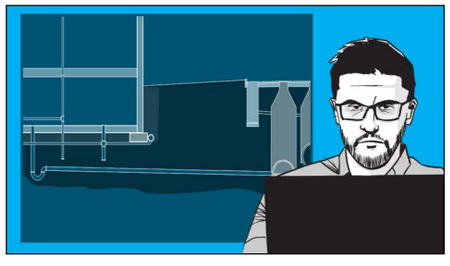
DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.



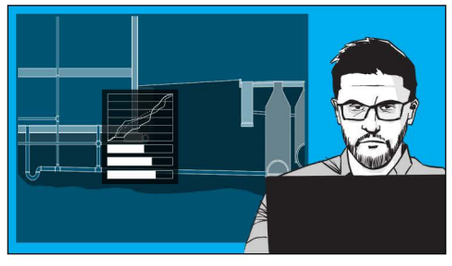
William receives notification the City Planner has approved the placement of the sanitary sewer and storm piping under the main roadways and can now begin connecting the sanitary service pipe from the building to the pipes.



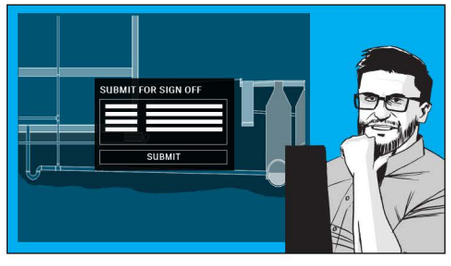
As he draws the sanitary service piping from the floor vent to the sanitary sewer pipe, the system alerts him that given known local codes, best practices, and William's past work on similar layouts that a trap is needed. The systems provides design options to help.



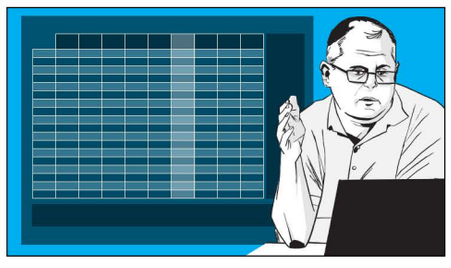
Upon William selecting one of the design options, the system updates the layout of the model and optimizes the length of the pipe segments to auto-route the solution.



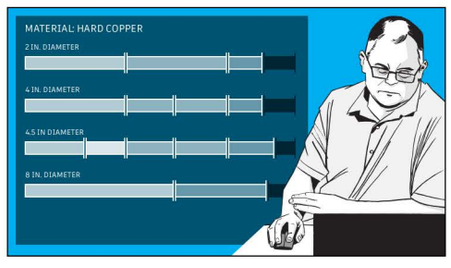
William connects the building main sanitary pipe and the cleanout cap pipe to the sanitary service pipe. The system runs analysis in the background to verify the flow/pressure of the network aren't problematic as well as checking to make sure the hydraulic pressure from the main sanitary sewer pipe isn't going to cause backup into the building.



William smiles to himself. This used to take so much longer to do and required so many manual checks that often his job felt impossible. Satisfied with his work, William checks the portions of the model he modified in for Carla the Mechanical Engineer.



As William checks in his changes, a thousand miles away, Jim looks up from his lunch as a new Bill of Materials is generated based on the changes William made to the model. As he reviews the new BOM, Jim sees that everything looks good and even with the new changes to the model, the project is still under budget on his end and that he also has enough materials in the shop to accommodate when he gets the go ahead to send the model to the shop floor for fabricating.

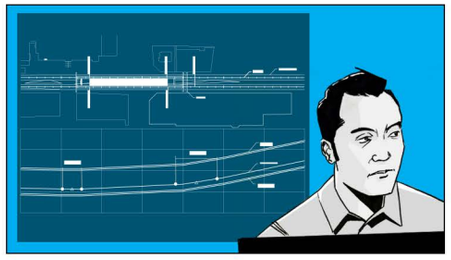


As a quick check, Jim loads the model data into his choice of linear nesting tools. After a few seconds, he's able to see that even with the new pipe segments in place, that once they are nested there will be extremely minimal waste once they are cut on the shop floor.

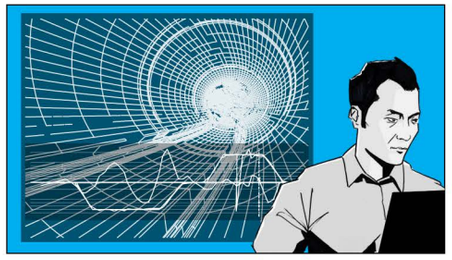
Carla reviews the changes William made to the model, looking over the audit trail along with the model itself. Comparing back to her original schematic and calculations, Carla is able to determine things look sound and confidently signs off on.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

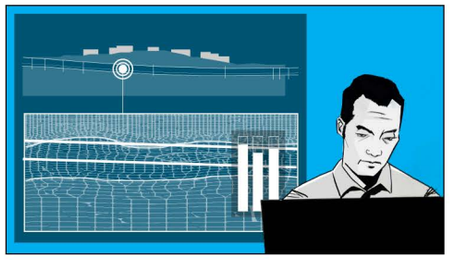
To place a tunnel corridor between the new subway station in the campus and an older station in the city, John creates an area of interest. The System pulls together all available engineering grade data for the geology, subsurface ground conditions, and all existing structures to run real-time analysis for the site and places a tunnel corridor into the model. The system tells John that some of the survey data may be out of date. He orders a drone survey to get the latest site data.



Based on the analysis, John is able to more efficiently and more confidently massage the placement of the tunnel and add more detail to the model. The System reduces risk to the tunnel placement by alerting John to areas where subsurface obstructions are to avoid costly problems once the model is ready for construction.



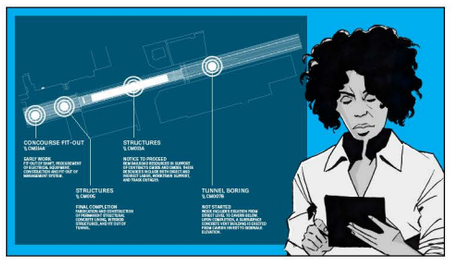
Once he's done laying out the tunnel corridor, John is able to run the optimizer to see how cost effective his layout is based on Cost Per Linear Foot as well as other variables and can adjust the model based on the results.



John then runs a geological timescale simulation, which takes the historical geological data and creates predictive models to see if the structures or tunnel can withstand the local conditions over time without collapsing and endangering the public. John combines the model with contextual site information from a drone survey to provide a more accurate immersive vitrual experience.

Satisfied with the results, John filters the view down to display the footpads of the buildings and lower into the ground and contacts the building insurers and contractors to give them a virtual walk-through of the model to show them that the tunnel project won't cause issue with the existing structures given per-agreed to tolerances.

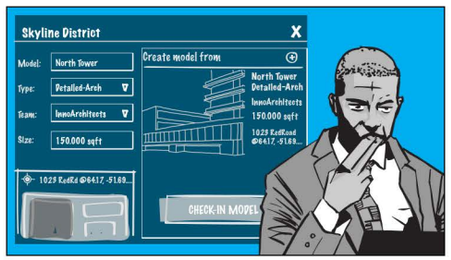
During the walk-through the building insurers and contractors are able to note where the one of the structures needs minor foundation retrofitting prior to the tunnel boring in order to maintain structural integrity.



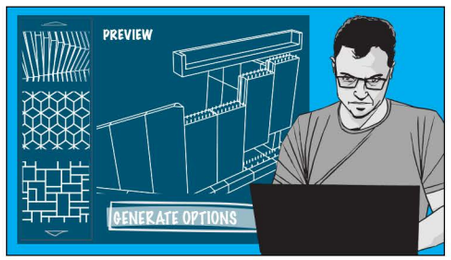
Leveraging the data from the model, it is easier for the project managers to gain insights into what areas of the model are ready to begin construction, as well as combining additional data from the construction sites themselves (through manual data entry, RFID, Laser Scanners, or sensors) to see progress being made by each contractor.

While the remainder of the tunnel design is being fleshed out, the areas where construction can begin can be tracked using dashboards by project managers using concepts such as progress curves, milestones, and financial summaries in order to keep the project on track and on budget.

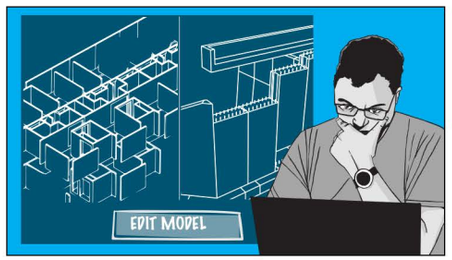
DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.



Adam the Architect is working on finalizing the modular prefab facade of the North Tower. He checks in the model so that the other disciplines can see the latest updates.



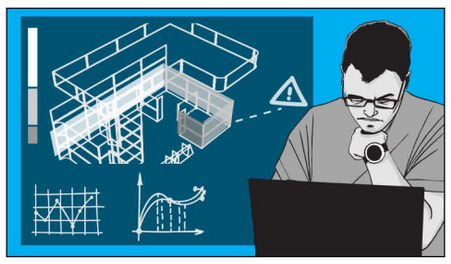
Darryl the Structural Detailer is able to take the data from Adam's model to generate a model for him to begin creating the precast panels.



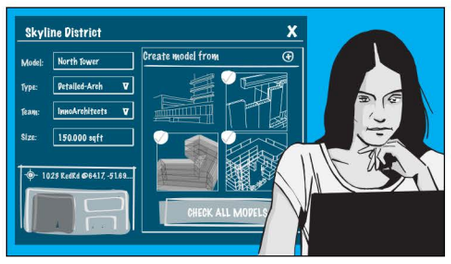
Using automated segmentation and panels, segmented panels are automatically generated based on the input constraints around constructibility, cost, material availability, and resistance of the materials.

As Darryl completes his work, Sarah is able to verify that the joints are placed correctly and the structural bearing capabilities of the panels are secure given the segmentation.

One of the spaces in the building has been re-purposed. Carla is able to run a new analysis for the HVAC system. The analysis results show that with the new walls, the heating and cooling loads for the spaces have increased. Based on the load in each individual space, the system automatically adjusts the size of the mechanical equipment and ductwork. This speeds up Carla's work and allows her to focus on less-mundane tasks.

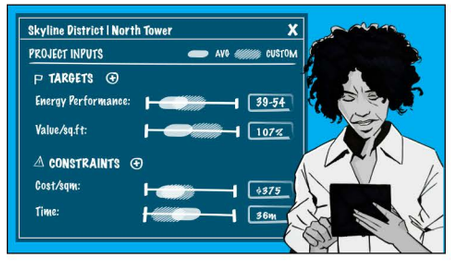


In the meantime, Darryl is informed about a clash with the panel sizes and the duct size and placement. Given the HVAC changes, duct openings will need to be adjusted. Darryl is able to quickly make these changes to the panels.



Sarah gets notified of the changes to the panel sizes and is able to validate the structural integrity of the panels has not been compromised.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.



Pam is setting up the project requirements for the North Tower, a commercial building located above the new subway station. She indicates the goals (optimize property value) and constraints (local materials) upfront. This way constraint violations will be flagged or automatically avoided during the design, and the goal metrics will be surfaced to evaluate design options.

During the schematic phase, Adam the Architect, realizes that his current design isn't meeting the building performance compared to baseline performance rating. To minimize the overall building energy cost, he wonders for this building, will minimizing the glazing be a better strategy over improving the daylighting.

Adam uses the optimization tool to generate multiple design options and decide which approach is better. The system alerts Adam that he has competing goals with the specified wall- window ratio, materials and and energy performance. Knowing this, Adam asks the system to optimize the design options for the wall-window ratio. The system is able to narrow down to a set of options that fit better the project requirements. Adam can now evaluate a set of options.

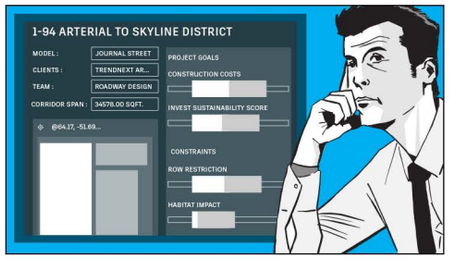
By pulling out trends from the past 10 projects in similar conditions, the system gives Adam a predictive analysis for the impact on the project target ranges. He decides daylighting will not only save overall energy cost,but will also better meet the client's preferences.

Going through this informed process gives both the team and the client certainty they will come up with the best design.

The engineering team sets up a meeting with the clients to share the new proposals. They share the concepts against the existing benchmark.

The clients are happy to see that the corridor metrics fit their initial goals and give their approval on one of the proposals.

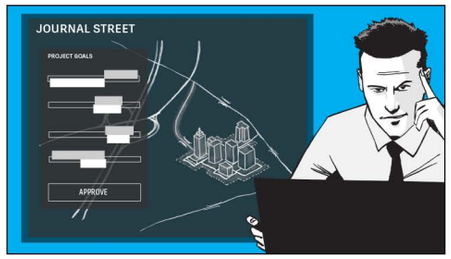
DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.



Sam, a Transportation Engineer, is tasked with connecting the existing Interstate I-94 to the Skyline District with an arterial road. The clients have expressed desire to have an optimized corridor that is both cost effective and conforms to local sustainability standards.

Sam sets up these goals and constraints upfront when creating the project.

The system mines past projects, and combined with project constraints and laser scan survey data, proposes alternative solutions.
The system also proposes solutions that violate certain constraints and flag those. Sam reviews the solutions and modifies parameters to narrow down from hundreds of corridor options based on key priority of earthwork cost and impact on the habitat.



Sam narrows down the options to five solutions and evaluates system generated trends from the last 10 similar corridor projects. This predictive analysis evaluates maintenance costs and transportation accessibility based on materials used. Sam acknowledges that using alternative materials will lower construction costs, but cost more in maintenance in the long run.

Going through this informed process allows Sam and his engineering team to narrow the options down to two design alternatives.

The engineering team sets up a meeting with the clients to share the new proposals. They share the concepts against the existing benchmark.

The clients are happy to see that the corridor metrics fit their initial goals and give their approval on one of the proposals.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

Joe the Civil Engineer has road alignment and cross section design in place for the intersection between Seaport Blvd. and Commercial St. His work thus far has focused on making sure intersection met design standards and now wants to evaluate it for blind spot and sight failure zones for driver safety.

He sets up accurate design context by bringing in most recent design data in the form of outer building shells, a point cloud survey of the project site, geotech data and lands cape designs from the architects, geotech engineer and landscape architect respectfully.

Third party analysis services running in the background continuously evaluate the design for blind spots, traffic trends, and flood projections. Results of simulations are rendered in the model. All of Joe's design edits are re-evaluated, actively informing him of his design decisions.

As Joe continues making edits, Luke the Landscape Architect is able to modify the landscape on the medians to help reduce the risk of safety to drivers due to lack of line of sight issues.
While doing so, he filters the view down to assets needed for the design task at hand.

As the median landscape design changes, Joe is able to see the impact on the line of sight through the third party analysis services results. Given the latest changes to the model, Joe is satisfied that the blind spot and sight failure zone issues have been resolved.

7

OFFERING DESIGN SESSIONS AND CONSTRUCTIVE FEEDBACK TO COLLEAGUES DURING DESIGN REVIEW SESSIONS.

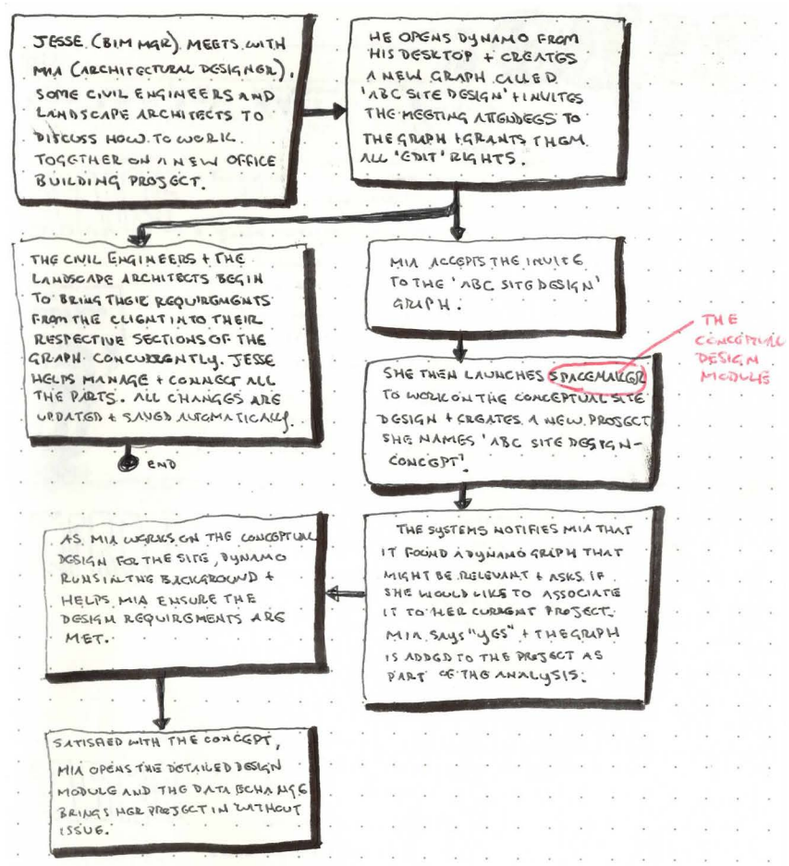
OFFERING DESIGN SUGGESTIONS AND CONSTRUCTIVE FEEDBACK TO COLLEAGUES DURING DESIGN REVIEW SESSIONS.

As a design leader, it is essential to provide suggestions and constructive feedback to the team to ensure that we deliver high-quality solutions that meet or exceed customer needs and expectations. I am adept at quickly hand-sketching ideas during meetings to articulate my thoughts effectively, rather than immediately using tools such as Figma. I utilize a variety of pens, highlighters, markers, and journals to swiftly capture ideas, which I then photograph or scan to share with the team.

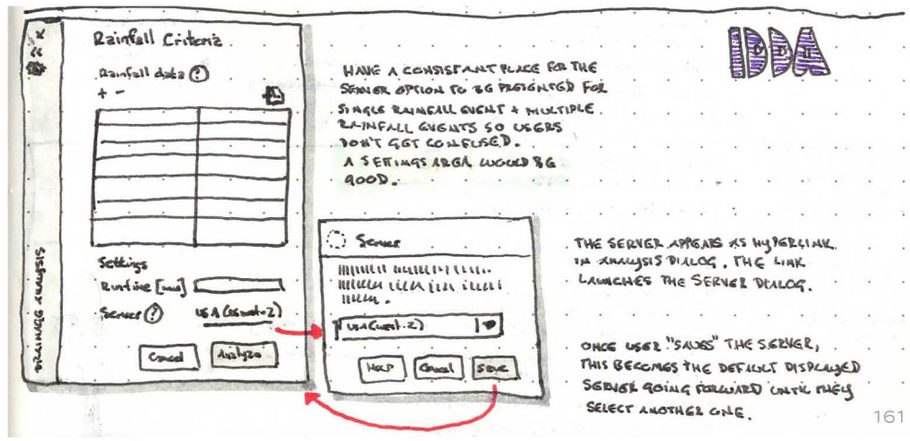
Results/Outcomes

1. Stronger communication with team members.
2. More exploratory design thinking.
3. Stronger design concepts that meet and exceed customer needs.

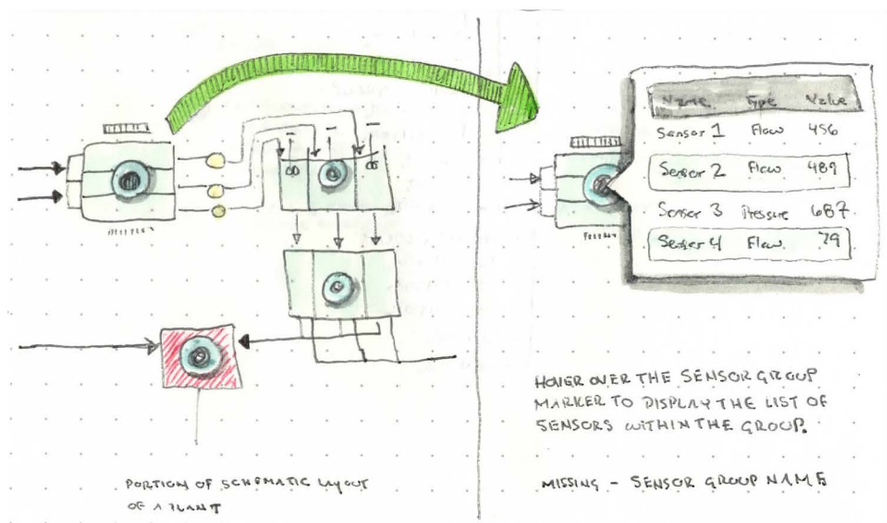
DYNAMO FUTURE STORYBOARD FLOW



RAINFALL CRITERIA DIALOG

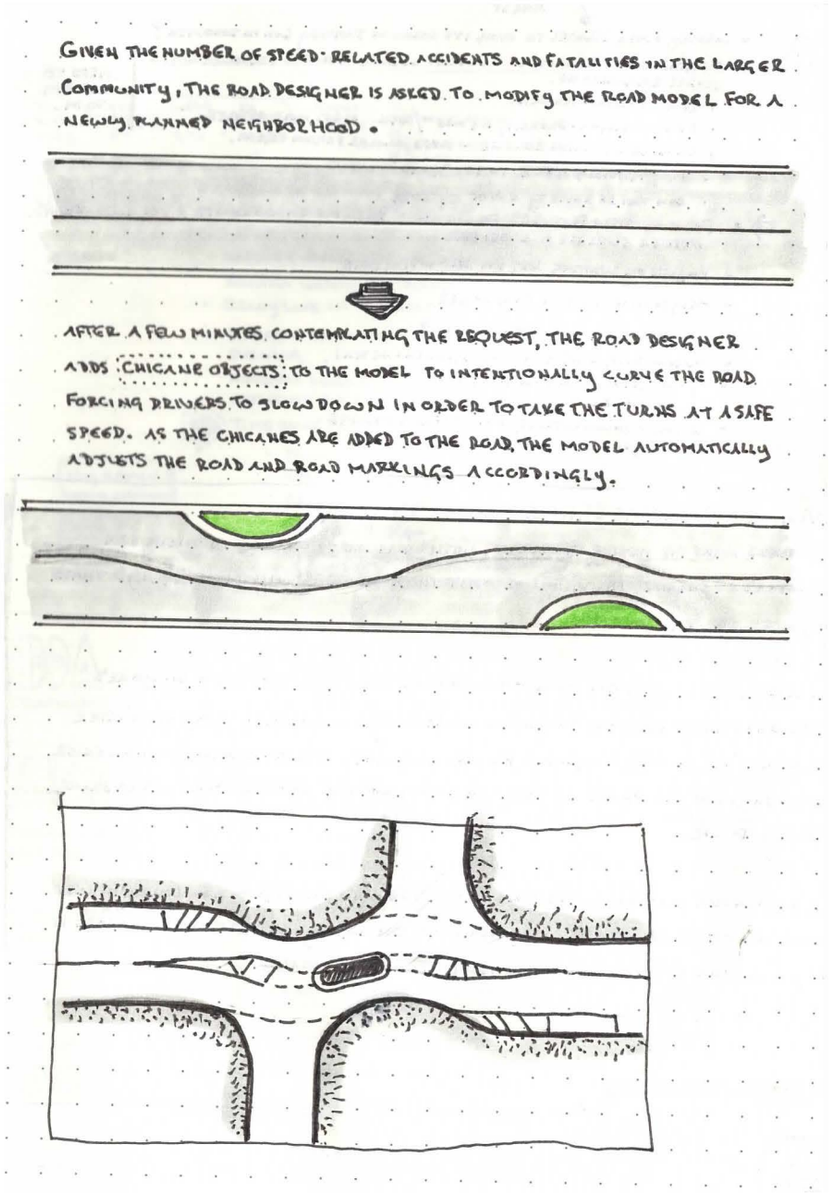


INFO360 SHOWING SENSOR DETAIL ON HOVER STATE

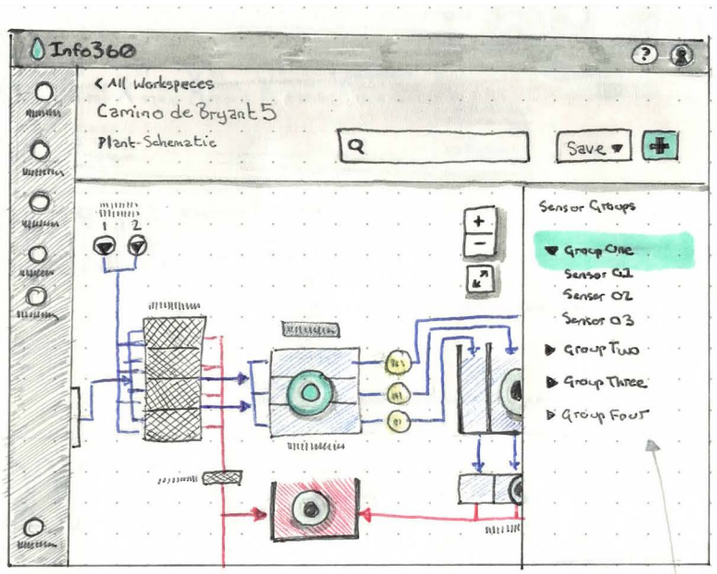


OFFERING DESIGN SUGGESTIONS AND CONSTRUCTIVE FEEDBACK TO COLLEAGUES DURING DESIGN REVIEW SESSIONS.

DYNAMO FUTURE STORYBOARD FLOW



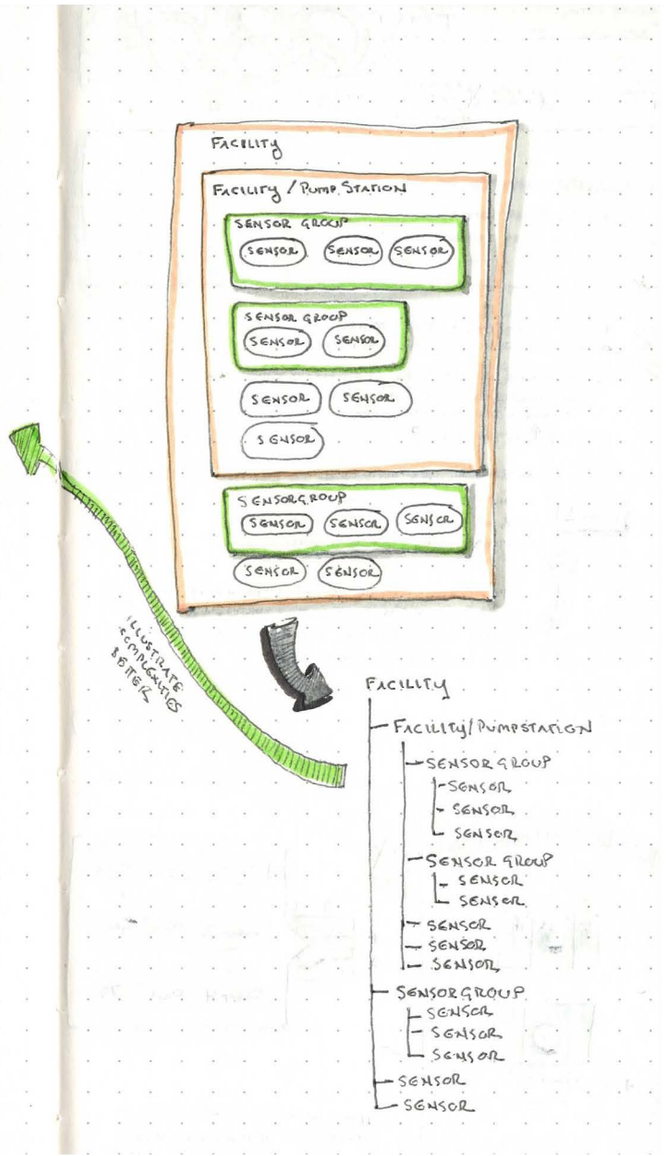
INFO360 SENSOR GROUPS



THERE CAN POTENTIALLY BE HUNDREDS OF SENSOR GROUPS + THOUSANDS OF SENSORS IN A PLANT MAKING IT HARD TO QUICKLY LOCATE WHAT YOU ARE LOOKING FOR.

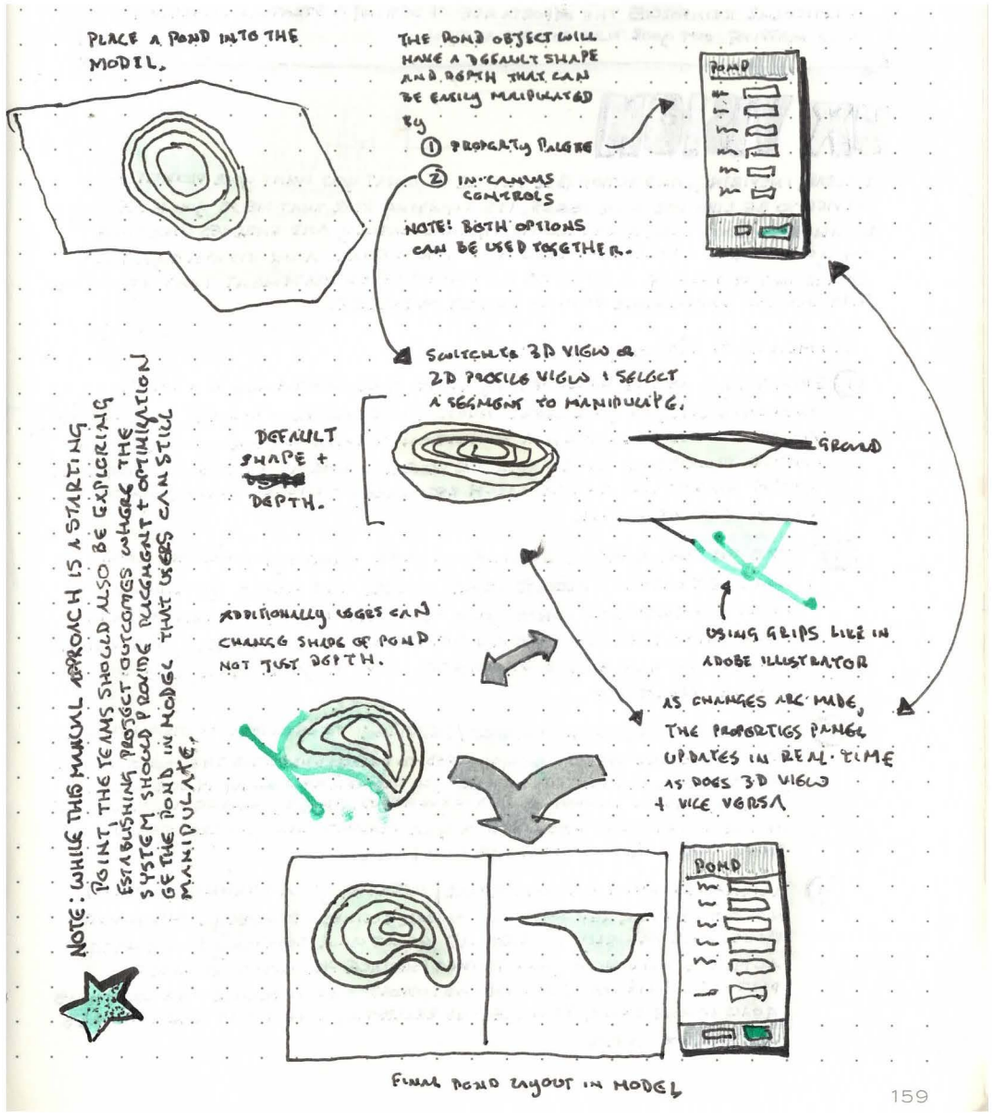
1. USING THE SEARCH WIDGET YOU COULD RETURN THE RESULTS VISUALLY BY HIGHLIGHTING THE SENSOR GROUP IN THE SCHEMATIC SO USERS KNOW WHERE THE GROUP/SENSOR IS LOCATED. AT THE SAME TIME, THE GROUP/SENSOR HIGHLIGHTS IN THE SENSOR GROUPS LIST ON RIGHT PANEL.
2. BY SELECTING A SENSOR GROUP MARKER OVERLAID ON THE SCHEMATIC, THE CORRESPONDING SENSOR GROUP HIGHLIGHTS +EXPANDS IN RIGHT PANEL.
3. BY SELECTING A SENSOR GROUP FROM THE LIST IN THE RIGHT PANEL, THE CORRESPONDING SENSOR GROUP MARKER OVER LAID ON THE SCHEMATIC HIGHLIGHTS.

NOTE: IN ALL 3 CASES, THE SCHEMATIC PANS + ZOOMS TO THE CORRESPONDING SENSORGROUP MARKER.

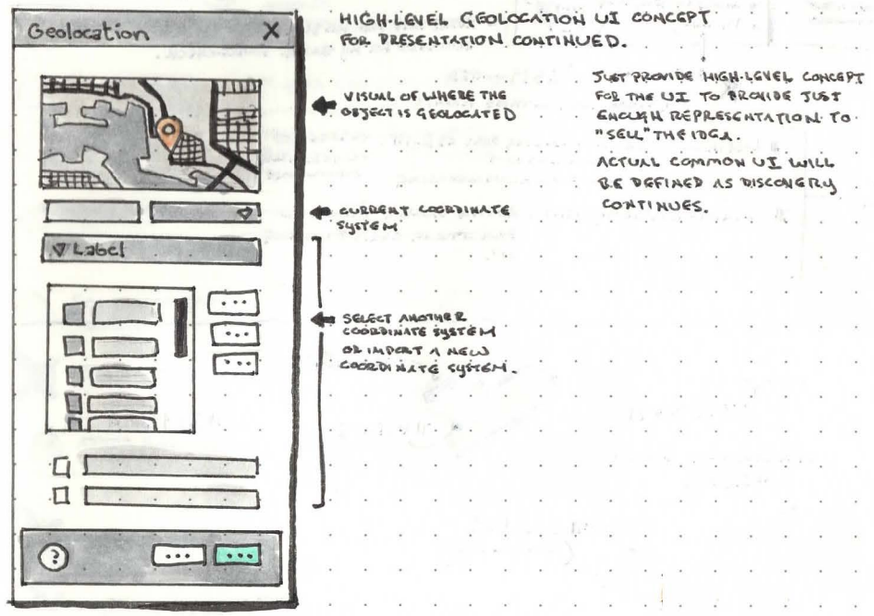


OFFERING DESIGN SUGGESTIONS AND CONSTRUCTIVE FEEDBACK TO COLLEAGUES DURING DESIGN REVIEW SESSIONS.

CREATING A POND OBJECT



GEOLOCATION DIALOG



ENABLE MEP DESIGNERS TO ANALYZE CLOSED-LOOP HYDRONIC NETWORKS WITHOUT PHYSICALLY CONNECTING EQUIPMENT.

ENABLE MEP DESIGNERS TO ANALYZE CLOSED-LOOP HYDRONIC NETWORKS WITHOUT PHYSICALLY CONNECTING EQUIPMENT.

While adding new pressure and flow calculation methods to Revit MEP, customers praised the results but mentioned they wouldn't use them due to the need for tight connections between source equipment, terminal equipment, and piping. For MEP Designers, connecting all components makes it difficult to modify hydronic network models.

As Product Owner and Principal Experience Designer, I led a design sprint to create ideas for connecting the components. The concepts were well-received by customer partners, which motivated leadership to support further development of the solution.

Results/Outcomes

1. 35% increase in MEP Designers completing flow and pressure analysis on closed-loop hydronic pipe networks.
2. Repaired trust with MEP customers that Revit is a BIM design, analysis, and simulation platform.

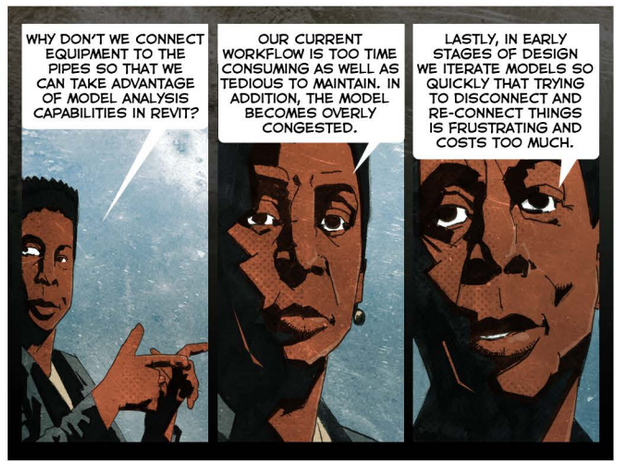
Other people involved

1 Product Manager

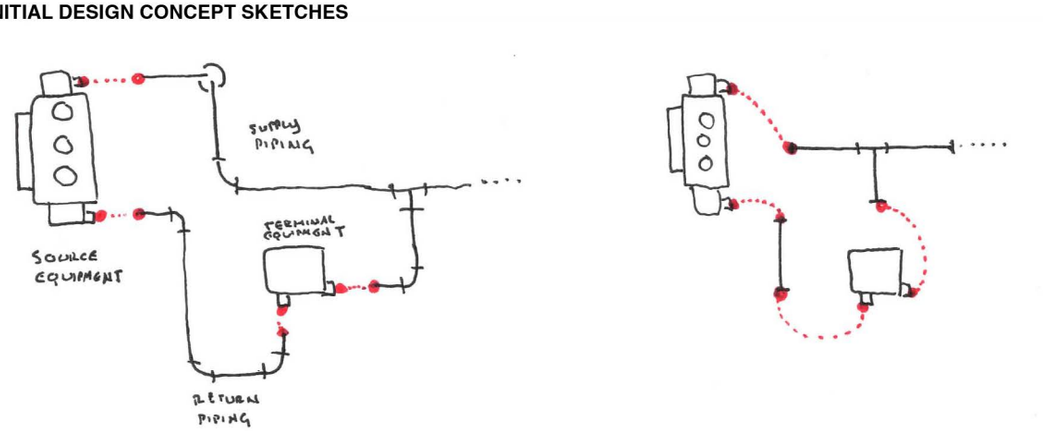
4 Software Developers

1 Quality Assurance Engineer

CUSTOMER PROBLEM

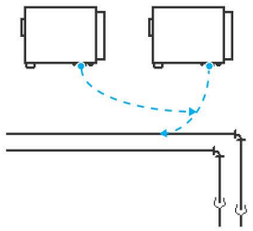


INITIAL DESIGN CONCEPT SKETCHES

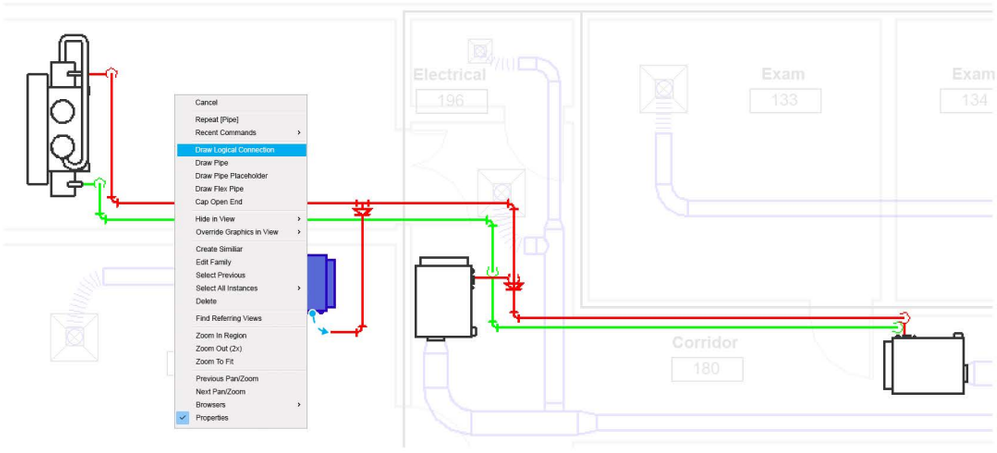


ENABLE MEP DESIGNERS TO ANALYZE CLOSED-LOOP HYDRONIC NETWORKS WITHOUT PHYSICALLY CONNECTING EQUIPMENT.

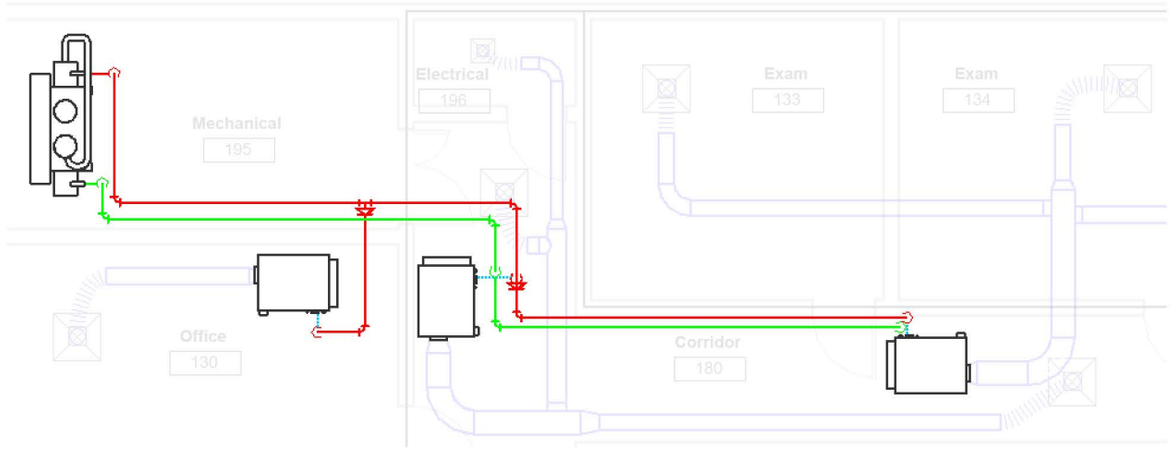
REVISING THE CONCEPT 01



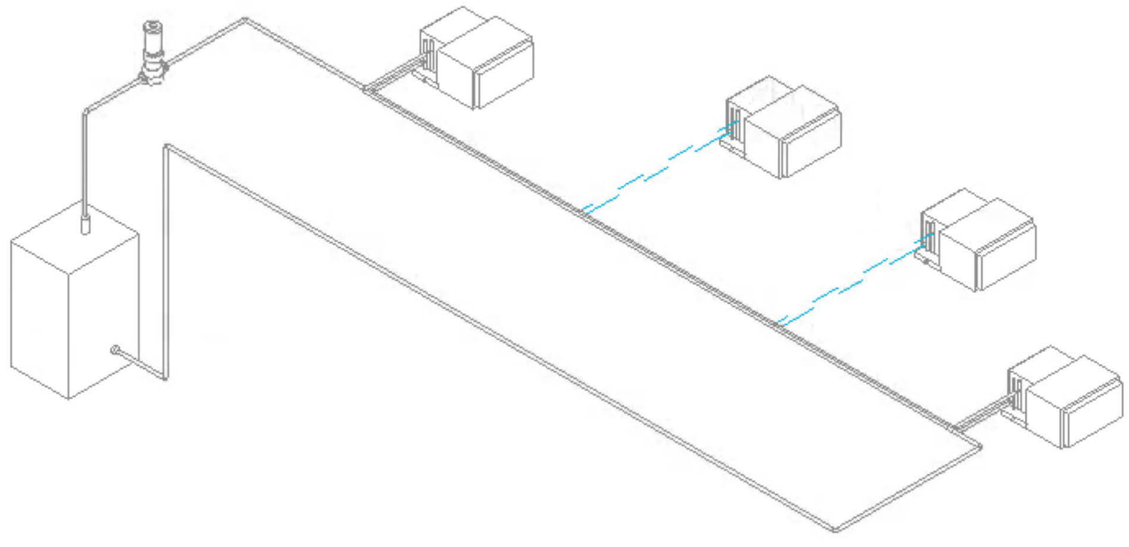
REVISING THE CONCEPT 02



REVISING THE CONCEPT 03

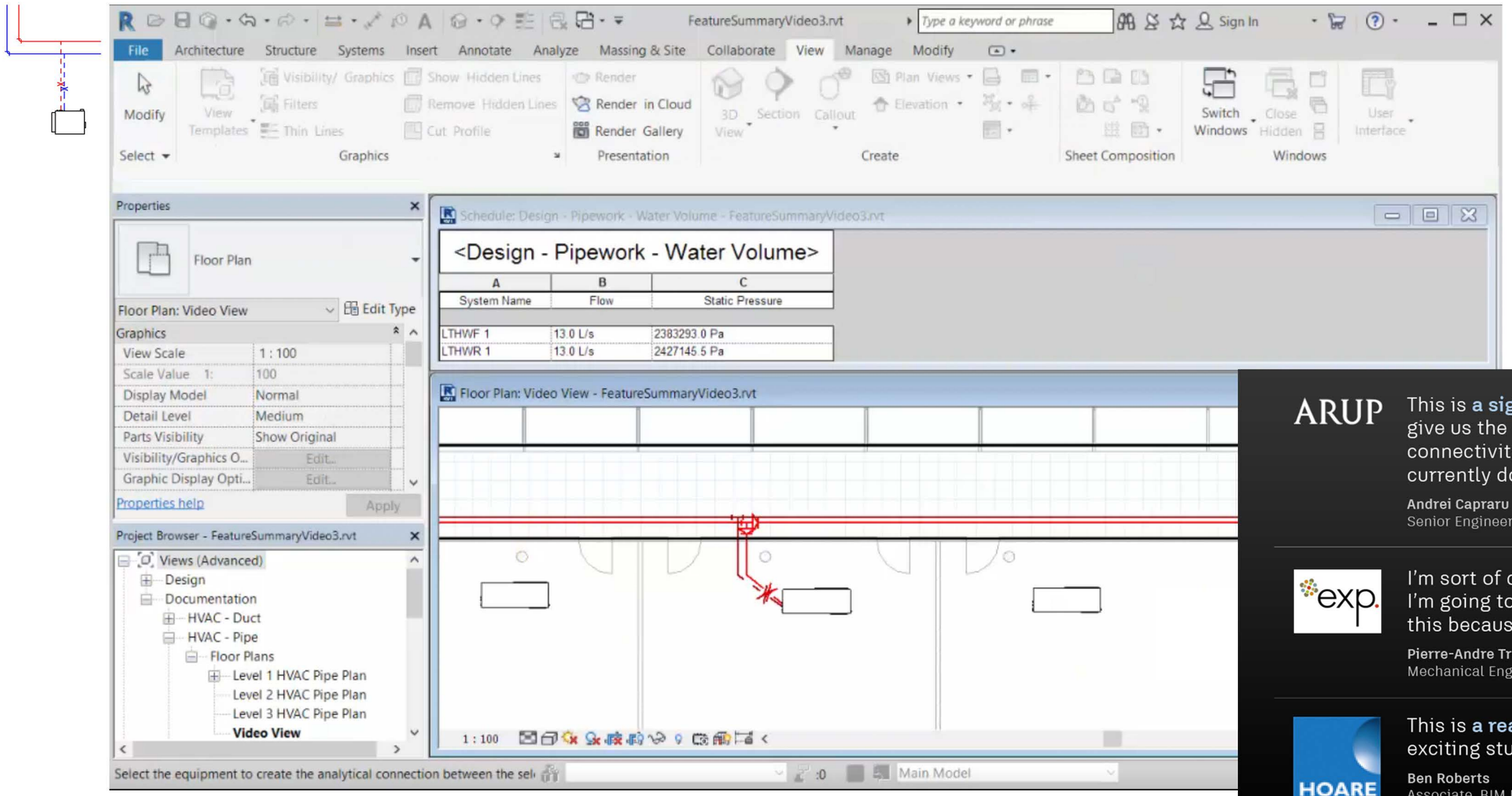


REVISING THE CONCEPT 04



ENABLE MEP DESIGNERS TO ANALYZE CLOSED-LOOP HYDRONIC NETWORKS WITHOUT PHYSICALLY CONNECTING EQUIPMENT.

FINAL CONCEPT IN REVIT AND CUSTOMER FEEDBACK



ARUP

This is **a significant step forward** and will give us the opportunity to use the system connectivity a lot more often than we currently do.

Andrei Capraru
Senior Engineer

exp.

I'm sort of disappointed right now because I'm going to spend my weekend thinking about this because **its so nice.**

Pierre-Andre Trudel
Mechanical Engineer

HOARE LEA

This is **a really big game changer**. Very exciting stuff.

Ben Roberts
Associate, BIM Delivery Leader

DESIGNING AN INTUITIVE MOBILE APP FOR MECHANICAL DESIGNERS TO QUICKLY MODEL HYDRONIC PIPE NETWORK LAYOUTS.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

There is currently no app available on the App Store or Google Play for Mechanical Designers to create hydronic pipe network layouts on mobile devices. This could create a new market and expand the existing product portfolio.

During a two-week design sprint, I outlined the design principles, application architecture, user workflows, and concept to review with customers for feedback .

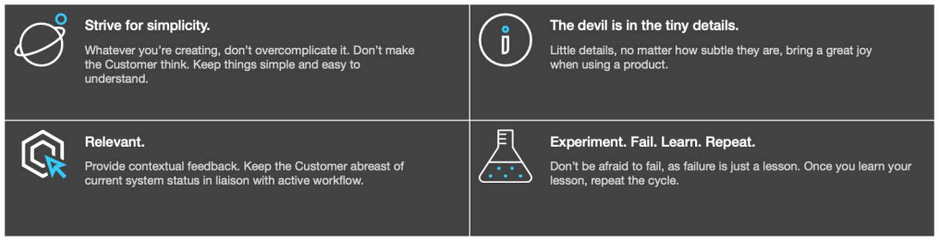
Results/Outcomes

1. Scored 4.5 for customer value
2. Scored 4.2 for customer satisfaction
3. Identified next steps

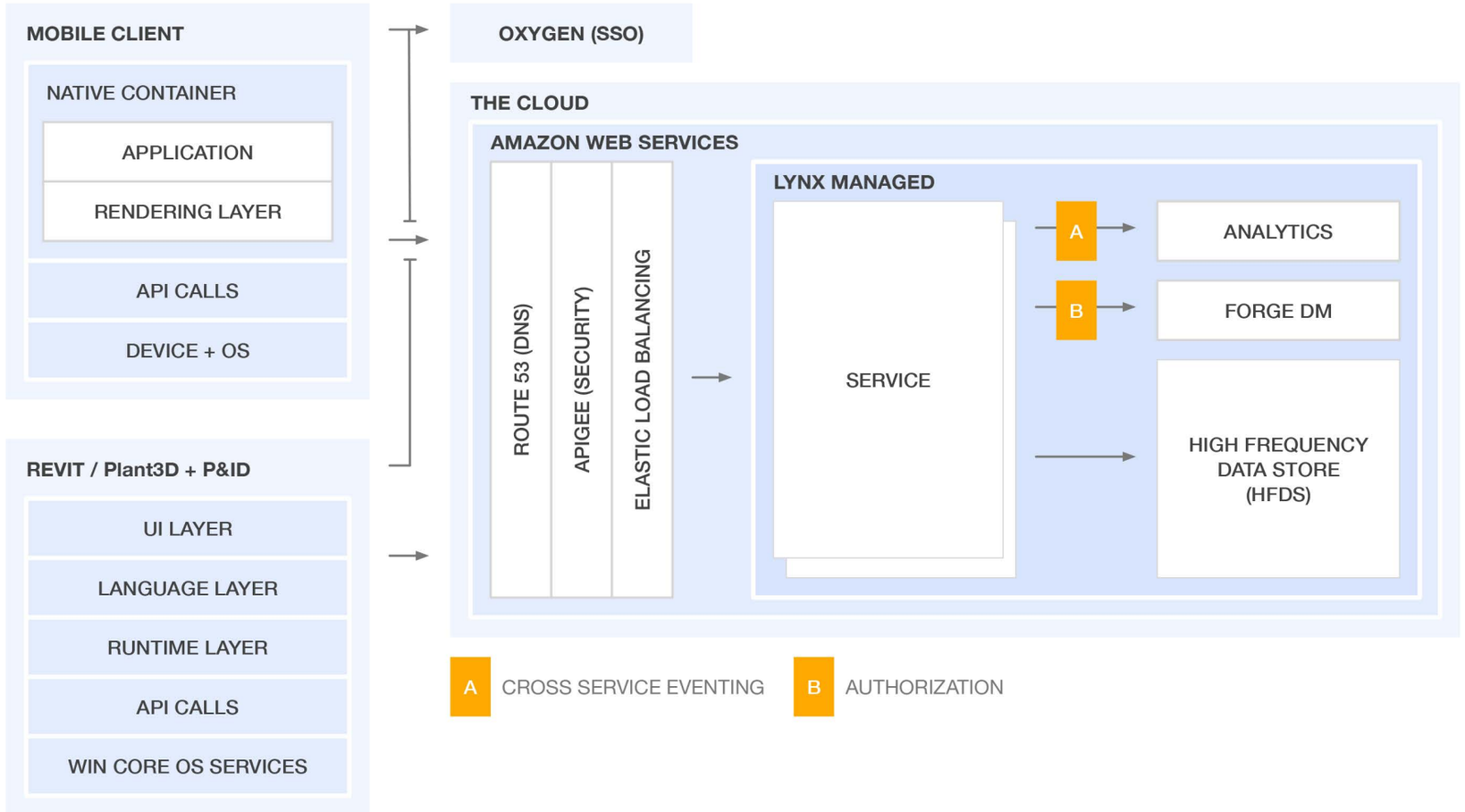
Other people involved

Software Architect to review the application architecture diagram.

DESIGN PRINCIPLES FOR THE EFFORT

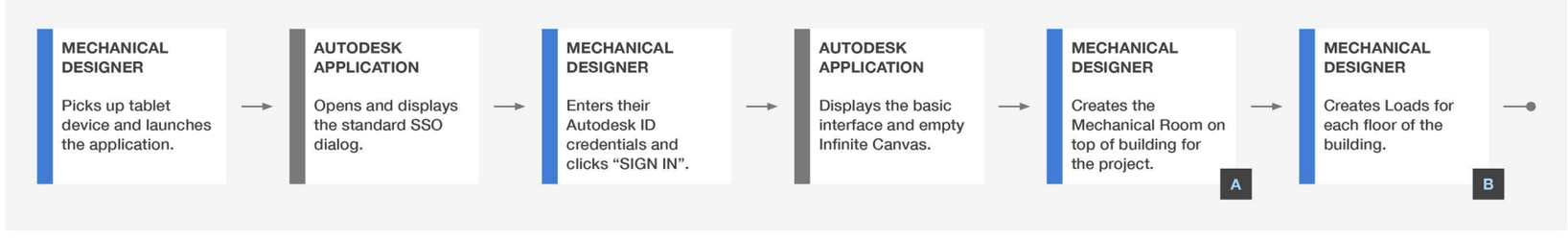


APPLICATION ARCHITECTURE



DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

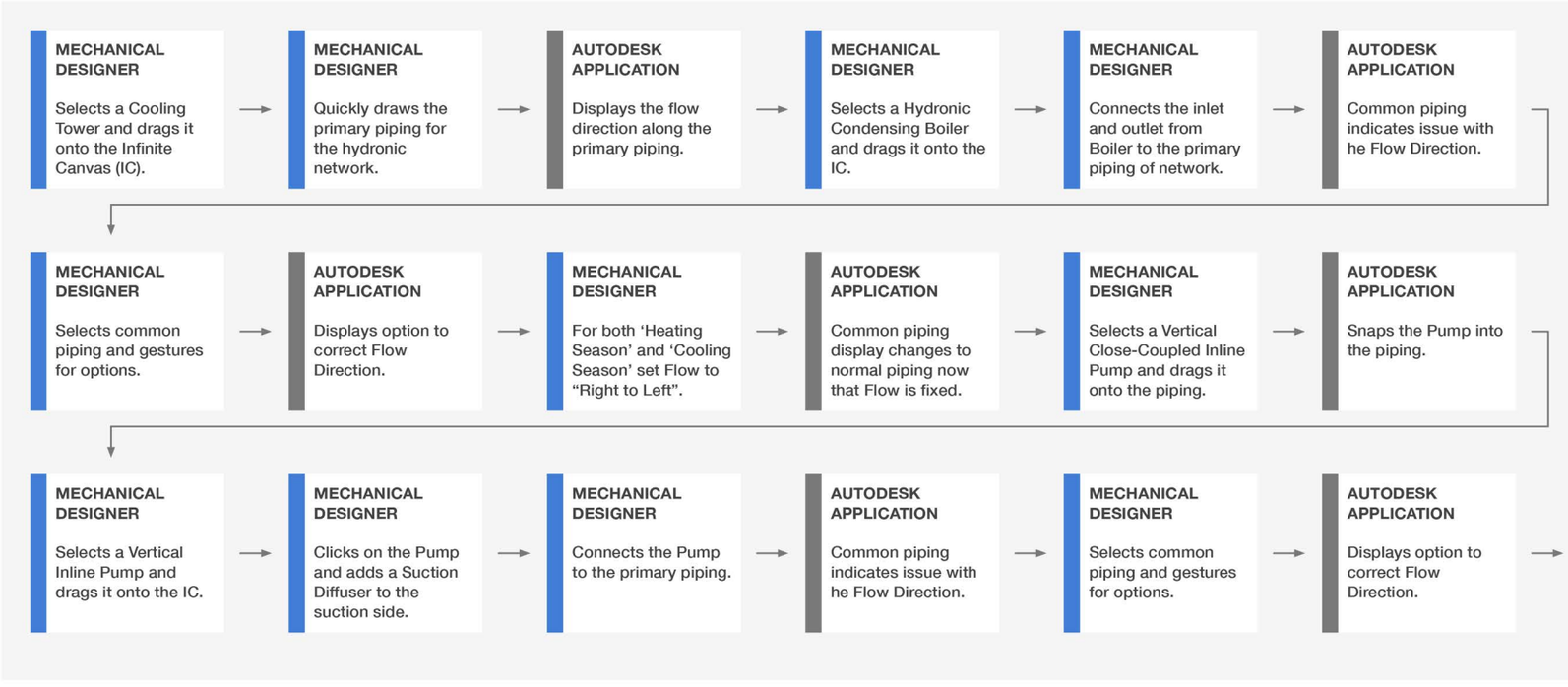
USER WORKFLOWS



SUB-WORKFLOWS

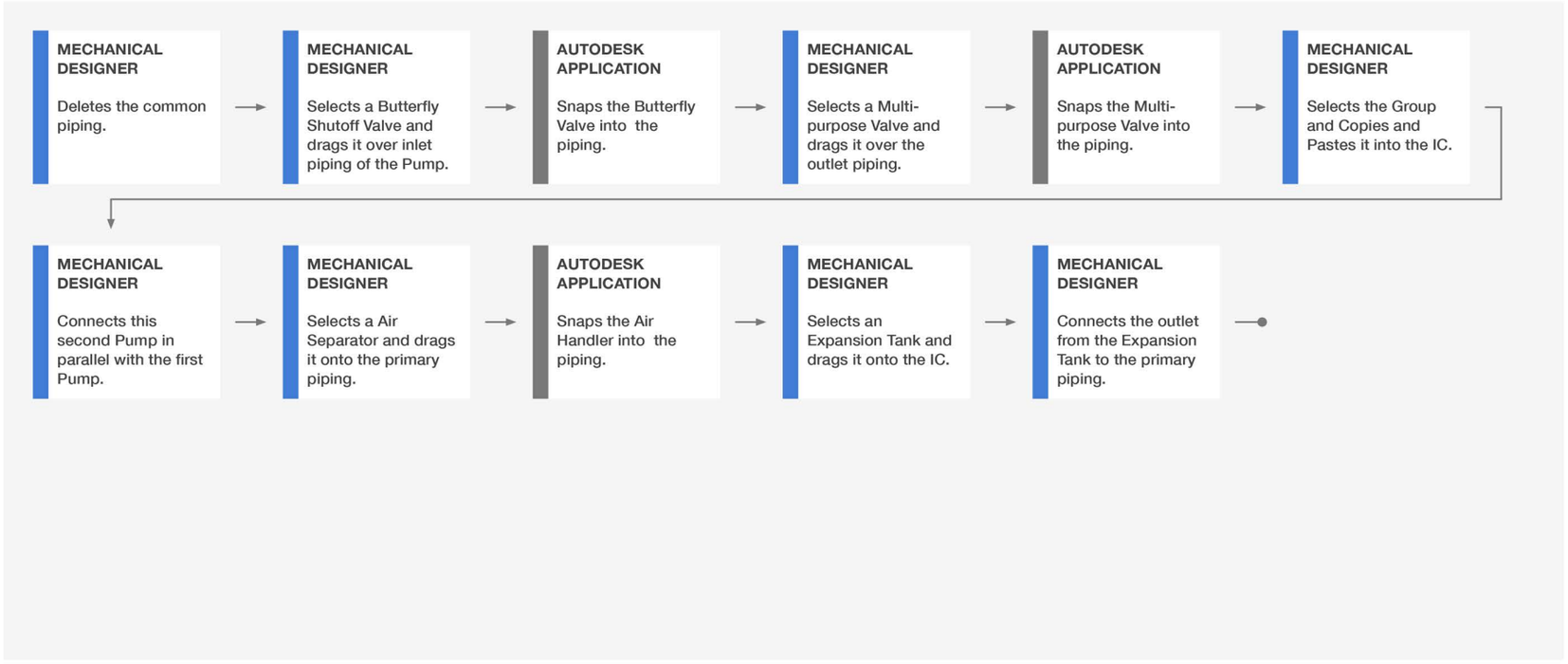
A Create Mechanical Room | Page 08

B Create Loads for each floor of the building | Page 10



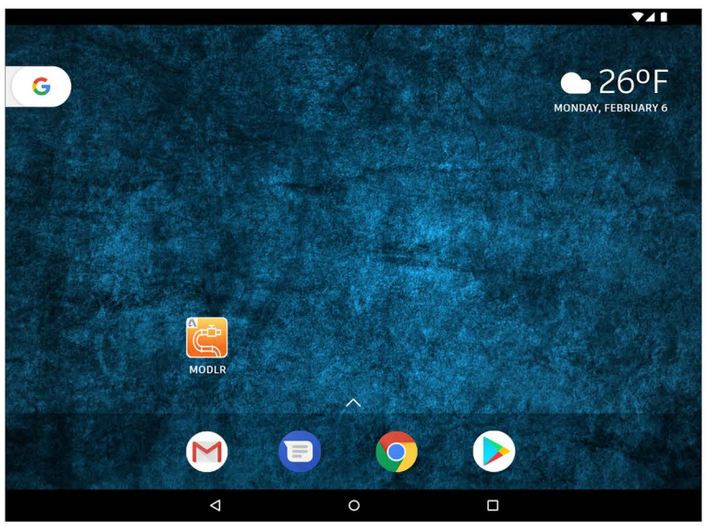
DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

USER WORKFLOWS



DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT

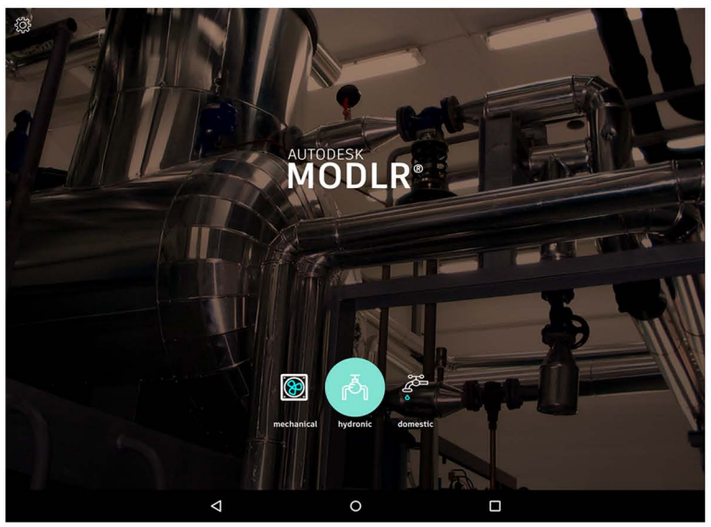


INTERACTION

TAP the launch icon

NOTES / ANNOTATIONS

The Customer has their tablet set up with the Modlr launch icon on their home screen.



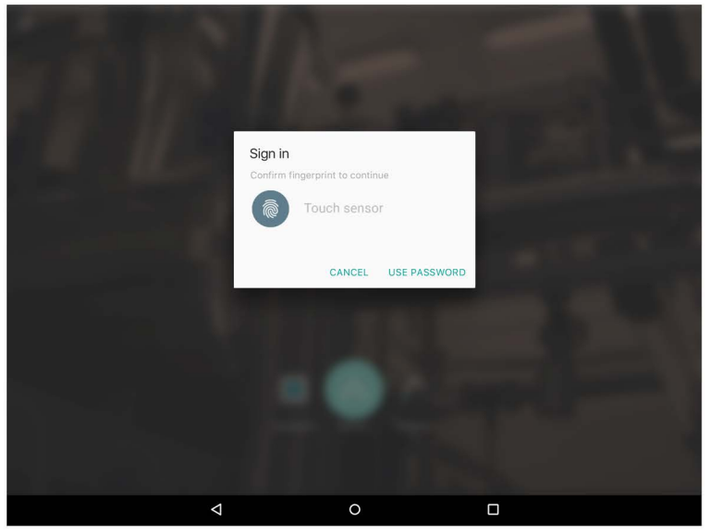
INTERACTION

TAP the on the Hydronic link

NOTES / ANNOTATIONS

Clean interface allowing the Customer to select the type of system s/he would like to create with the application.

Background image could rotate through various images providing a new image every time you launch the application.



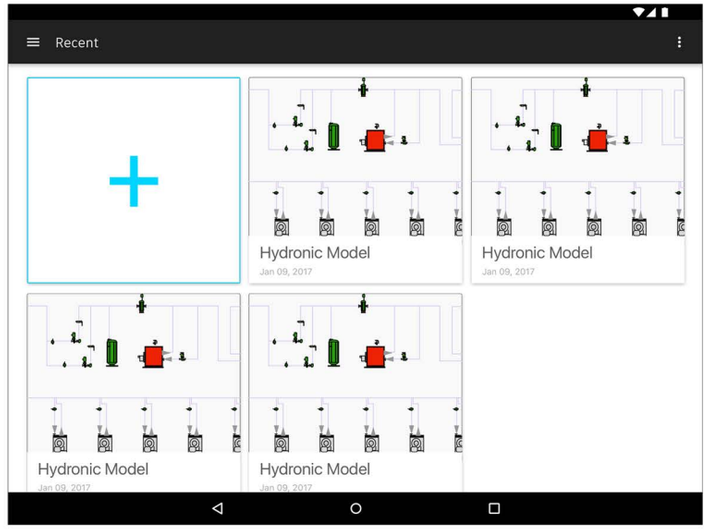
INTERACTION

PRESS index finger to sensor on device.

NOTES / ANNOTATIONS

Given the application is designed to be a hybrid application, it can take advantage of system-level components and paradigms. Given the Customer has setup the Modlr App and has completed logging in with the standard Autodesk ID credentials, if the device has a fingerprint sensor then we can leverage the sensor to complete sign in without constantly needing to manually entering Autodesk ID credentials.

If Customer didn't want to use their fingerprint, the Android System provides link to the standard Autodesk ID SSO Sign In Dialog.



INTERACTION

TAP the 'Create New Model' link

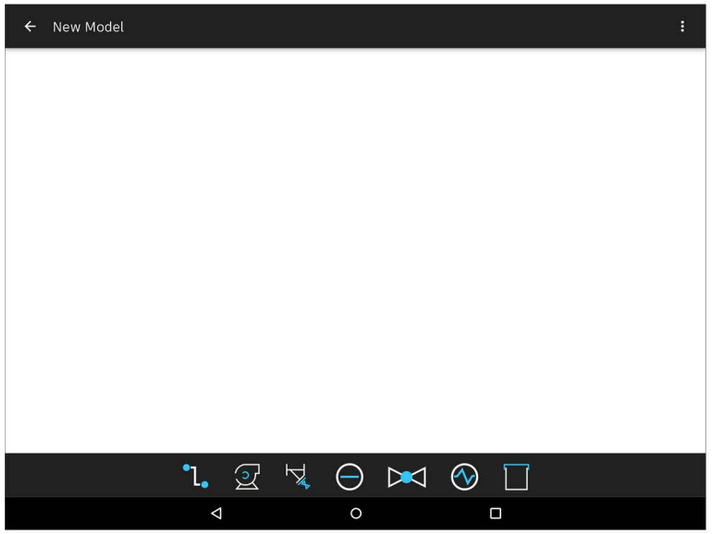
NOTES / ANNOTATIONS

The interface defaults to a visual layout of all the existing hydronic models the Customer has created with the Modlr application.

The first option on the screen is the "New Model".

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT

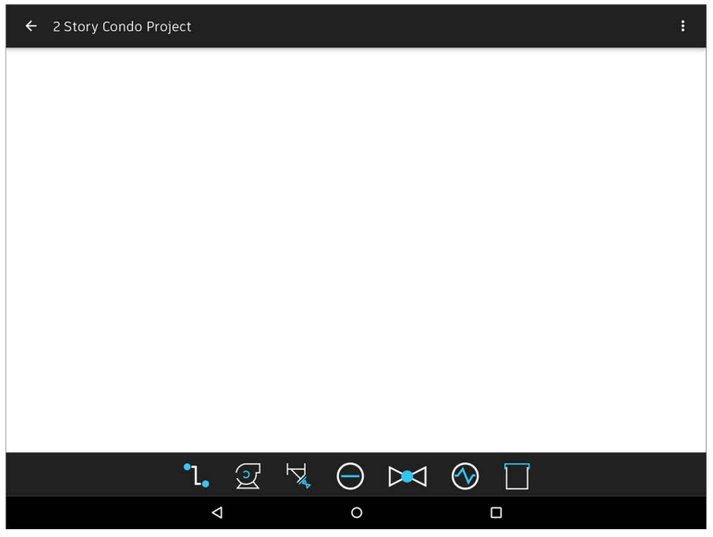


INTERACTION

TAP the “New Model” label

NOTES / ANNOTATIONS

The general interface is comprised of the infinite canvas where the Customer will layout their model and the toolbar where the model elements can be selected from.

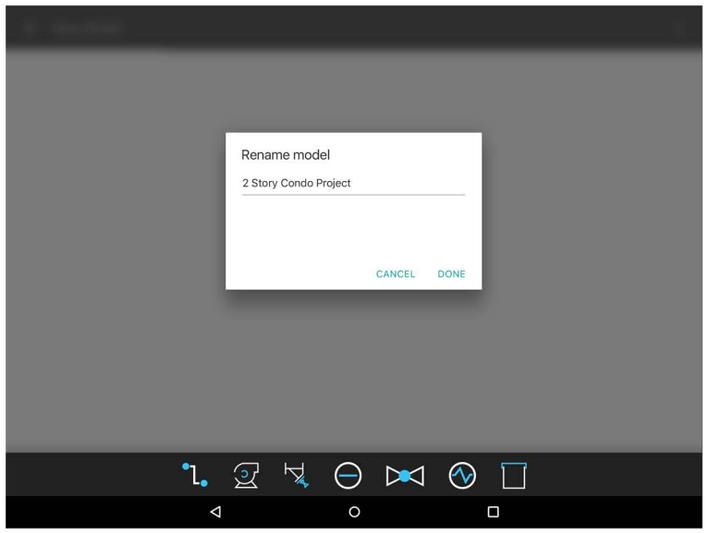


INTERACTION

N/A

NOTES / ANNOTATIONS

Newly chosen model name displays.

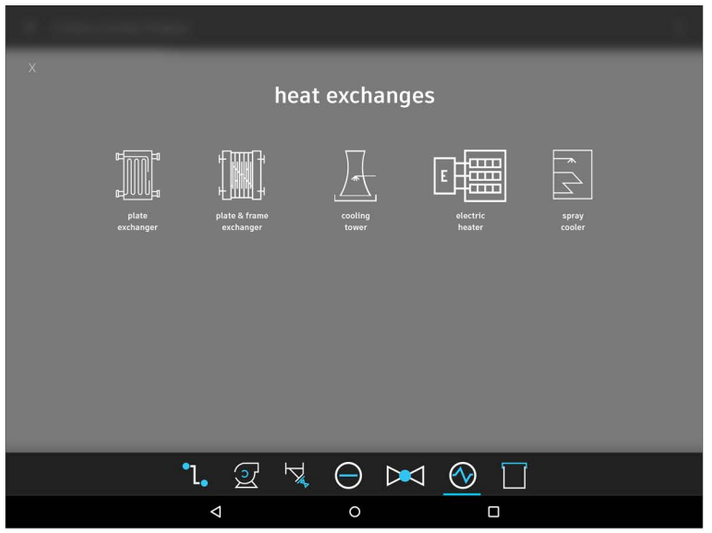


INTERACTION

TAP the “Done” button

NOTES / ANNOTATIONS

The “Rename model” Dialog displays.
Customer taps on the input field.
System displays the onscreen keyboard.
Customer enters new file name and taps the “Done” button.
Dislaog closes.



INTERACTION

TAP tool in the Component Bar.

NOTES / ANNOTATIONS

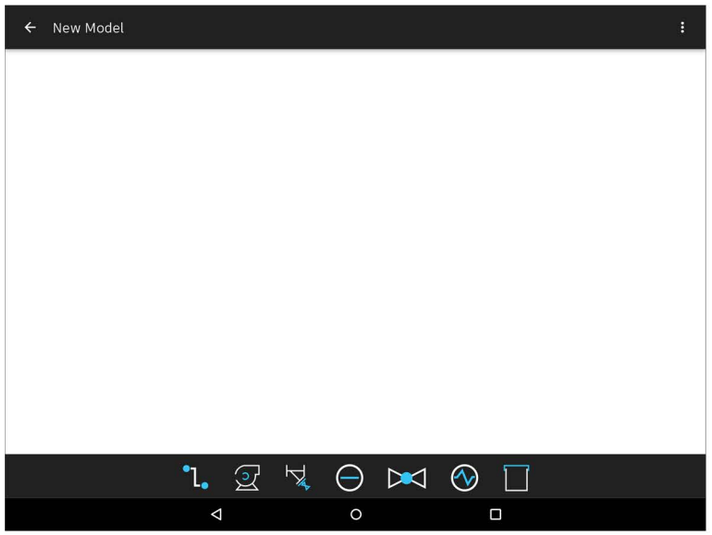
To begin laying out the mechanical room on the top of the building, the Customer taps the “Heat Exchanges” tool in the Component Bar at the bottom of the screen.

The options of heat exchanges appear over top the screen to focus the Customer’s attention.

Customer taps “cooling tower” and the overlay closes.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT

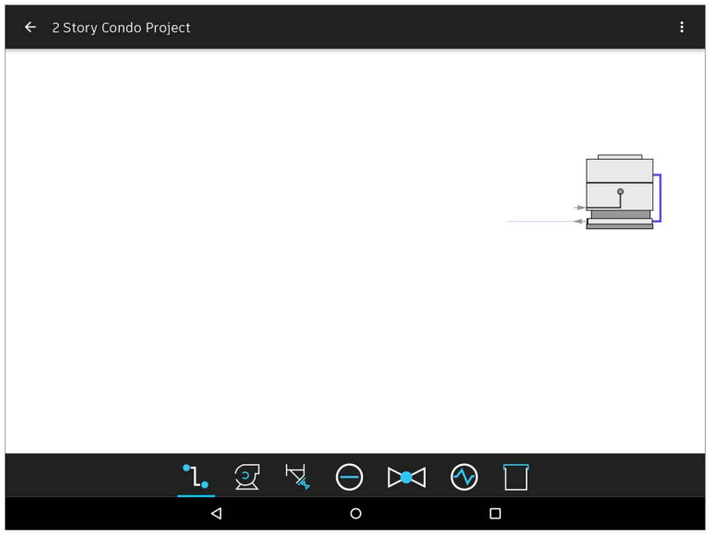


INTERACTION

TAP the “New Model” label

NOTES / ANNOTATIONS

The general interface is comprised of the infinite canvas where the Customer will layout their model and the toolbar where the model elements can be selected from.



INTERACTION

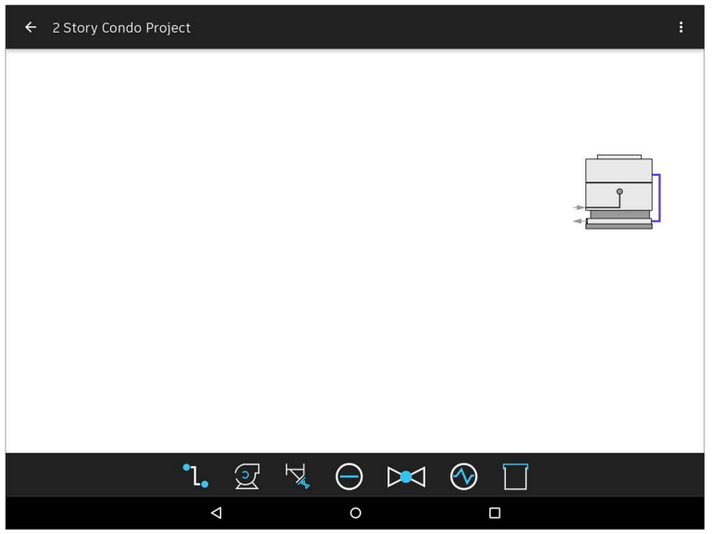
LONG PRESS to draw piping.

NOTES / ANNOTATIONS

The next thing the Customer wants to do is draw the main piping ofr the mechanical room.

The Customer taps the “Connect” option in the Component Bar to initiate the command and begins drawing the hydronic piping from the supply connector on the cooling tower.

Using the long press, the Customer places the piping on the infinite canvas.



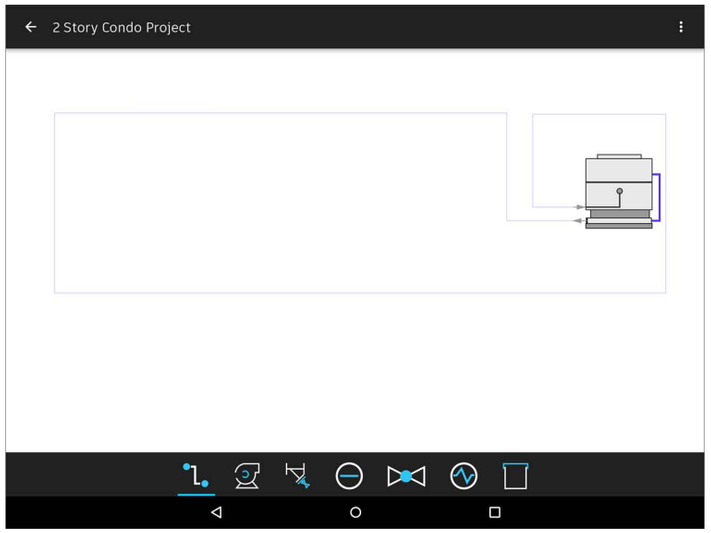
INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

System places the cooling tower on the infinite canvas.

Customer drags the element into the position they want it be on the screen.



INTERACTION

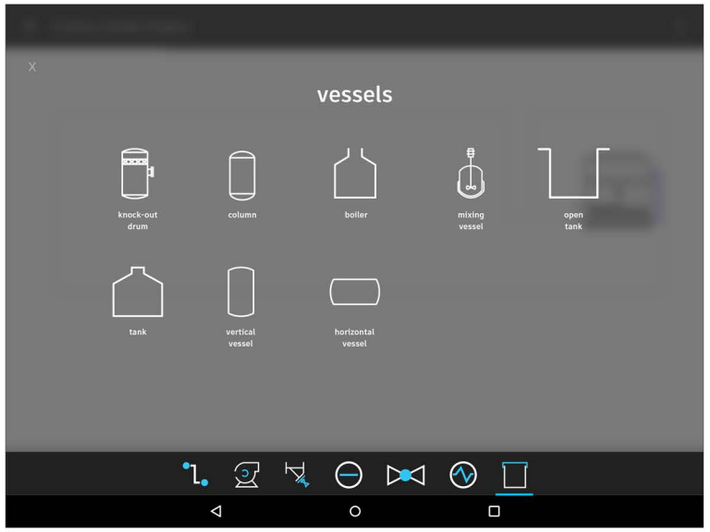
N/A

NOTES / ANNOTATIONS

Customer completes laying out the main piping of the mechanical room by connecting the pipe run to the return connector on the cooling tower.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

TAP tool in the Component Bar.

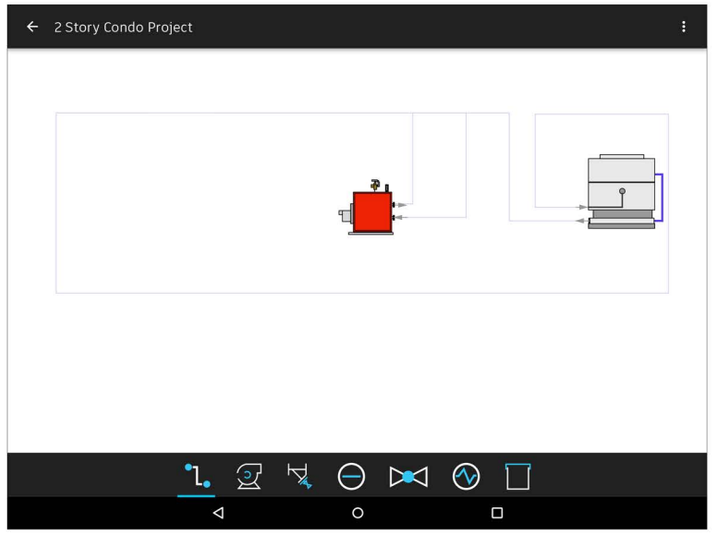
NOTES / ANNOTATIONS

Next, the Customer wants to add a boiler to the mechanical room.

The Customer taps the “Vessels” option in the Component Bar at the bottom of the screen.

The options of vessels appear over top the screen to focus the Customer’s attention.

Customer taps “boiler” and the overlay closes.

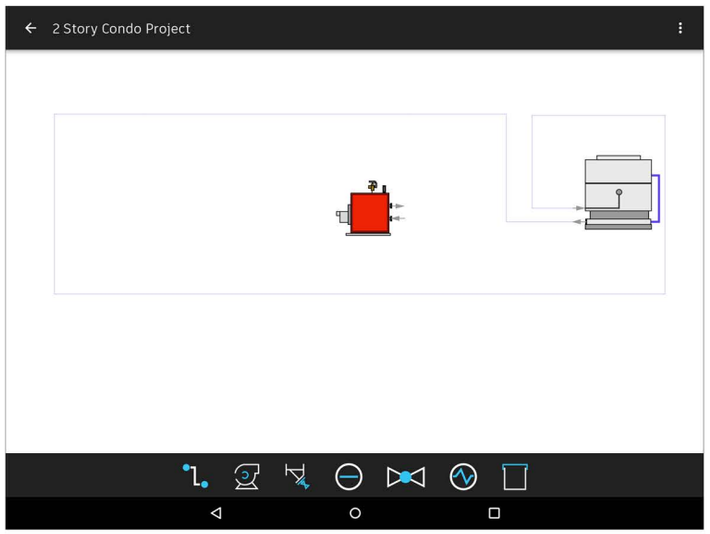


INTERACTION

LONG PRESS to draw piping.

NOTES / ANNOTATIONS

Tapping the “Connect” option in the Component Bar the Customer connects the supply and return piping from the boiler to the main piping.



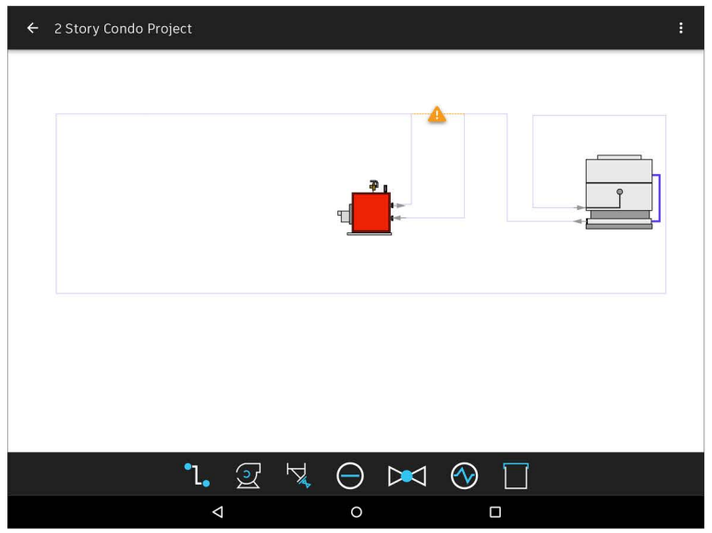
INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

The System places a boiler onto the infinite canvas.

The Customer drags the Boiler into the position they want it to be in.



INTERACTION

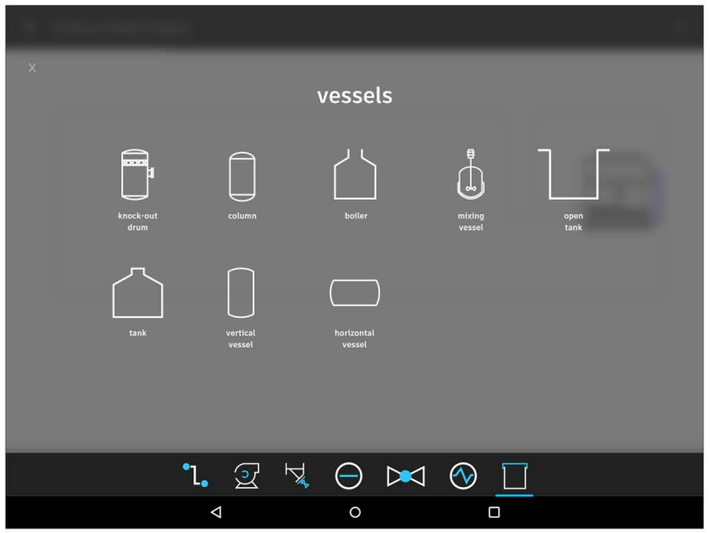
N/A

NOTES / ANNOTATIONS

Once the Customer has placed the piping from the boiler to the main piping, the system cannot figure out what to do with the common piping and displays a warning marker as well as turns the common piping from a solid line to a dashed orange line.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

TAP tool in the Component Bar.

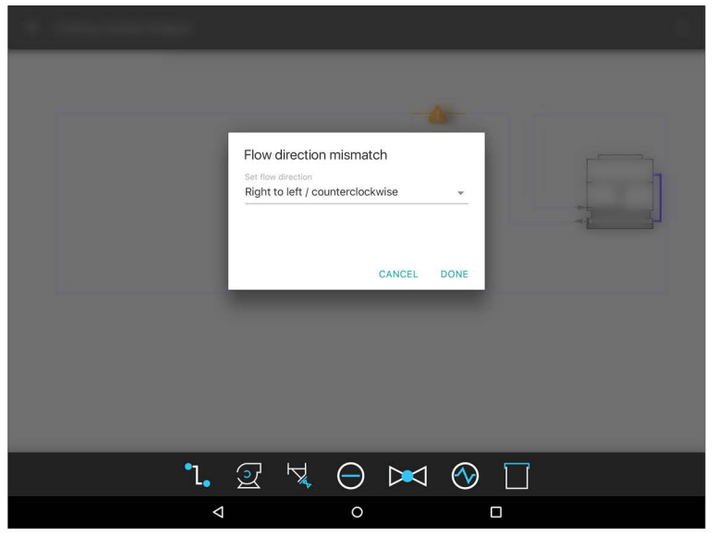
NOTES / ANNOTATIONS

Next, the Customer wants to add a boiler to the mechanical room.

The Customer taps the “Vessels” option in the Component Bar at the bottom of the screen.

The options of vessels appear over top the screen to focus the Customer’s attention.

Customer taps “boiler” and the overlay closes.

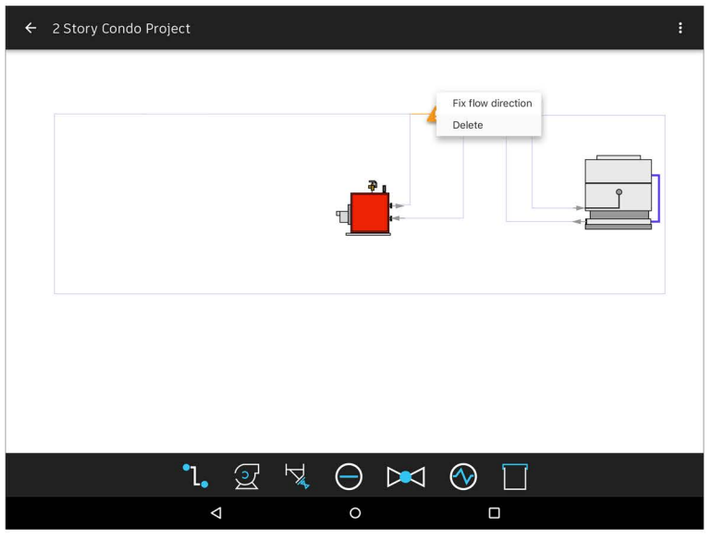


INTERACTION

TAP the “Done” option

NOTES / ANNOTATIONS

The system displays the Flow direction mismatch dialog.
The Customer selects the option for setting the flow direction and then taps the “Done” button.
Dialog closes and returns focus to the infinite canvas.



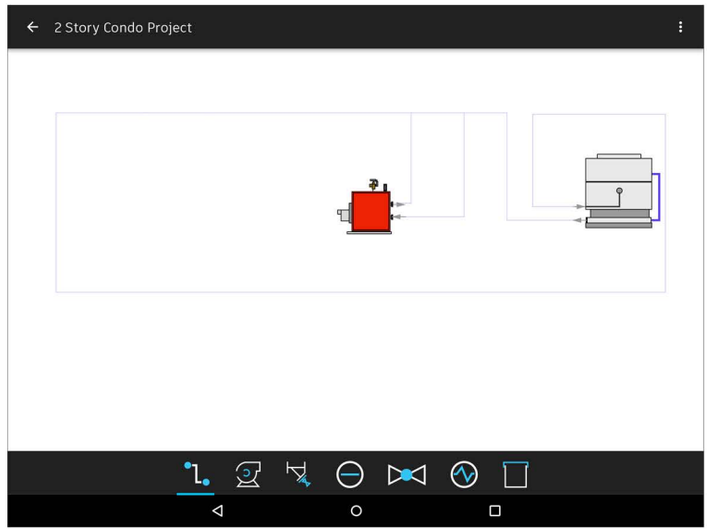
INTERACTION

TAP warning indicator

NOTES / ANNOTATIONS

Tapping on the warning indicator provides the Menu of options the Customer has to resolve the identified issue.

Customer taps the “Fix flow direction” option.



INTERACTION

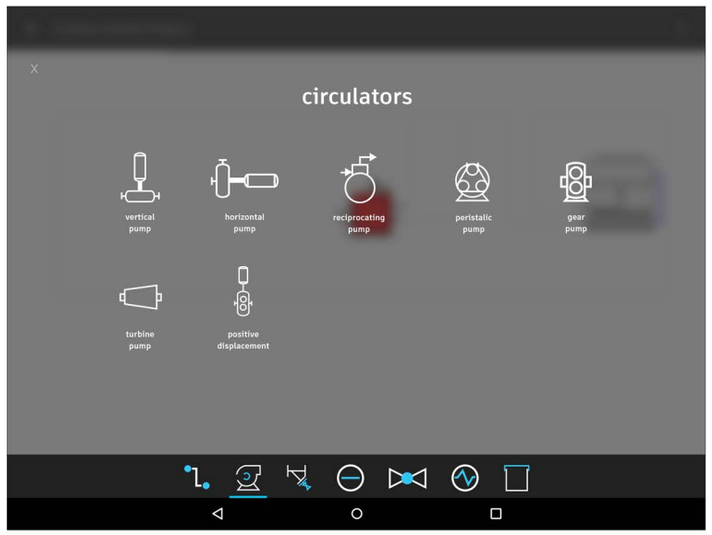
N/A

NOTES / ANNOTATIONS

Once the flow direction has been resolved the common piping returns to its’ normal display and the warning indicator goes away to visually show the Customer the issue is resolved and the model is in a good state.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

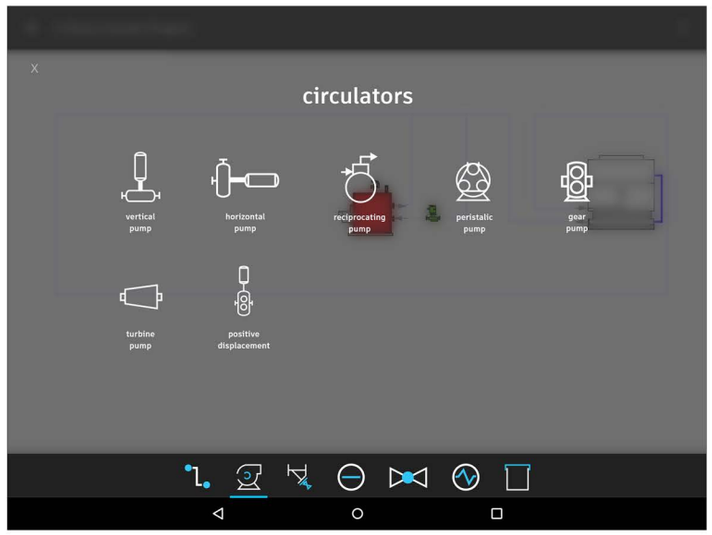
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to add a pump to the supply side of the boiler so they tap the “Circulators” option in the Component Bar.

The circulator options display and the Customer taps the one they want for their model.

The overlay closes.



INTERACTION

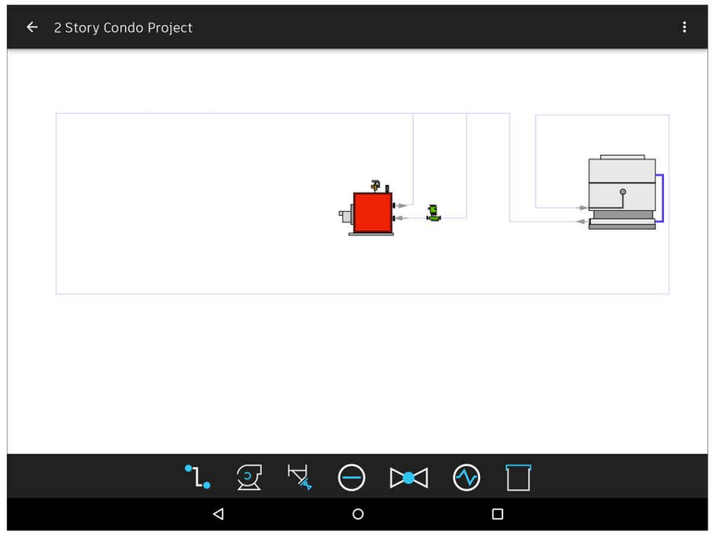
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to add another pump to the mechanical room layout so they tap the “Circulators” option in the Component Bar.

The circulator options display and the Customer taps the one they want for their model.

The overlay closes.



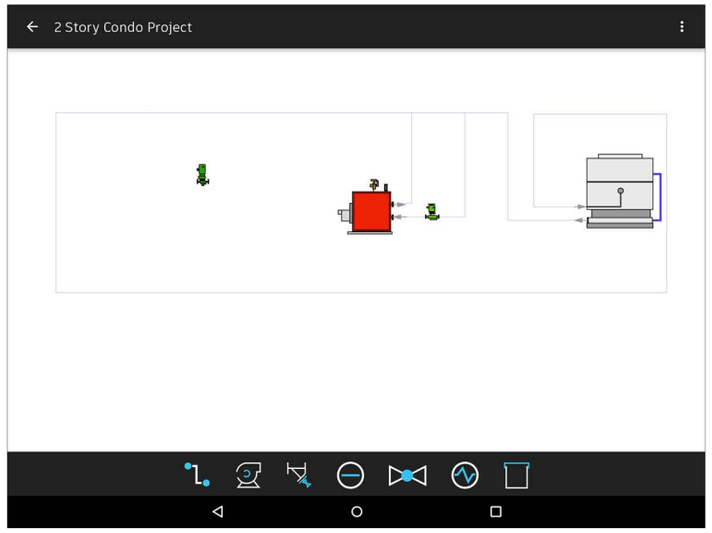
INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

The System places the circulator on the infinite canvas.

The Customer drags the circulator over the pipe element and the circulator snaps into place.



INTERACTION

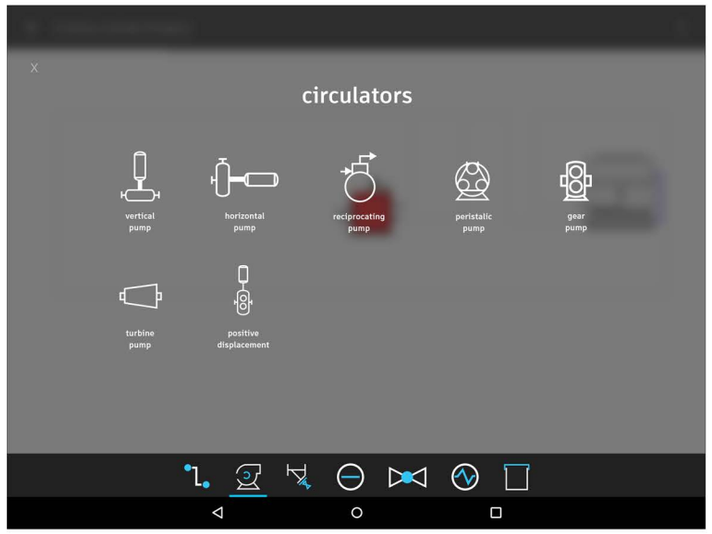
DRAG the element into position

NOTES / ANNOTATIONS

Customer drags the pump into position on the infinite canvas.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

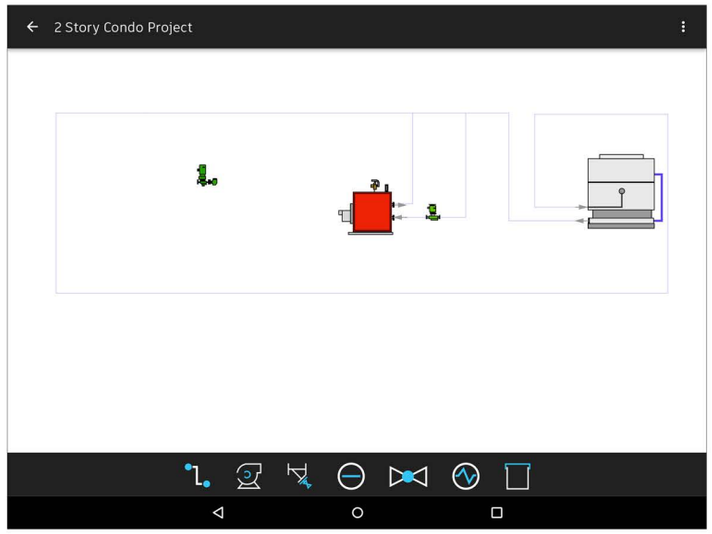
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to add a pump to the supply side of the boiler so they tap the “Circulators” option in the Component Bar.

The circulator options display and the Customer taps the one they want for their model.

The overlay closes.

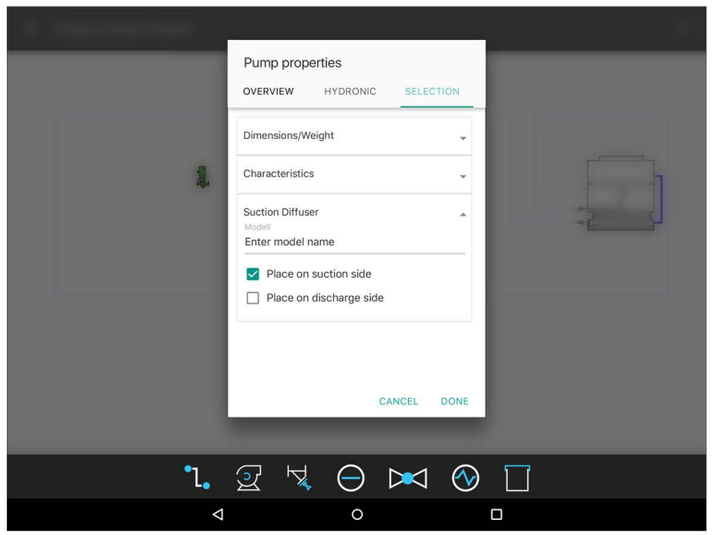


INTERACTION

N/A

NOTES / ANNOTATIONS

The system adds the diffuser to the suction side of the pump.



INTERACTION

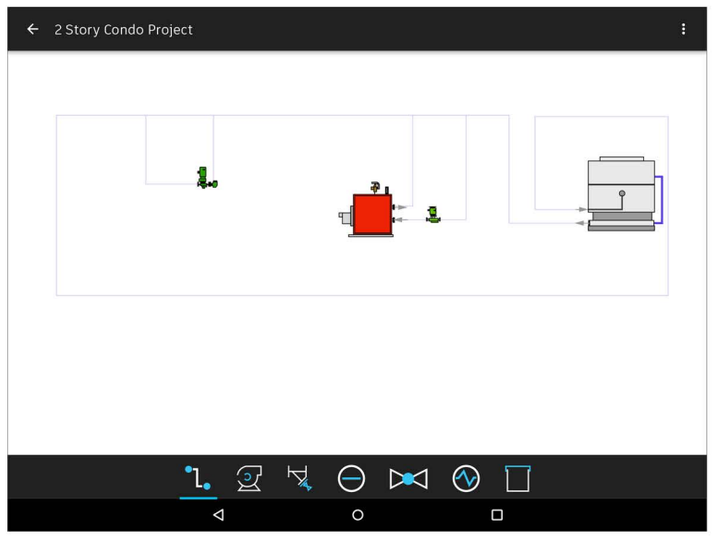
PRESS the element to reveal detail panel.

NOTES / ANNOTATIONS

The “Pump properties” dialog overlays the screen.

Customer taps the “Selection” tab and then taps the option to add a suction diffuser to the suction side of the pump.

Customer taps the “Done” option when complete and the dialog closes returning focus to the infinite canvas.



INTERACTION

LONG PRESS to draw piping.

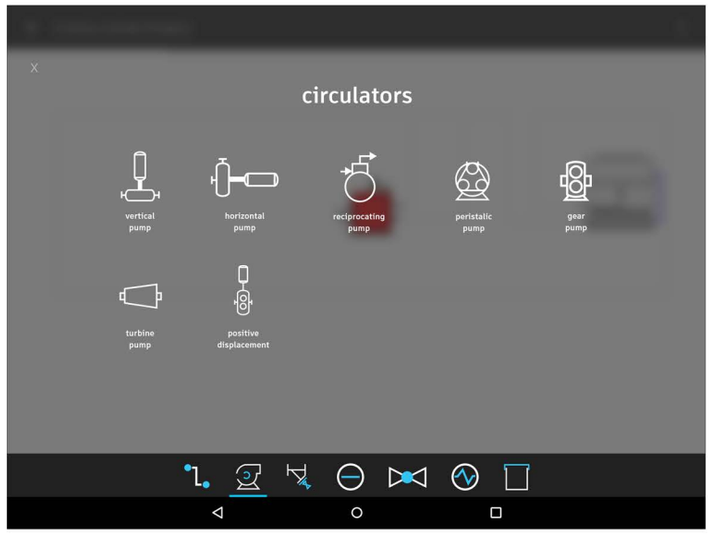
NOTES / ANNOTATIONS

The customer taps the “Connect” option in the Component Bar at the bottom of the screen to initiate the draw command.

Customer draws the piping from the pump to the main piping of the network.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

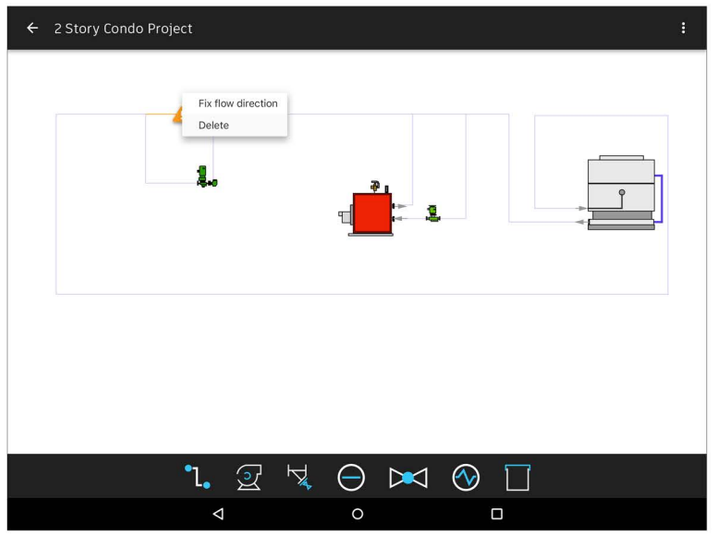
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to add a pump to the supply side of the boiler so they tap the “Circulators” option in the Component Bar.

The circulator options display and the Customer taps the one they want for their model.

The overlay closes.



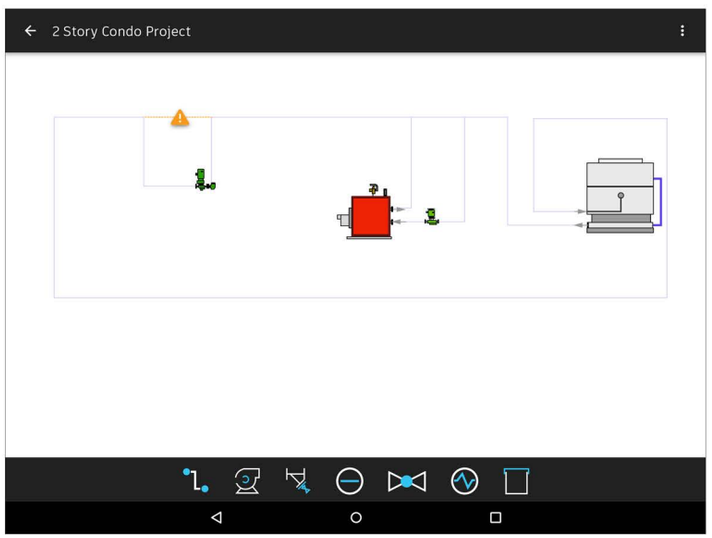
INTERACTION

TAP the warning indicator

NOTES / ANNOTATIONS

Tapping on the warning indicator provides the Menu of options the Customer has to resolve the identified issue.

Customer taps the “Delete” option.

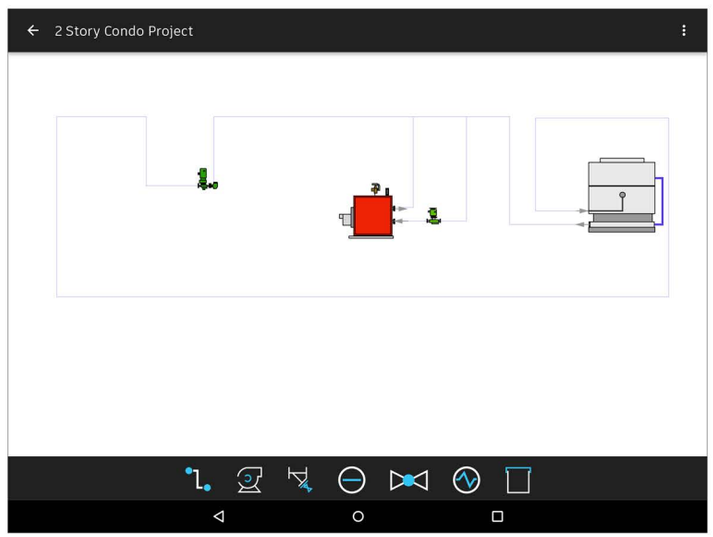


INTERACTION

N/A

NOTES / ANNOTATIONS

Once the Customer has placed the piping from thepump to the main piping, the system cannot figure out what to do with the common piping and displays a warning marker as well as turns the common piping from a solid line to a dashed orange line.



INTERACTION

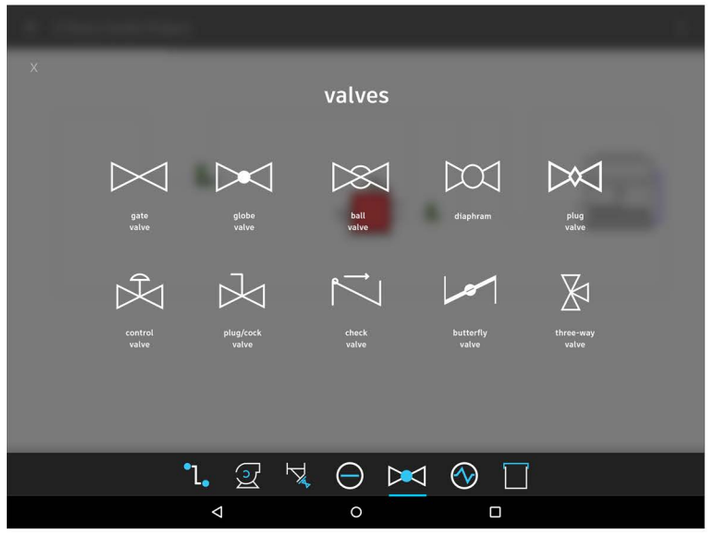
N/A

NOTES / ANNOTATIONS

The System removes the common piping in question and mends the layout from having tee components to elbow components.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

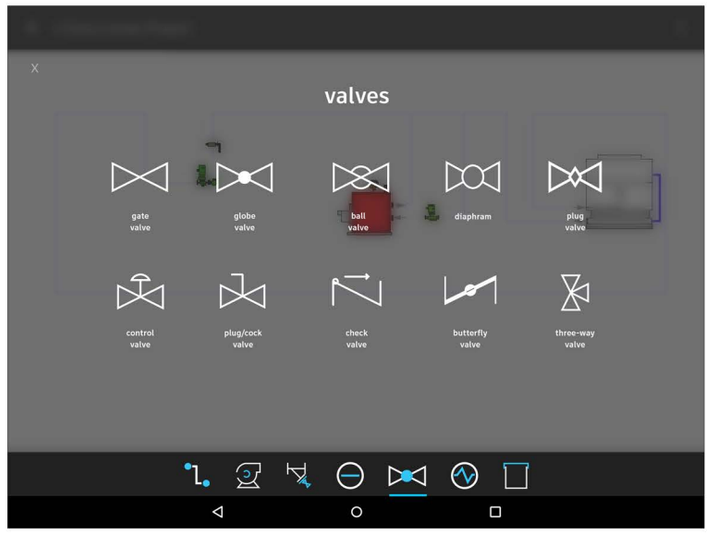
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to place some valves along the piping for the newly added pump.

The Customer taps the “Valves” option in the Component Bar at the bottom of the screen and the valve options display.

The Customer taps the option they want and the overlay closes.



INTERACTION

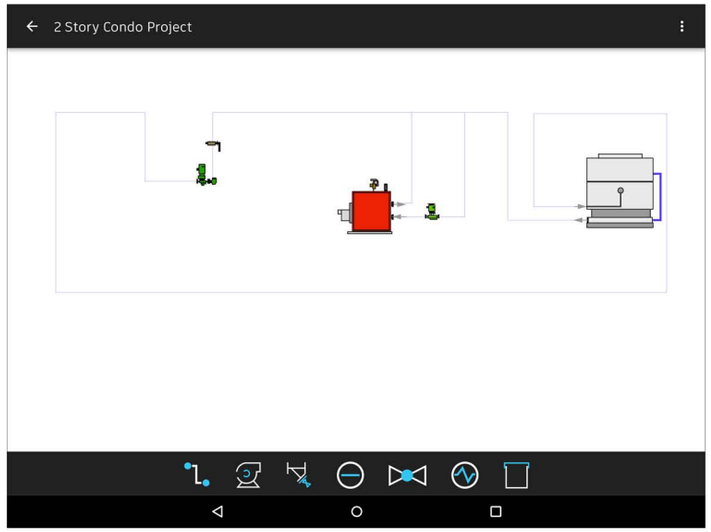
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to place some valves along the piping for the newly added pump.

The Customer taps the “Valves” option in the Component Bar at the bottom of the screen and the valve options display.

The Customer taps the option they want and the overlay closes.



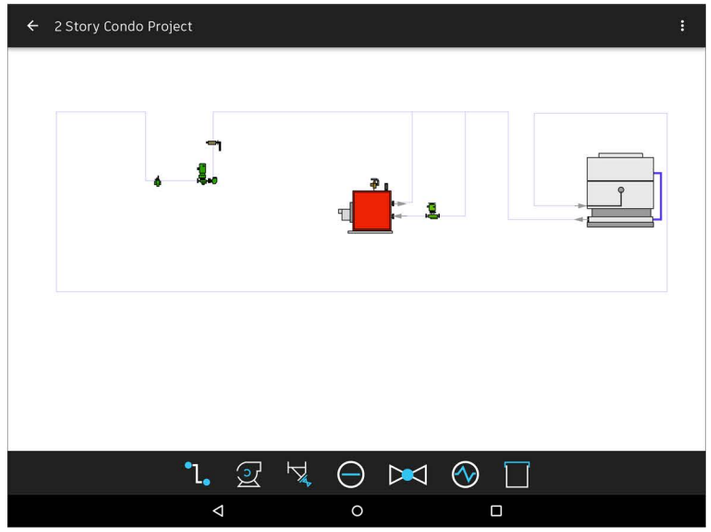
INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

The System places the butterfly valve onto the infinite canvas.

Customer drags the valve into position on the suction side of the pump and the System snaps it into the piping.



INTERACTION

DRAG the element into position

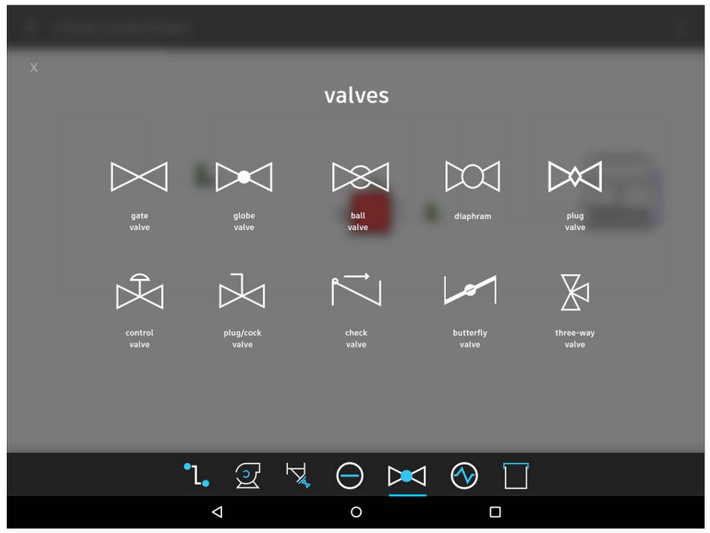
NOTES / ANNOTATIONS

The System places the multipurpose valve onto the infinite canvas.

Customer drags the valve into position on the discharge side of the pump and the System snaps it into the piping.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

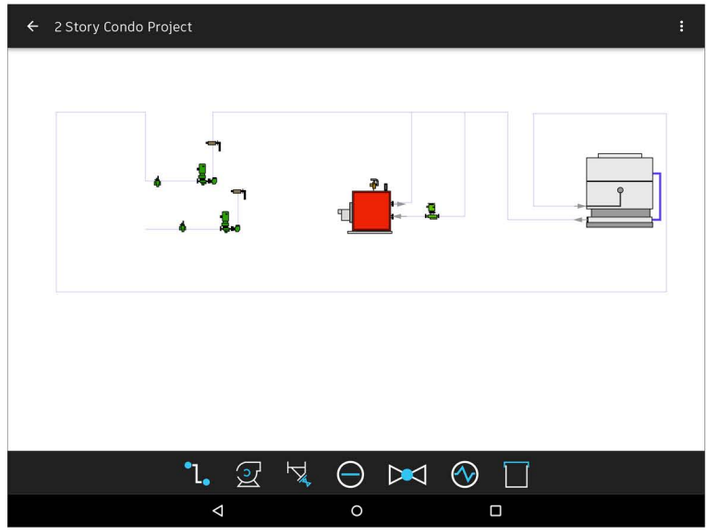
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to place some valves along the piping for the newly added pump.

The Customer taps the “Valves” option in the Component Bar at the bottom of the screen and the valve options display.

The Customer taps the option they want and the overlay closes.

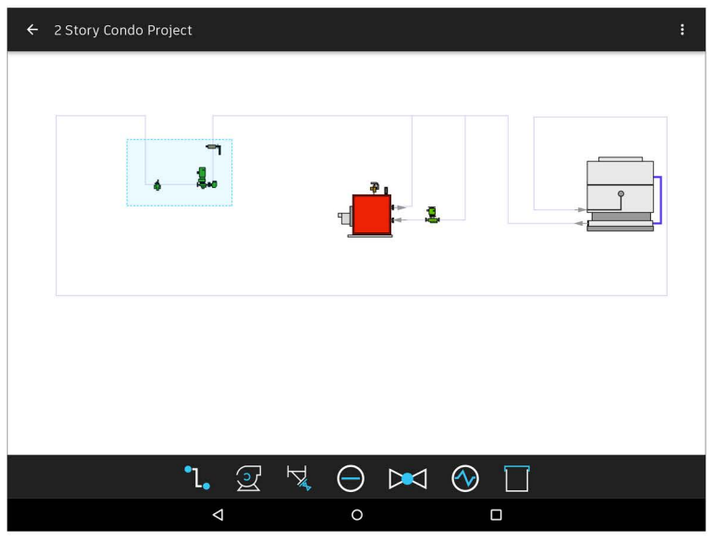


INTERACTION

DUPLICATE the elements

NOTES / ANNOTATIONS

Using the Duplicate gesture, the Customer creates a duplicate set of elements and drags them into position on the infinite canvas.

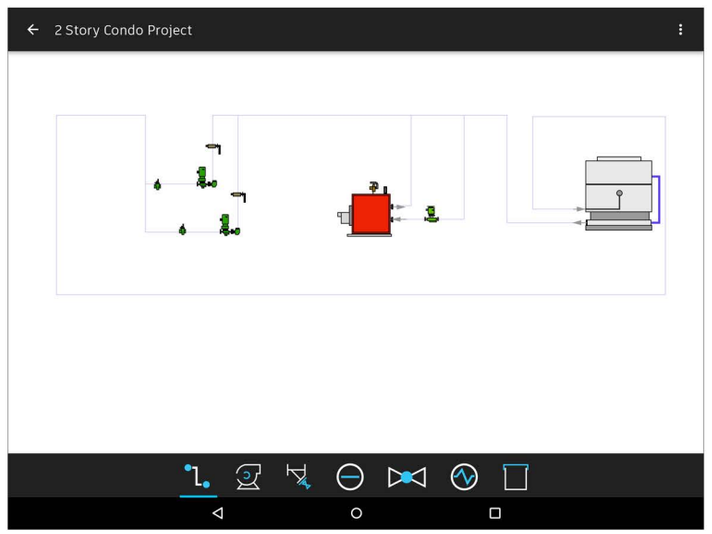


INTERACTION

BUNDLE to select multiple elements in the model.

NOTES / ANNOTATIONS

As a shortcut, the Customer selects multiple elements in the model as they are going to create a parallel pump set for the mechanical room.



INTERACTION

LONG PRESS to draw piping.

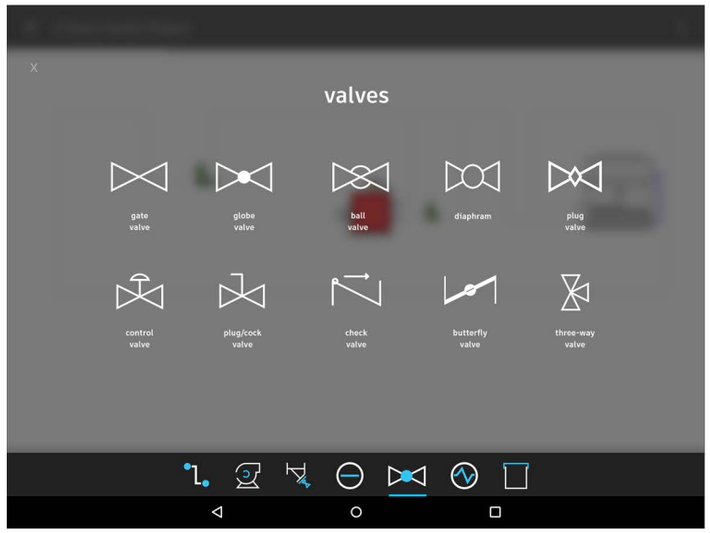
NOTES / ANNOTATIONS

The customer taps the “Connect” option in the Component Bar at the bottom of the screen to initiate the draw command.

Customer connects the piping to the main piping of the mechanical room.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

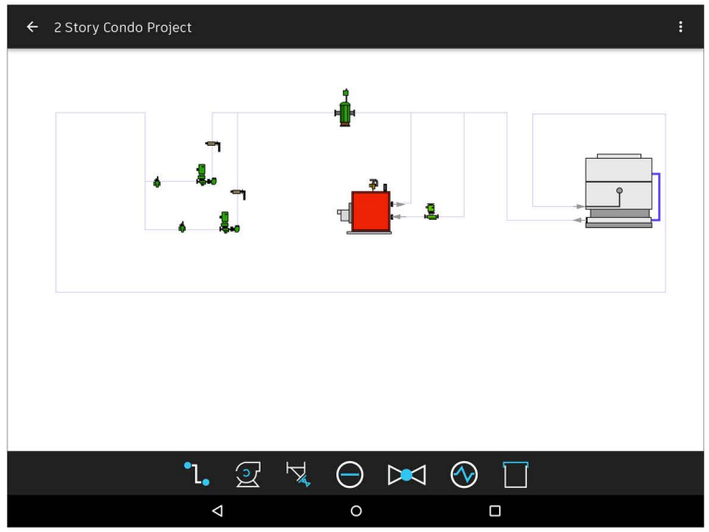
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to place some valves along the piping for the newly added pump.

The Customer taps the “Valves” option in the Component Bar at the bottom of the screen and the valve options display.

The Customer taps the option they want and the overlay closes.



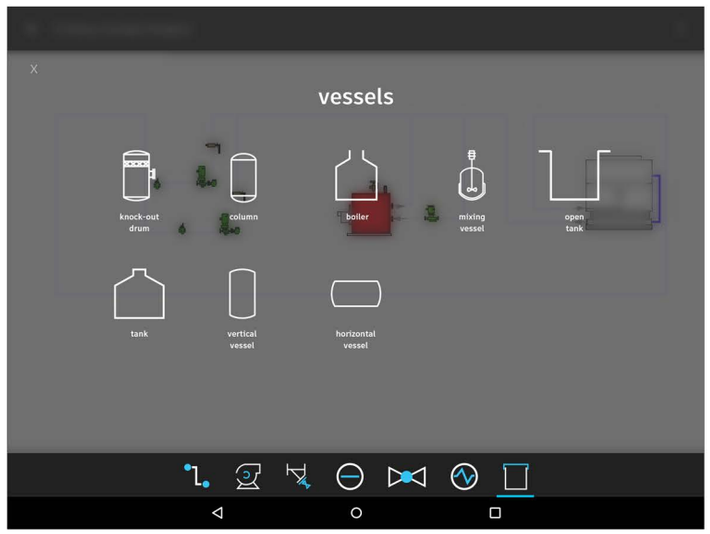
INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

The System places the air separator onto the infinite canvas.

Customer drags the air separator into position and the System snaps it into the piping.



INTERACTION

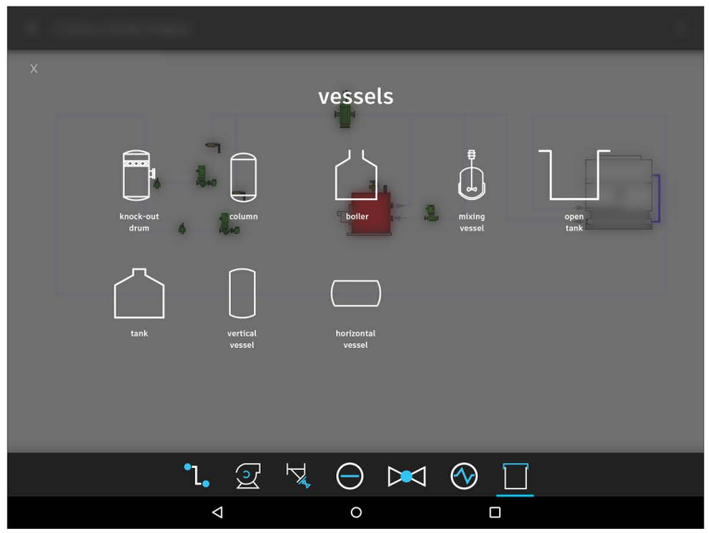
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to add an air separator to the mechanical room.

The Customer taps the “Vessels” option in the Component Bar at the bottom of the screen.

The options of vessels appear over top the screen to focus the Customer’s attention, the Customer makes their selection and the overlay closes.



INTERACTION

TAP tool in the Component Bar.

NOTES / ANNOTATIONS

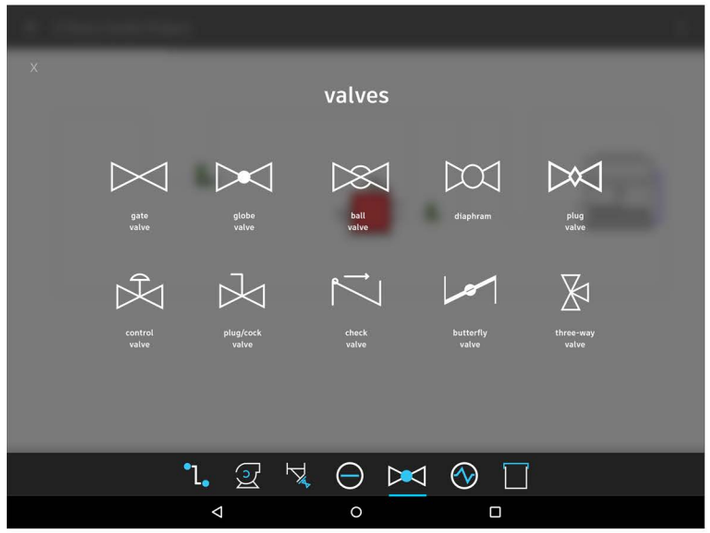
Next, the Customer wants to add a expansion tank to the mechanical room.

The Customer taps the “Vessels” option in the Component Bar at the bottom of the screen.

The options of vessels appear over top the screen to focus the Customer’s attention, the Customer makes their selection and the overlay closes.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

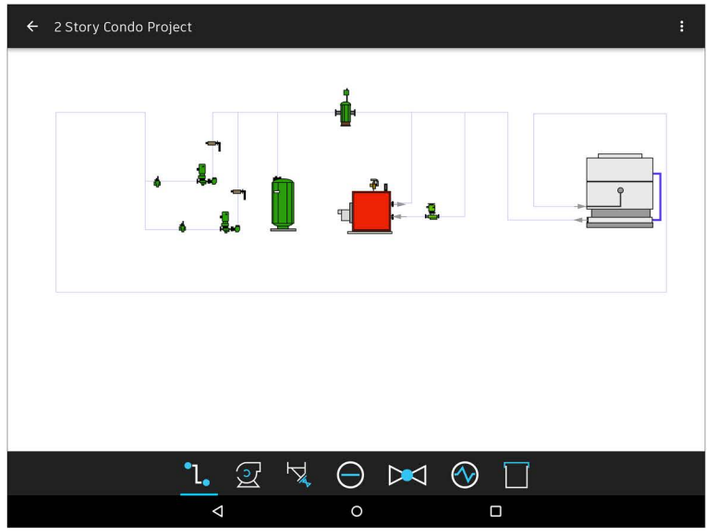
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to place some valves along the piping for the newly added pump.

The Customer taps the “Valves” option in the Component Bar at the bottom of the screen and the valve options display.

The Customer taps the option they want and the overlay closes.



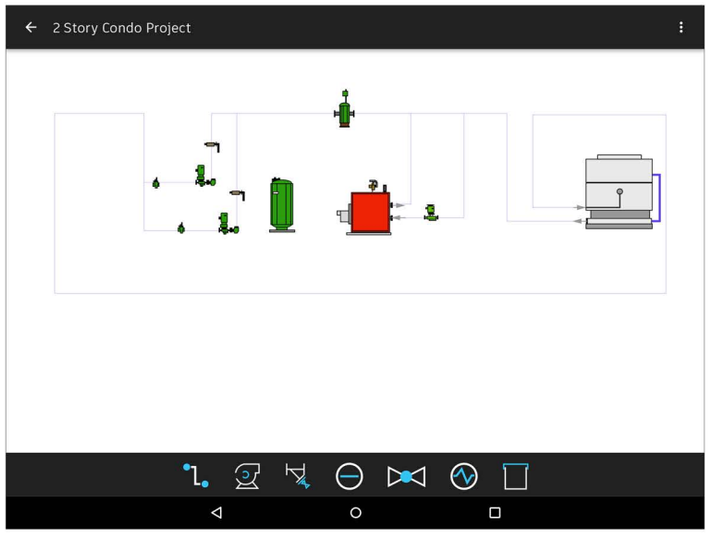
INTERACTION

LONG PRESS to draw piping.

NOTES / ANNOTATIONS

The customer taps the “Connect” option in the Component Bar at the bottom of the screen to initiate the draw command.

Customer connects the expansion tank to the main piping of the mechanical room.



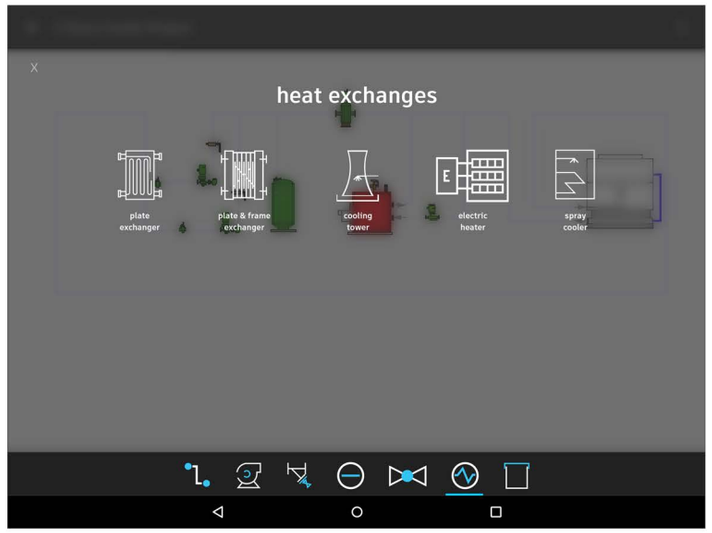
INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

The System places the expansion tank onto the infinite canvas.

Customer drags the expansion tank into position.



INTERACTION

TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Now that the mechanical room is laid out to their satisfaction, the Customer begins to create the two floors for the condominium project.

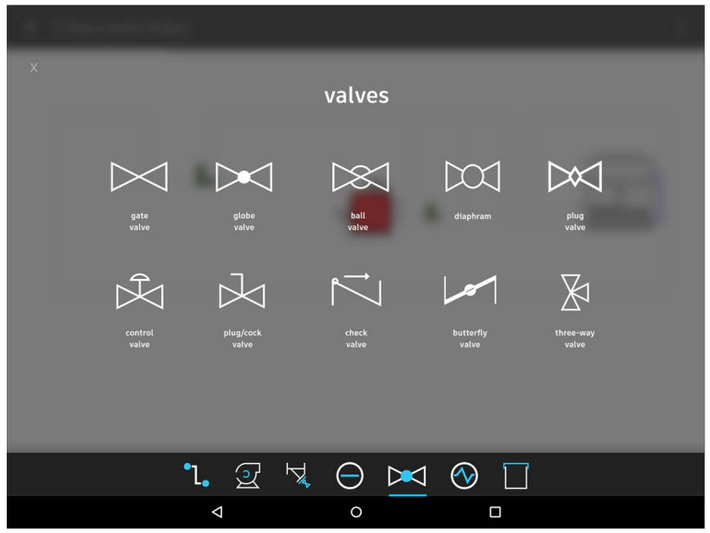
The Customer taps the “Heat Exchanges” tool in the Component Bar at the bottom of the screen.

The options of heat exchanges appear over top the screen to focus the Customer’s attention.

The Customer makes their selection and the overlay closes.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

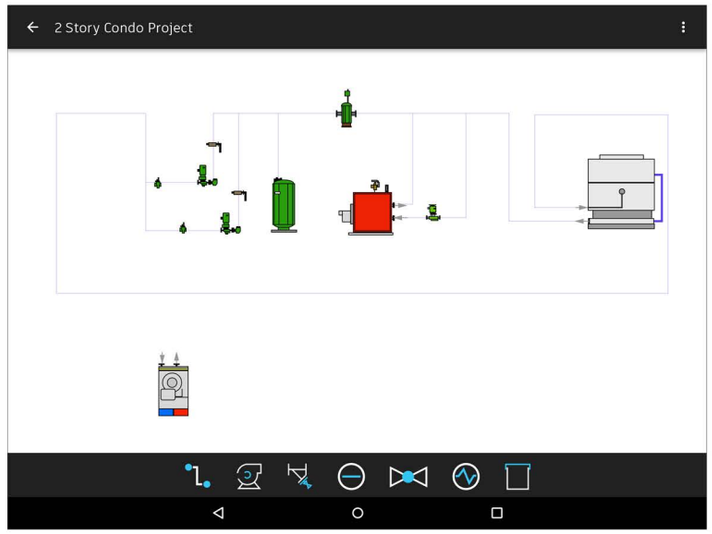
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to place some valves along the piping for the newly added pump.

The Customer taps the “Valves” option in the Component Bar at the bottom of the screen and the valve options display.

The Customer taps the option they want and the overlay closes.

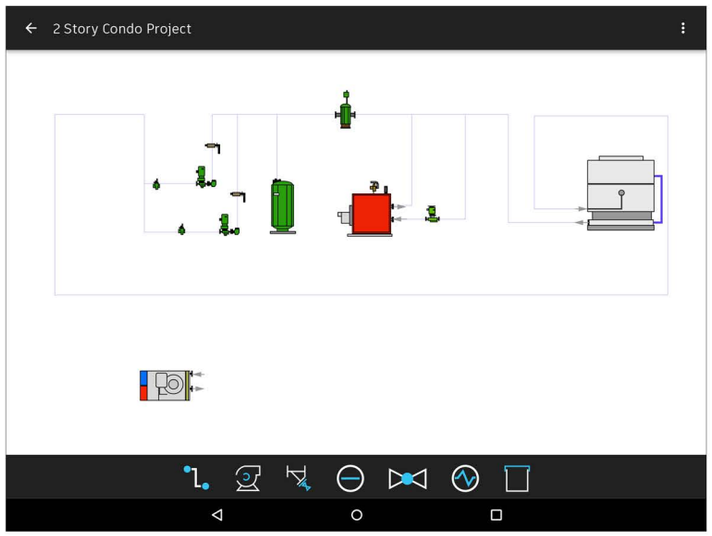


INTERACTION

ROTATE the element into position

NOTES / ANNOTATIONS

To make connecting the load to the piping easier, the Customer rotates the element so that the connectors are facing upwards.



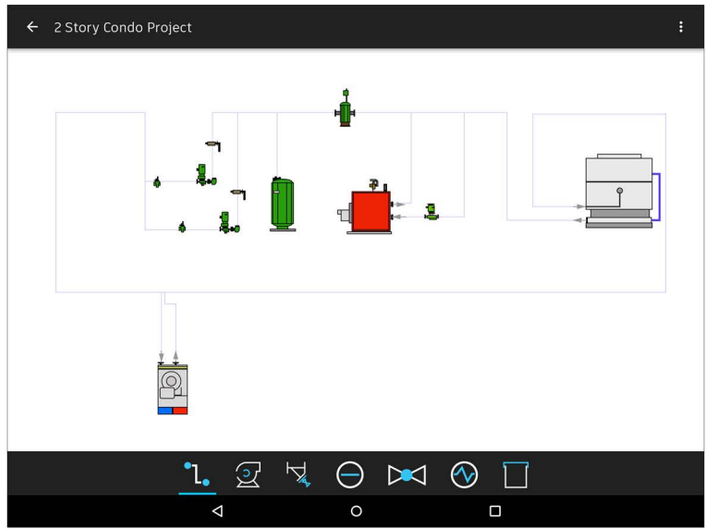
INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

The System places the load onto the infinite canvas.

Customer drags the load into position.



INTERACTION

LONG PRESS to draw piping.

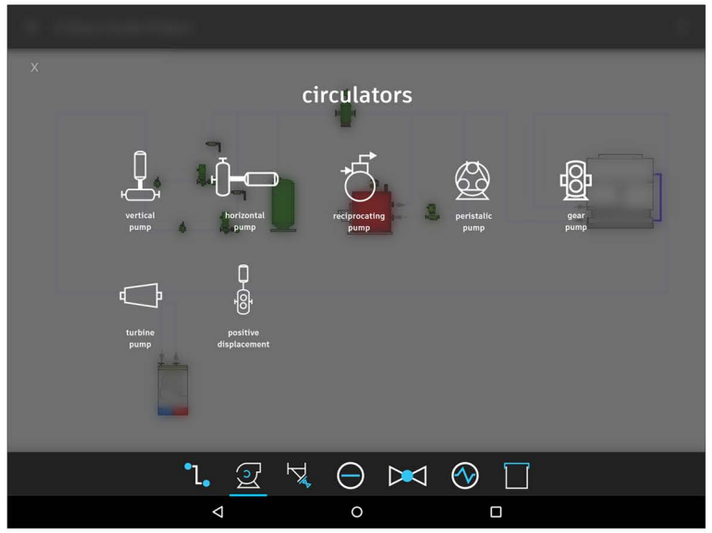
NOTES / ANNOTATIONS

The customer taps the “Connect” option in the Component Bar at the bottom of the screen to initiate the draw command.

Customer connects the load ’s supply and return to the main piping of the mechanical room.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

THE DESIGN CONCEPT



INTERACTION

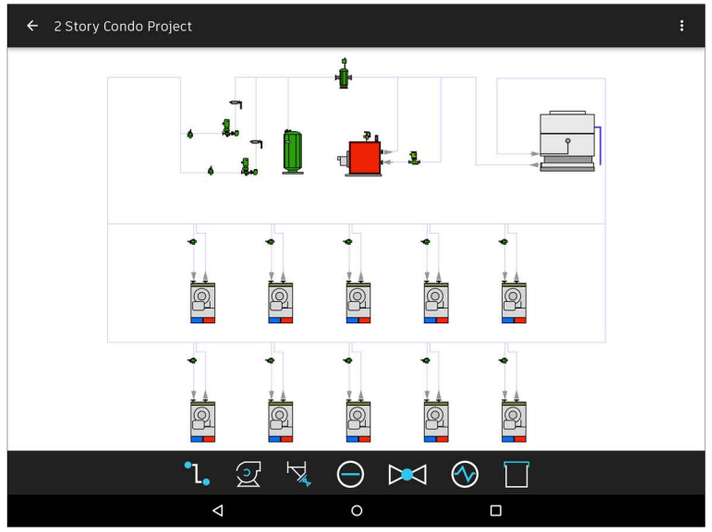
TAP tool in the Component Bar.

NOTES / ANNOTATIONS

Next, the Customer wants to add a pump to the supply side of the load so they tap the “Circulators” option in the Component Bar.

The circulator options display and the Customer taps the one they want for their model.

The overlay closes.



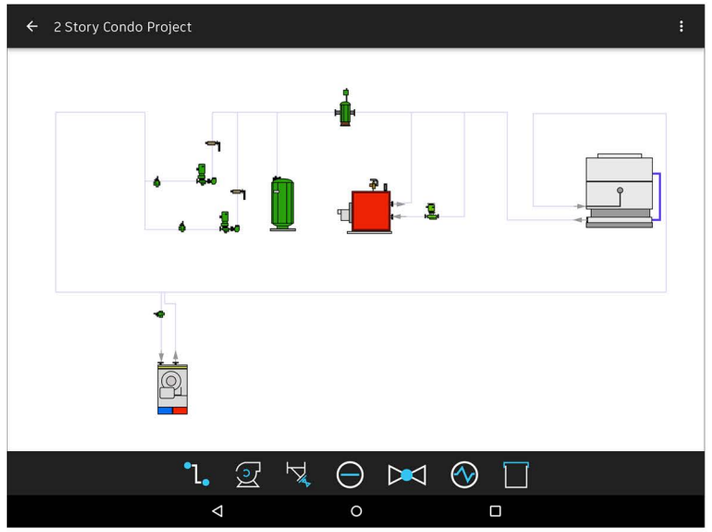
INTERACTION

PINCH

NOTES / ANNOTATIONS

Once the Customer has duplicate the loads, added additional pipes and risers to the layout they have completed the model.

Customer pinches the screen to zoom out to display the entire hydronic layout.



INTERACTION

DRAG the element into position

NOTES / ANNOTATIONS

The System places the lcirculator onto the infinite canvas.

Customer drags the circulator over the supply piping and the System snaps it into place, rotating it automatically.

DESIGNING AN INTUITIVE MOBILE APP FORMECHANICAL DESIGNERS TO QUICKLY MODELHYDRONIC PIPE NETWORK LAYOUTS.

CUSTOMER FEEDBACK

> I like it. This looks very simple to use and it could be very useful, especially if it could support our symbology and standards.
>
> Being able to create something here that I could then open up with Revit or AutoCAD is just awesome.
>
> It would be great to see the flow/pressure calculations displayed in a future iteration just to get a feel for how they would potentially look in the UI.
>
> I like the fact that someone in the field could use this app. Along those lines, perhaps adding the ability to leverage the device camera to add photos to the model and annotate them would be helpful.

Jessica Miller PE, LEED, AP BD+C
Associate, HVAC Engineering

> Very nice concept that covers all the basics for laying out a network. This would be a great tool to bring to a customer site & create initial layouts with them to move projects along more quickly.
>
> Seeing how this works with Revit from your initial software architecture sketch is great as it is critical the two work together.
>
> It would be great to take a photo of a sketch or whiteboard to use as an underlay to create you layout from.
>
> If you could add a grid to snap elements to it would make things even easier to layout.
>
> Visually show flow and also provide flow/pressure calculations in next iteration would also be very important.
>
> Finally add a 'Share' command which could send a snapshot to the customer to sign off on and the ability to expand/collapse areas of the model.

Pierre-Andre Trudel
Mechanical Enginer

Potential next steps

Should there be interest in pursuing this project further, the following list of items represents the potential next steps to take.

ADDITIONAL CUSTOMER VALIDATION
Set up time to walk additional Customers through the concept as it exists to gauge excitement, needs and thoughts on how to evolve the concept into a more realized product / service for the Autodesk BIM Portfolio.
1. Take existing Sketch app and create a clickable walkthrough / video to post on the BIM Forum to solicit feedback.
2. Work with Charlene Portante to line up additional Customers to talk to about the project and schedule sessions.

PROPERLY SCOPE PROJECT
Based on additional Customer validation the Team would then…
1. Create a Release Epic in the Backlog.
2. Create prioritized detailed User Stories.
3. Create prioritized detailed Investigation Tasks.

ITERATE CONCEPT
In order to bring the product from concept to fully realized commercially released product we will need to…
1. Begin work with Developers to code basic interaction paradigms and adjust as needed.
2. Illustrate how flow/pressure calculations would work within the concept.
3. Flesh out the full set of tools.
4. Flesh out additional scenarios and interactions for modifying data for elements in the model.
5. Align visual style, reusable components and other paradigms to the work the new HIG Initiative is doing.
6. Align effort with other initiative inside Autodesk such as Forge and Lynx.

DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

Design an application allowing Independent Software Vendors (ISVs), Hosted Service Providers (HSPs), and Managed Service Providers (MSPs) to publish Windows applications without modification of existing code for the use of local and remote users without the use of Microsoft Remote Desktop Services (RDS) or the multi-session kernel functionality built into Windows.

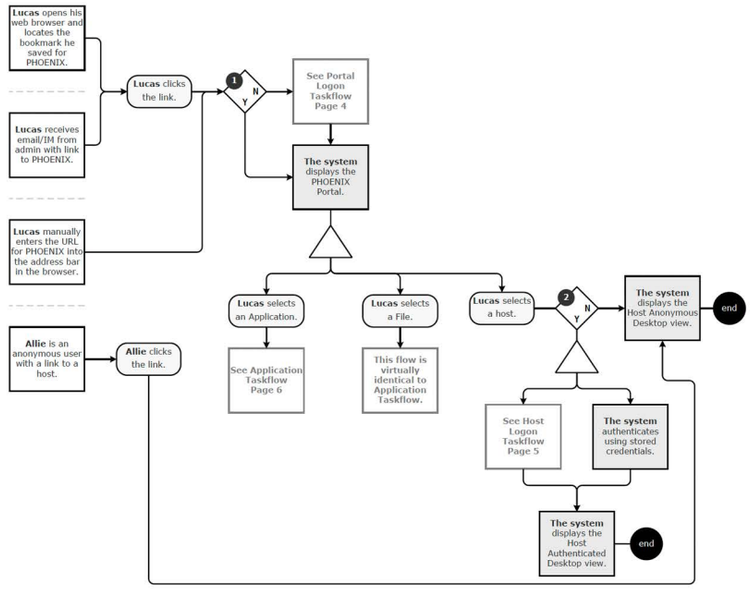
Results/Outcomes

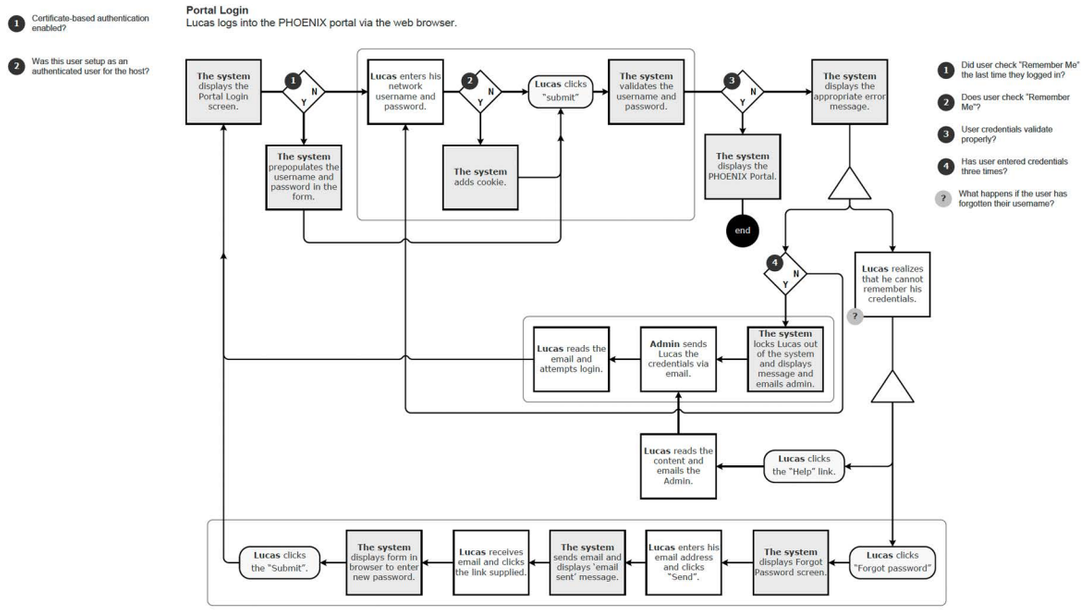
High-fidelity wireframes and workflow diagrams outlining the entire user experience for the client team to align brand guidelines to and move to development.

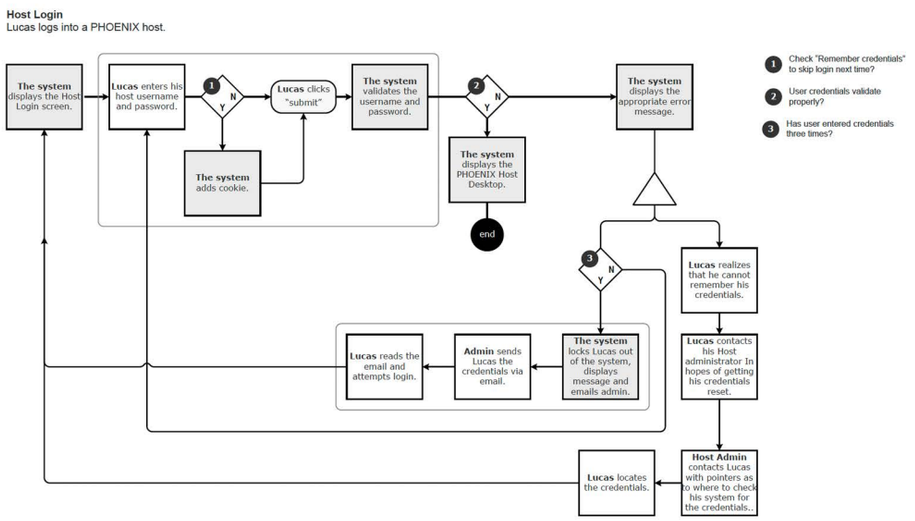
Other people involved

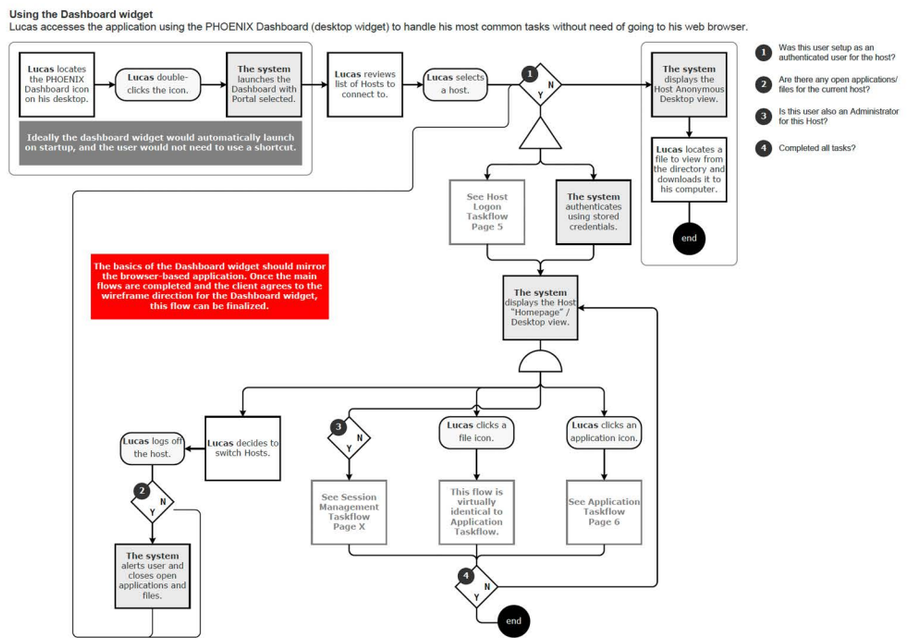
Project Manager

WORKFLOW DIAGRAMS





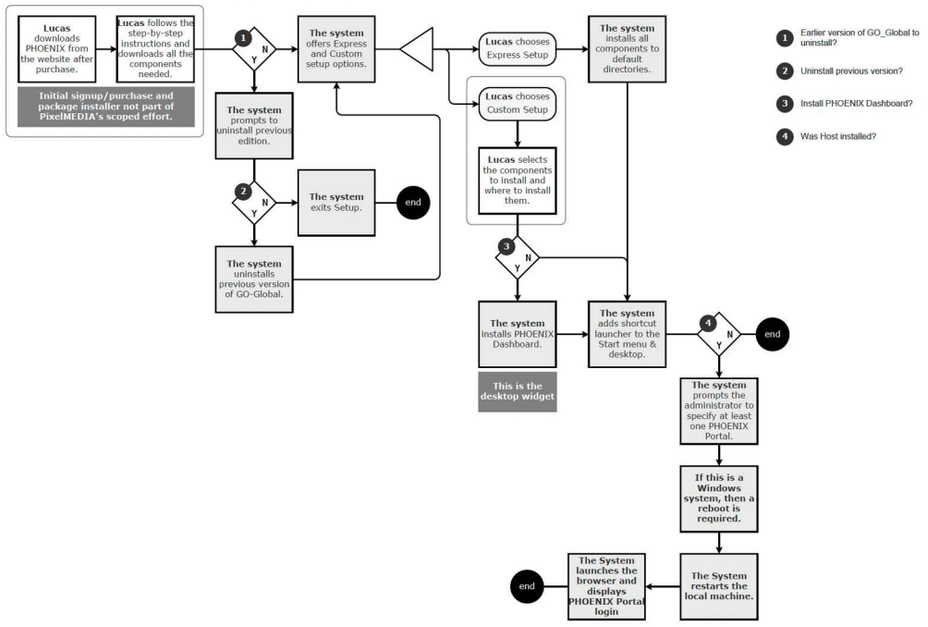




DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

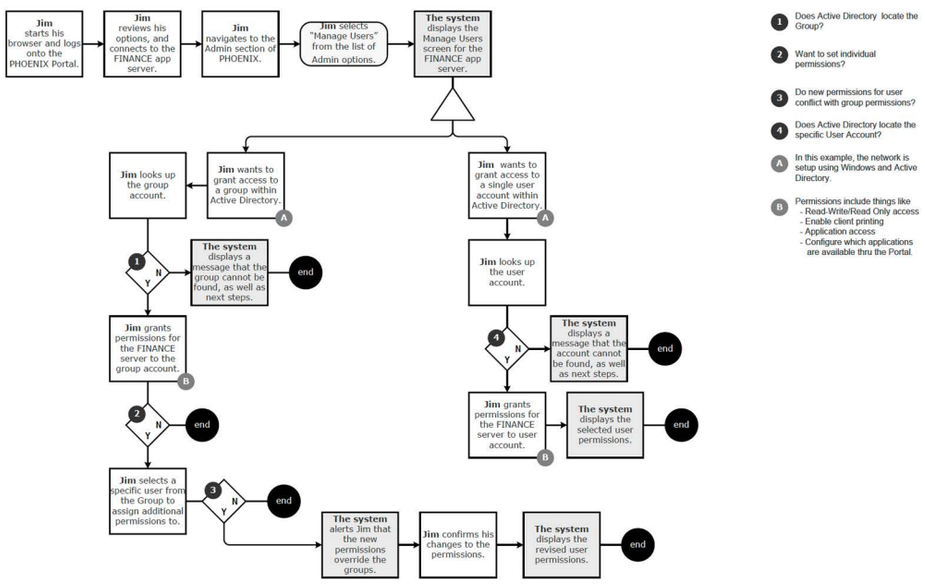
WORKFLOW DIAGRAMS

Initial PHOENIX setup
Lucas is setting up PHOENIX on his own PC and registering an administrator account.



1. Earlier version of GO_Global to uninstall?
2. Uninstall previous version?
3. Install PHOENIX Dashboard?
4. Was Host installed?

Assigning users and permissions
Jim, the head of IT is setting up PHOENIX across multiple host machines on an internal network where some of the hosts are servers and others are PCs. He has set up a single portal for the company in the DMZ which uses Active Directory Federated Services (ADFS) to authenticate employees using accounts defined on the internal domain and is now assigning permissions to different users and groups..

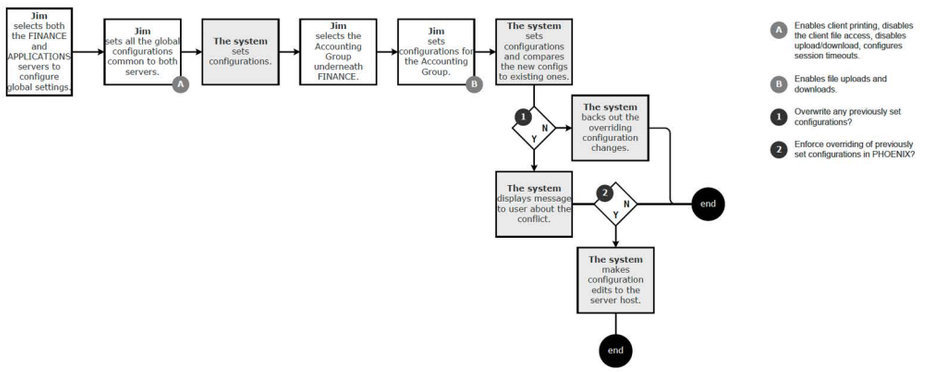


1. Does Active Directory locate the Group?
2. Want to set individual permissions?
3. Do new permissions for user conflict with group permissions?
4. Does Active Directory locate the specific User Account?

A. In this example, the network is setup using Windows and Active Directory.

B. Permissions include things like
- Read-Write/Read Only access
- Enable client printing
- Application access
- Configure which applications are available thru the Portal.

Portal and Host configurations
Jim, the head of IT is setting up PHOENIX across multiple host machines on an internal network where some of the hosts are servers and others are PCs. He has set up a single portal for the company in the DMZ which uses Active Directory Federated Services (ADFS) to authenticate employees using accounts defined on the internal domain.

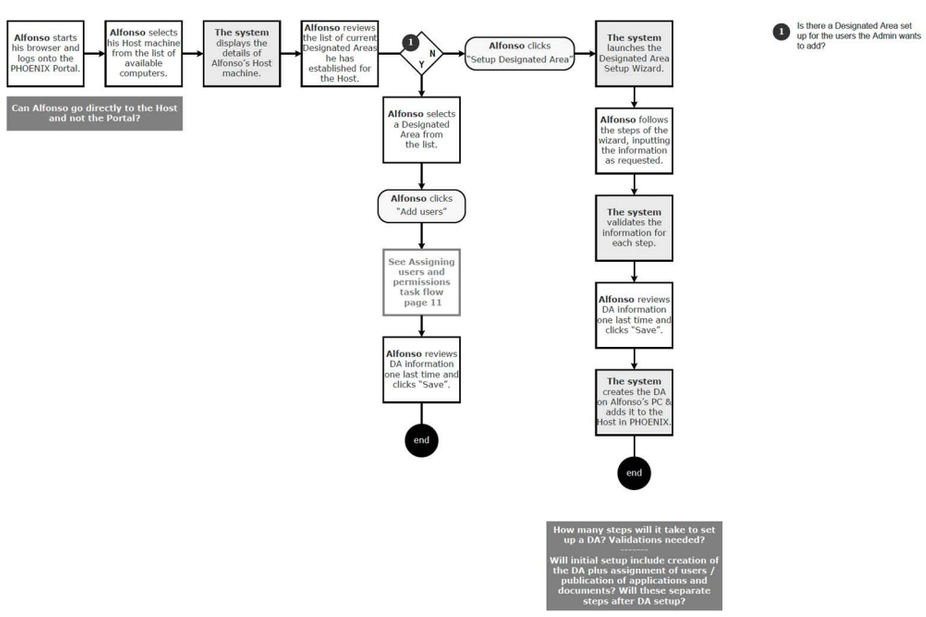


A. Enables client printing, disables the client file access, disables upload/download, configures session timeouts.

B. Enables file uploads and downloads.

1. Overwrite any previously set configurations?
2. Enforce overriding of previously set configurations in PHOENIX?

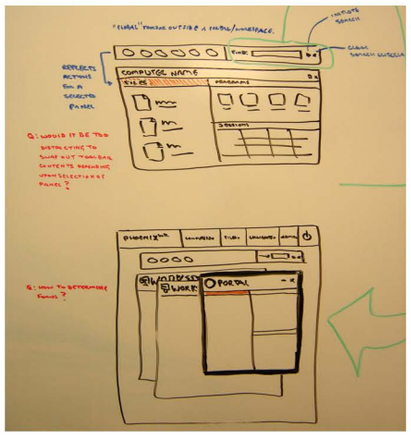
Creating and configuring Designated Areas
Alfonso has set his desktop machine to be a Host machine for PHOENIX and needs to configure Designated Areas (DAs) and associate users for each DA.

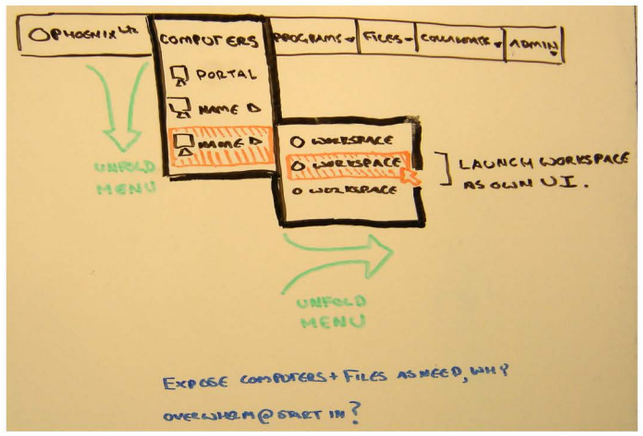


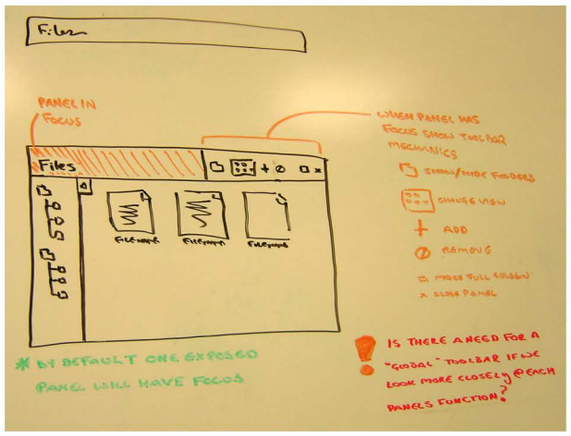
1. Is there a Designated Area set up for the users the Admin wants to add?

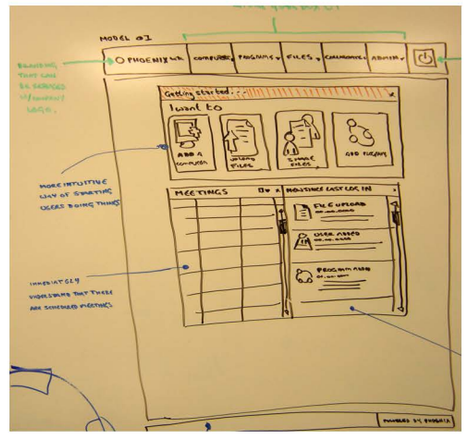
DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

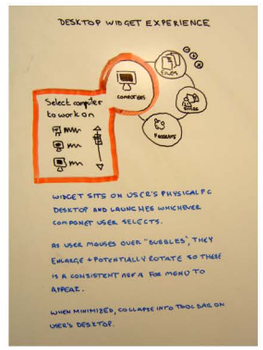
INITIAL WHITEBOARD SKETCHES



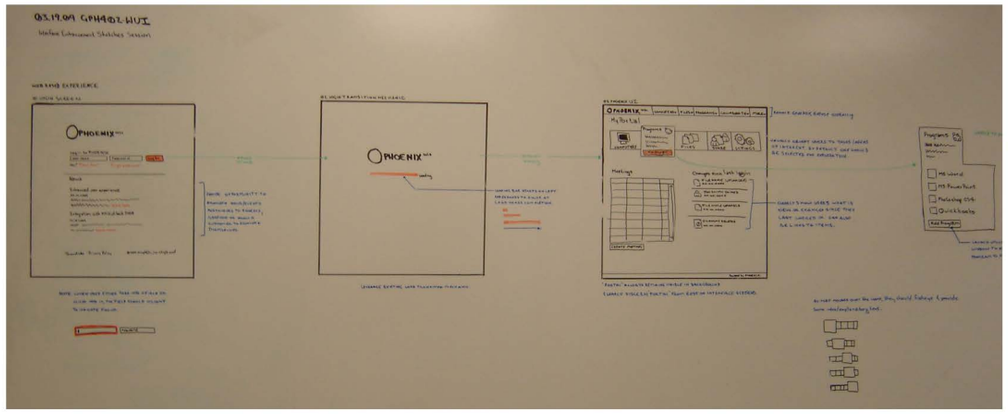


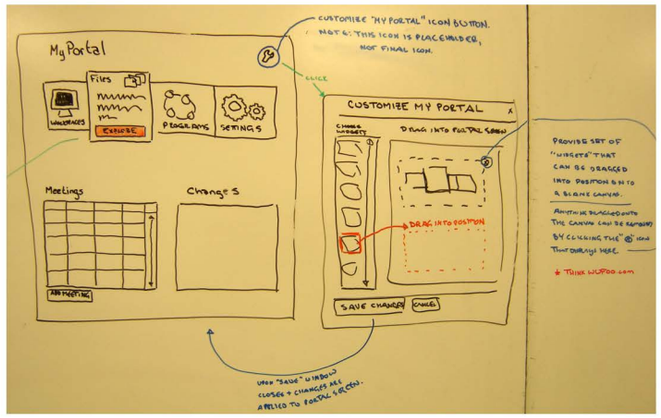


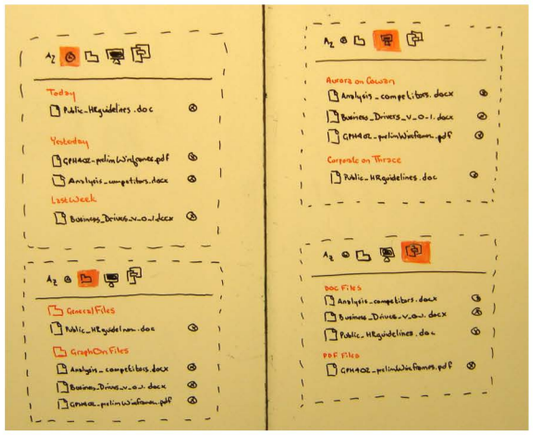


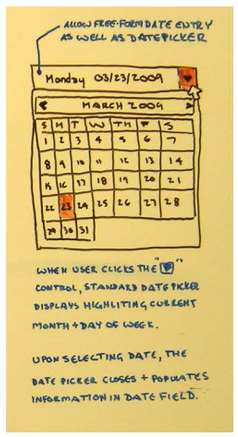


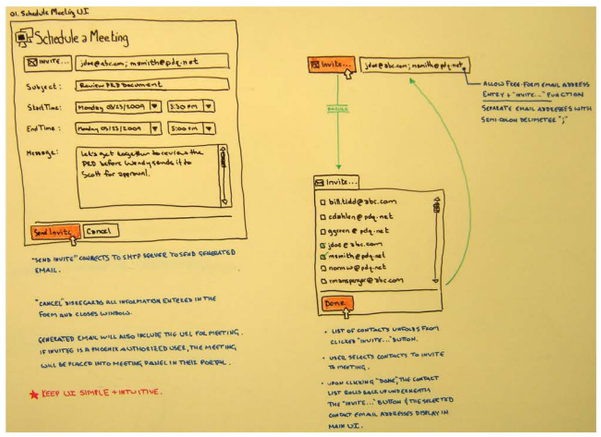
REVISED WHITEBOARD CONCEPT SKETCHES

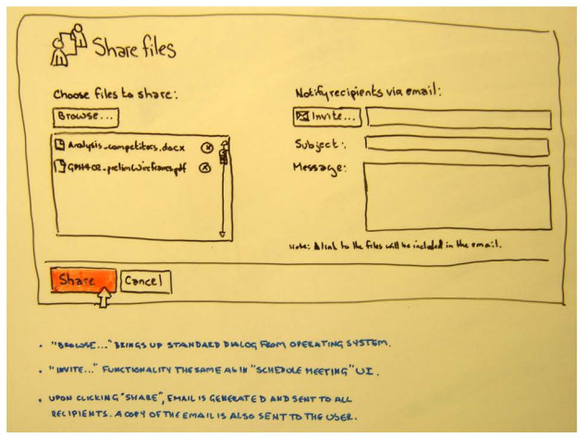






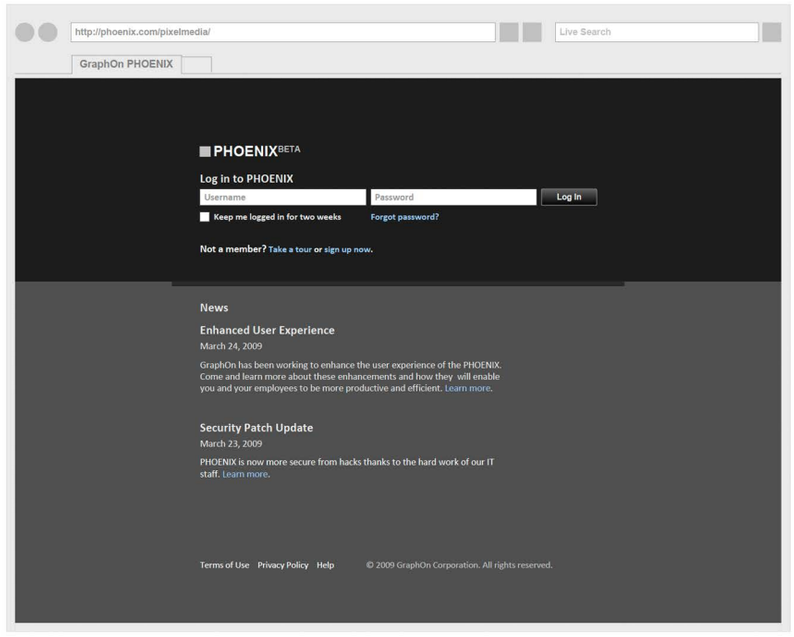






DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

HIGH-FIDELITY WIREFRAME DESIGN CONCEPTS



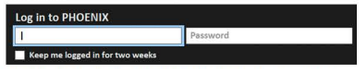
Notes & Annotations

The revised Log In screen allows GraphOn to capitalize on the SaaS model and serve up relevant news about enhancements to the PHOENIX product, GraphOn's potential other offerings, or general GraphOn news.

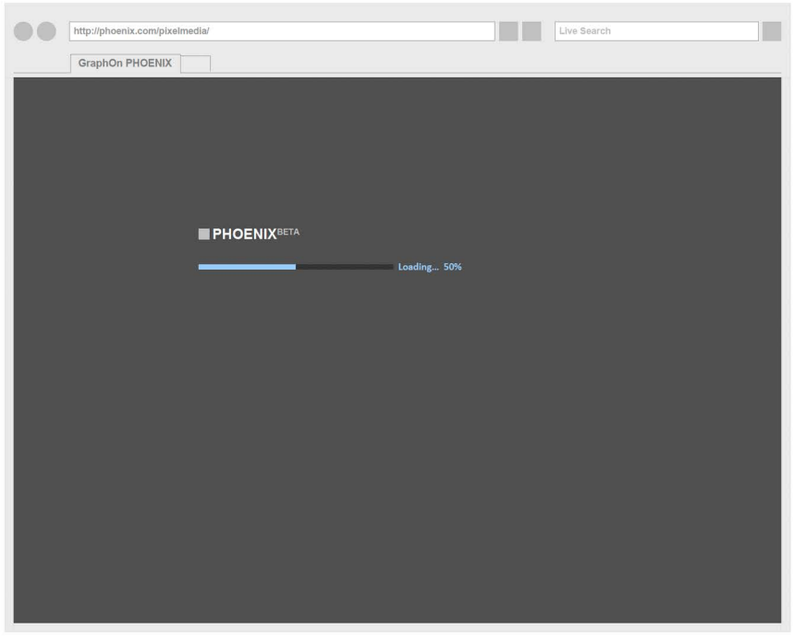
When the product is re-branded, the company that purchased PHOENIX could leverage the News area to promote their own news and links to provide their customers with enhanced offerings as well.

PixelMEDIA recommends only displaying only one to two short news blurbs at a time as illustrated in the wireframe in order to avoid introducing any scrolling on the Log In screen.

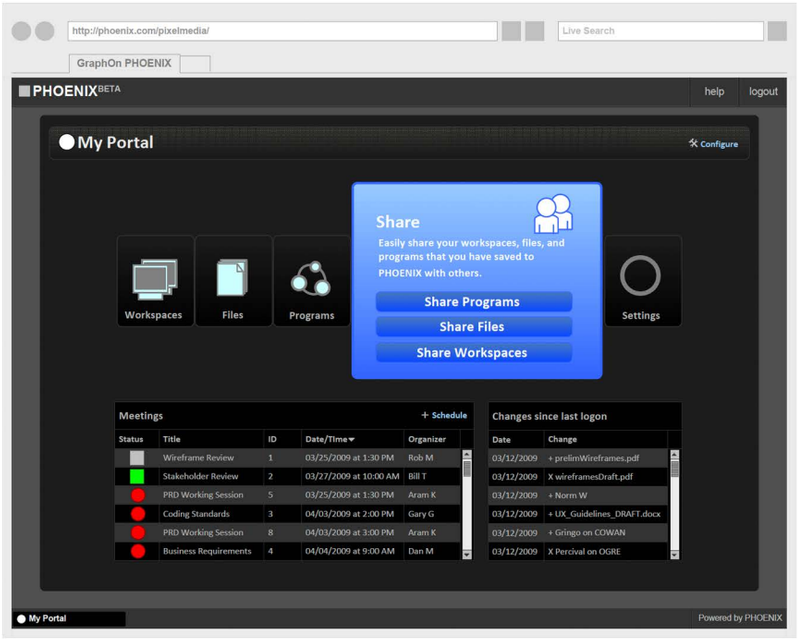
Active text field



Help orient users when they enter data into form fields by highlighting the selected field. This helps users understand where they are in a form, especially if they are more power users who navigate the form by clicking on the TAB key.



Notes & Annotations



Notes & Annotations

The "My Portal" screen acts as the hub for the authorized PHOENIX user's activities. It provides shortcuts to all the Workspaces and scheduled Meetings for the user. The My Portal screen also provides lists of Files and Programs that the user or someone else has published to the Portal for quick access from any of the Workspaces. The My Portal screen also allows users to access their settings and preferences.

To help orient users to changes with PHOENIX, PixelMEDIA proposes adding a panel to the screen highlighting what additions/deletions/changes have happened to the system since the last time the user logged into PHOENIX.

The My Portal screen visually looks different from other screens in PHOENIX be design to help set it apart.

The My Portal screen is the only window in the application that cannot be closed, but it can be minimized to display within the task bar at the bottom of the interface.

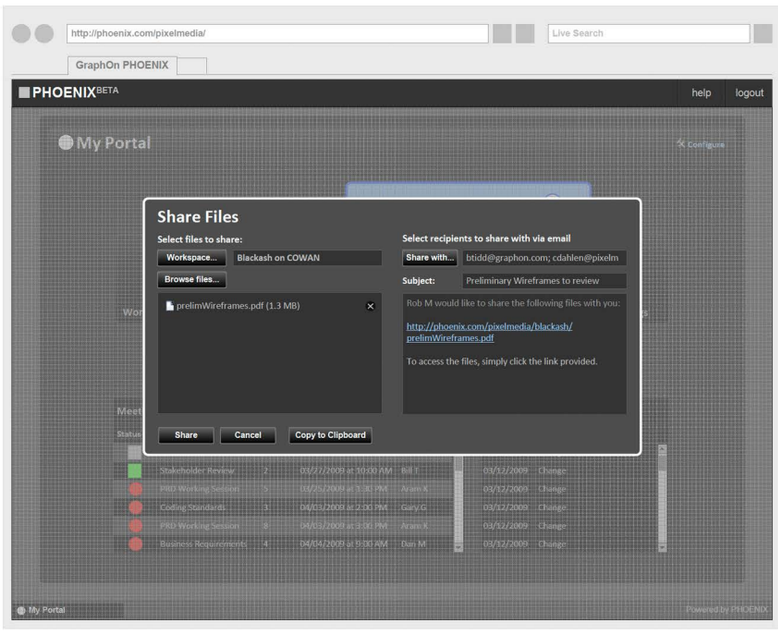
The My Portal screen should display by default centered within the browser window, not left aligned as it sits in the current online demo prototype.

By default, one of the Quick Access Modules is selected upon logon to PHOENIX. This can be assigned by the Admin of PHOENIX. However, whichever module has last been selected by the user will be the one to display upon next logon.

Business Case for Recommended Changes
People who have been privy to the current implemented demo of PHOENIX have reported that the Portal screen is too cluttered and overwhelming to use. By streamlining the interface down into the module approach, GraphOn can provide a more intuitive Portal that allows users to expose information and lists as they choose to, putting the power of the experience into their hands.

Reworking the concept for the Portal screen also provides GraphOn with a more elegant interface capitalizing on the power and robustness offered by the chosen development platform – Adobe Flex.

Reworking the concept of the Portal screen lastly provides a visual distinction between the Portal and Workspace views in PHOENIX, which should reduce frustration with users not being able to tell the two screen types apart from one another.



Notes & Annotations

The Share Files overlay is designed to focus the user's attention on the chosen task of selecting the files that he/she wants to share with others as well as whom to share them with.

This overlay is available anywhere in the system. In this example, since the action to share was invoked at the My Portal level, the user will need to select a Workspace in order to browser for files on the Workspace. Had the user been working within a Workspace, then the "Workspace.." Field would have been pre-populated with the Workspace name and the "Browse..." would be pre-populated with the files on the Workspace.

As the user selects files on the left side of the interface, the message begins to populate with the links to the shared files.

Users may enter email addresses manually or acess their contact list by clicking the "Share with..." button.

Note: The "Workspace..." function works as the same basic model with the exception that a user may only select a single workspace to share files from. In this case, the checkboxes will be swapped to radio buttons.

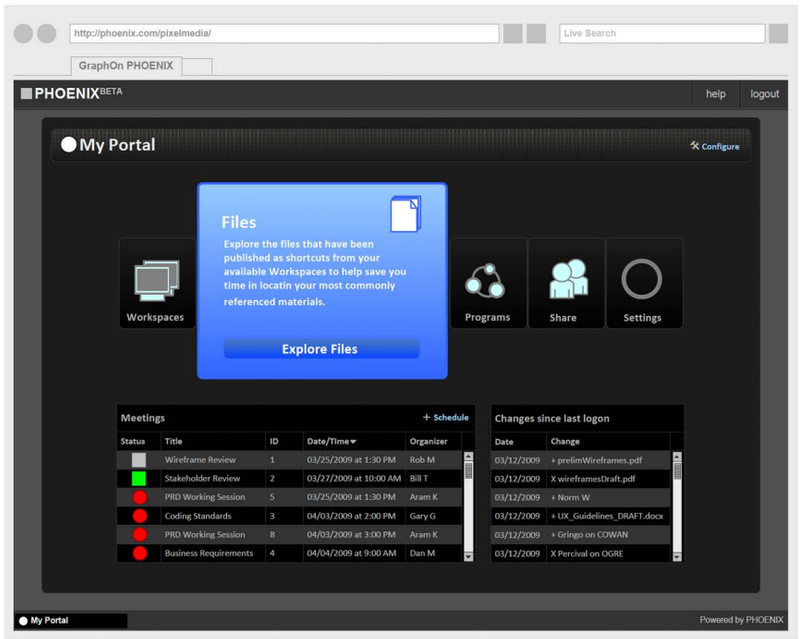
The "Copy to Clipboard" function allows a user to copy the message content and paste it into an email or instant message rather than use PHOENIX to email the shared files.

The basics of this interface can be applied to Share – Programs, Share – Workspaces as well.

Business Case for Recommended Changes
In the current prototype demo, it is difficult to figure out how to share files (or programs, workspaces, etc...) with others. The recommended changes allows the development of a single control that can be accessed from anywhere within PHOENIX to allow users a consistent method of sharing and leverages the familiarity of setting up email as well to help reduce the learning curve overall and reduce frustration.

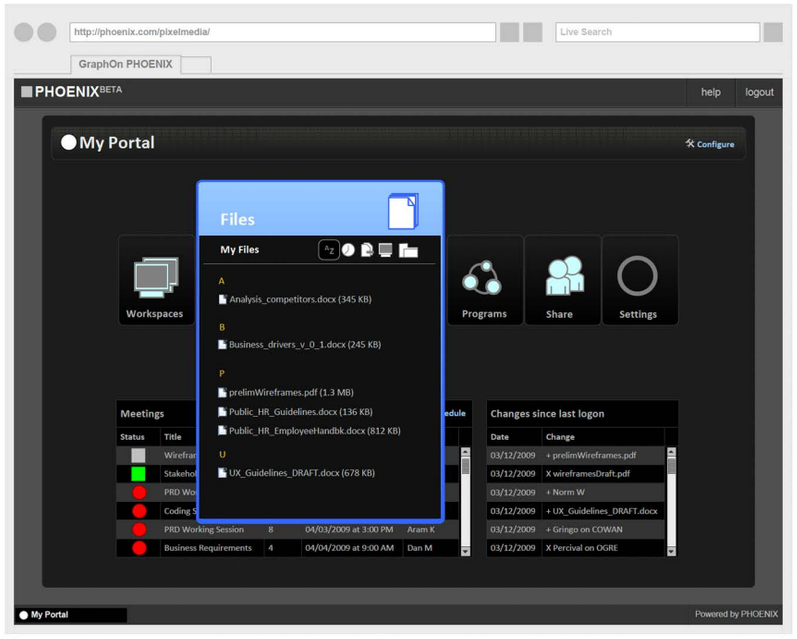
DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

HIGH-FIDELITY WIREFRAME DESIGN CONCEPTS



Notes & Annotations

Secondary view of the My Portal screen showing the "Files" module highlighted.



Notes & Annotations

Upon clicking the "Explore Files" button, the module display morphs to display the list of files that have been published to the users My Portal page.

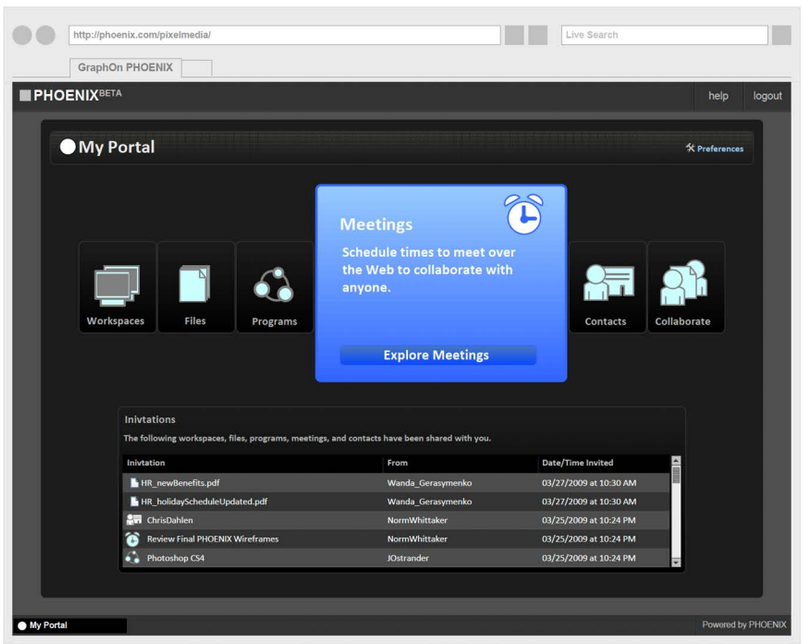
Currently under discussion:

1. Ability to change how the list displays to better allow users to look at the list in the fashion that best suits their needs (shown in this wireframe).

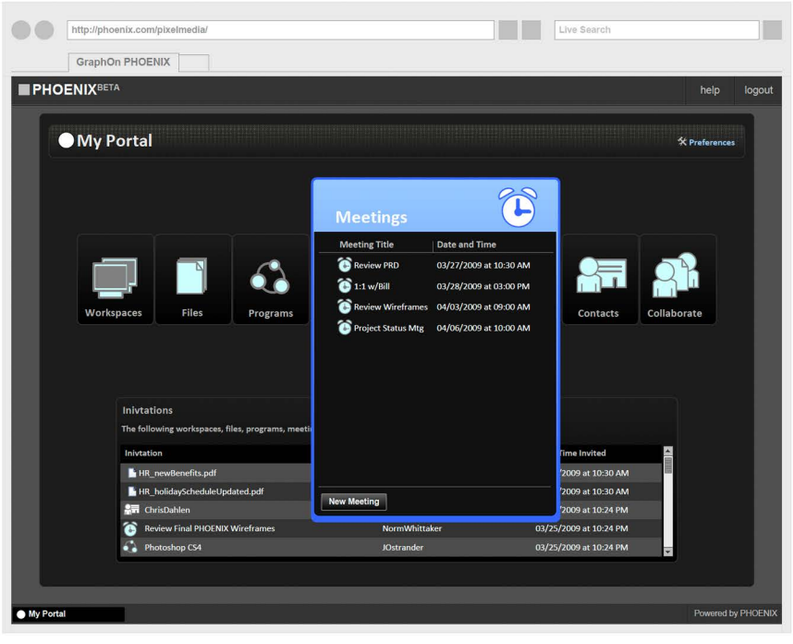
2. Notion of allowing foldering within the list that the user controls.

When the user clicks on a file, it will launch within PHOENIX with its' own native application window.

Scrollbars will appear in the interface should the list of files be long enough to warrant scrolling.



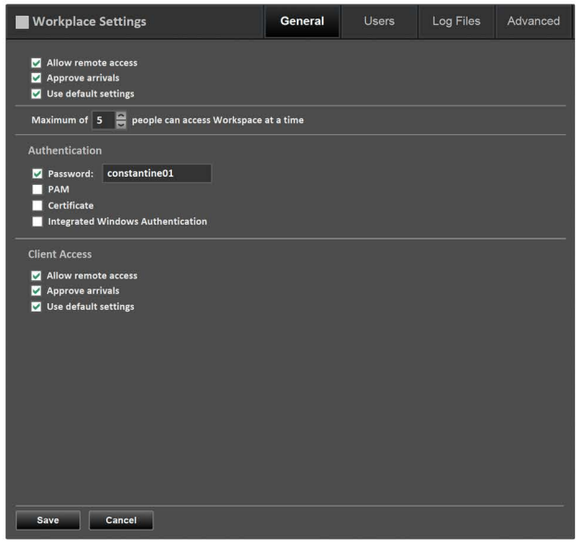
Notes & Annotations

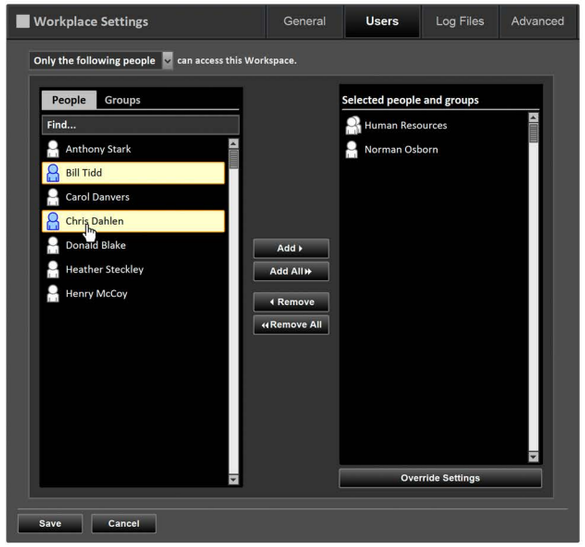


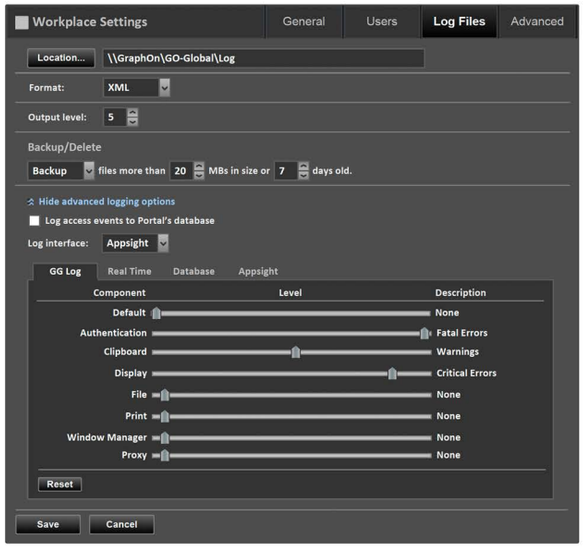
Notes & Annotations

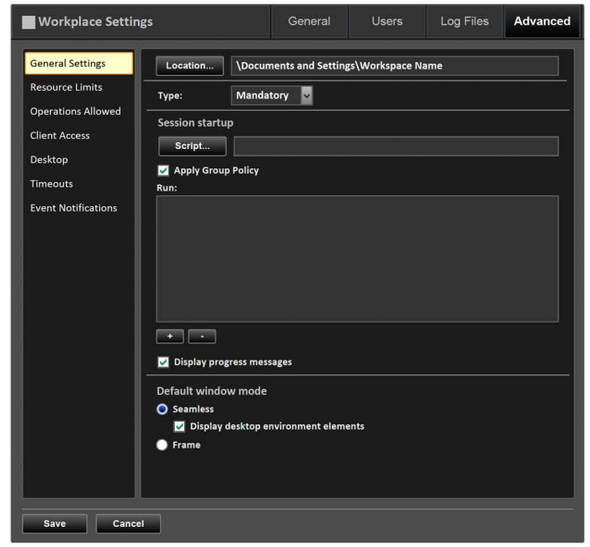
DESIGNING AN INTUITIVE MULTI-USER REMOTE ACCESS BROWSER-BASED APPLICATION FOR WINDOWS.

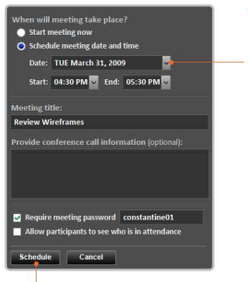
HIGH-FIDELITY WIREFRAME DESIGN CONCEPTS











The Meeting Invite dialog is launched from a specified workspace.

Displays a calendar picker ala Outlook when clicked.

When clicked, the dialog closes and is replaced with the **Copy Meting Invitation dialog** shown in the PowerPoint titled *Phoenix_User_Scenarios_2009-03-30*.

OFFERING STRUCTURED ENROLLMENT SUPPORT FOR EMPLOYEES TO CONFIDENTLY NAVIGATE THEIR BENEFITS.

OFFERING STRUCTURED ENROLLMENT SUPPORT FOR EMPLOYEES TO CONFIDENTLY NAVIGATE THEIR BENEFITS.

Create an overall experience that will allow participants to act with confidence when engaging in their benefits.

To support this objective, the design goals are as follows:
-Engage the user so they know where they are and where the information they need is located.
-Educate the user so they can make the right decisions for their situation.
-Inform the user of beneficial opportunities through proactive personalized and targeted messaging.
-Provide ease of use so users understand what the tasks are, where they are, and how to progress towards task completion.

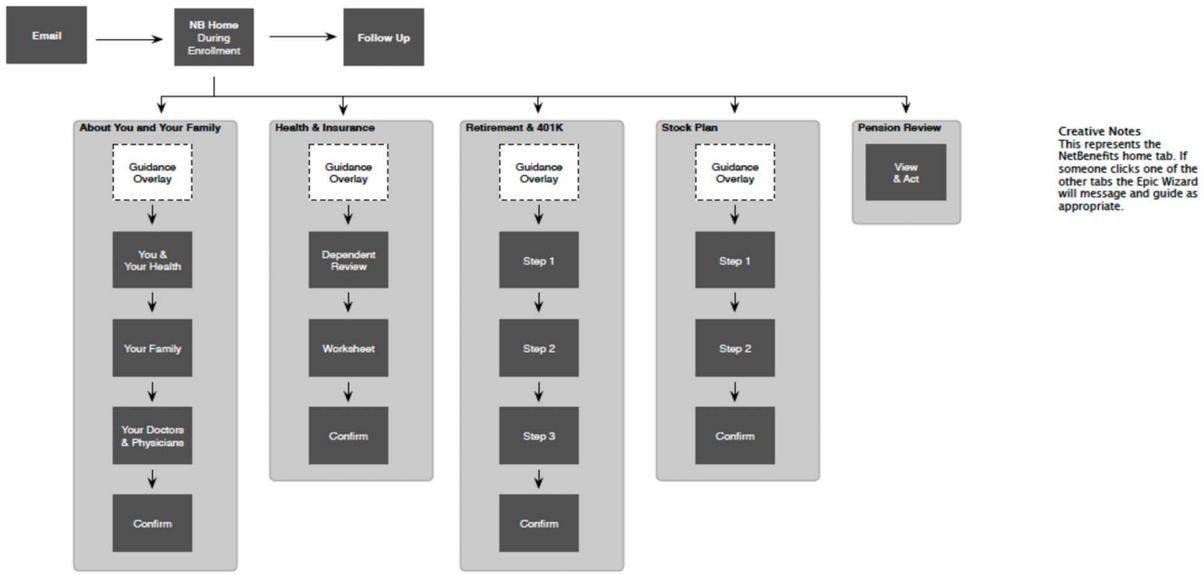
Results/Outcomes

High-fidelity wireframes and workflow diagrams outlining the entire user experience for the client team to align brand guidelines to and move to development.

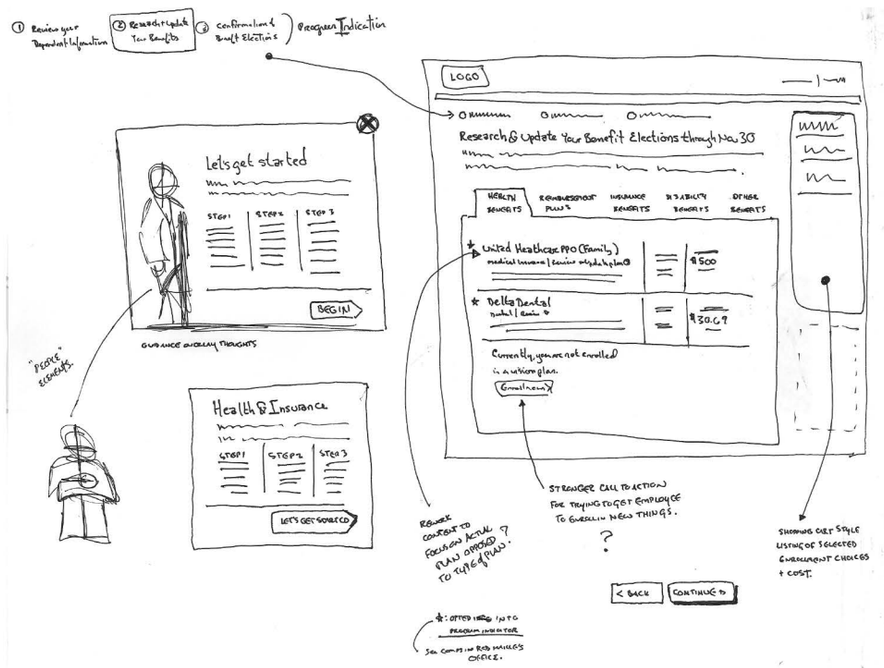
Other people involved

Project Manager

ENROLLMENT FLOW FOR GUIDED EPIC EVENTS

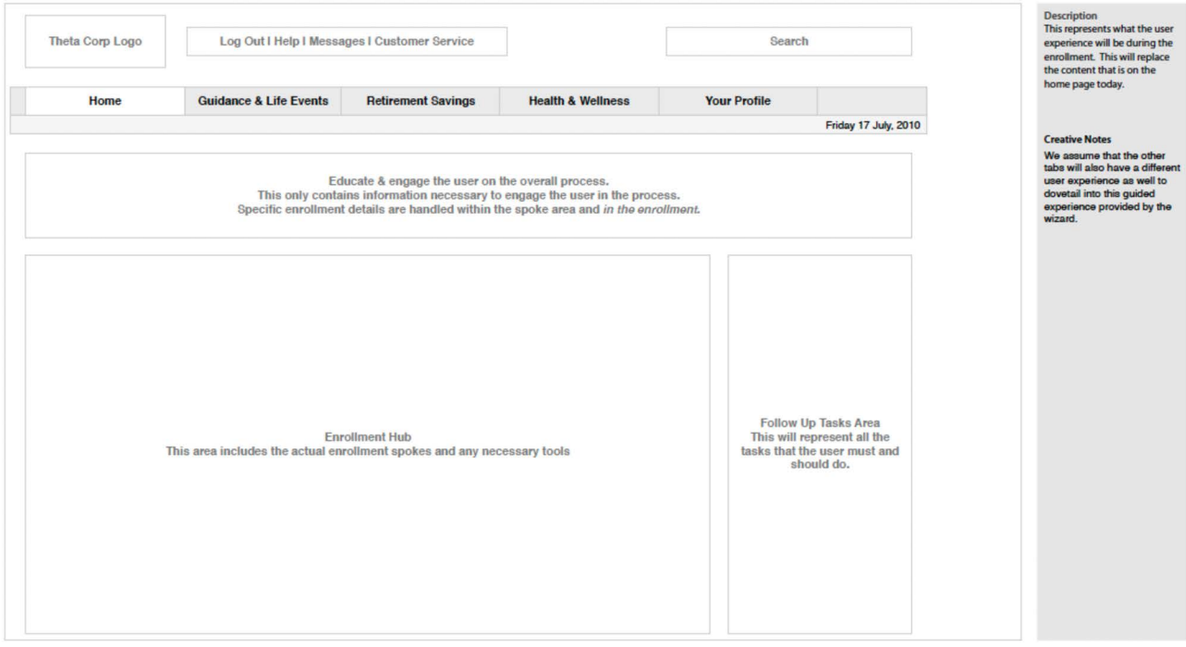


INITIAL SKETCHES



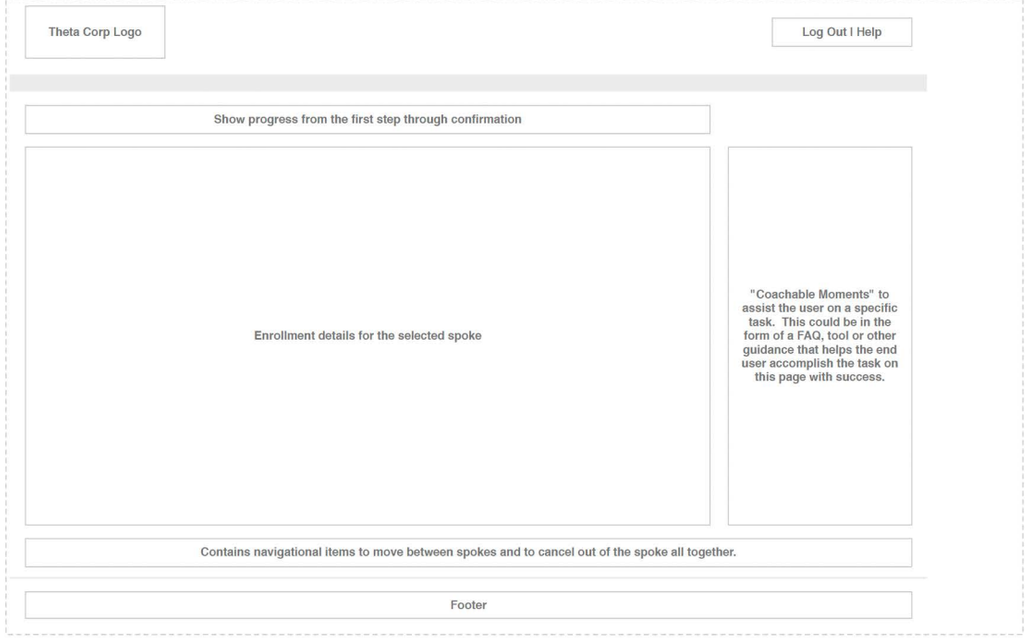
OFFERING STRUCTURED ENROLLMENT SUPPORT FOR EMPLOYEES TO CONFIDENTLY NAVIGATE THEIR BENEFITS.

WIREFRAME TEMPLATES



Description
This represents what the user experience will be during the enrollment. This will replace the content that is on the home page today.

Creative Notes
We assume that the other tabs will also have a different user experience as well to dovetail into this guided experience provided by the wizard.



Description
This represents the basic template for an enrollment spoke. It is important that the controls within the spoke are consistently used to help the user build confidence as they use the wizard.

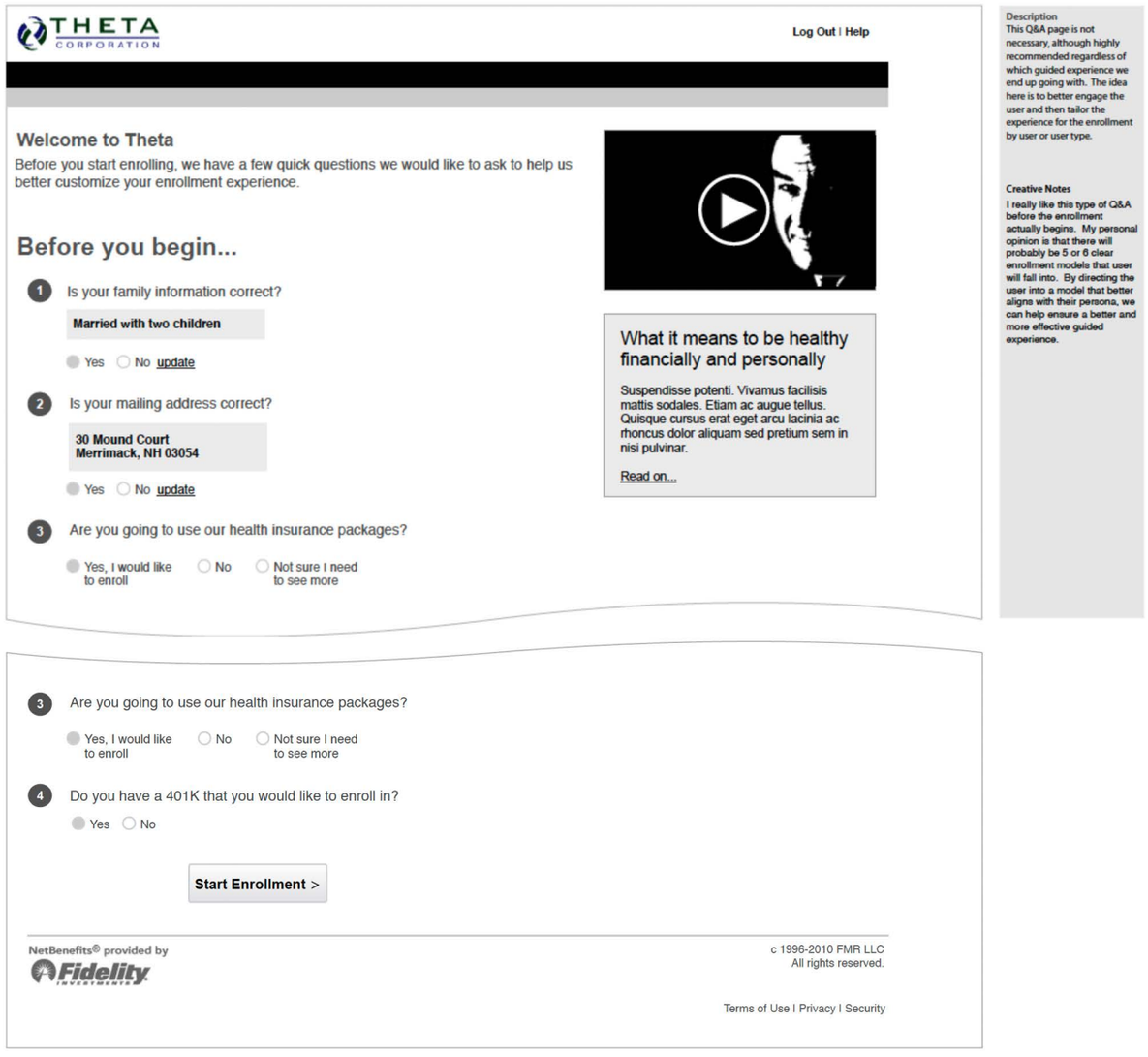
Creative Notes
Retirement and Health and Insurance follow this today, so plugging those pages into this process should be easy.

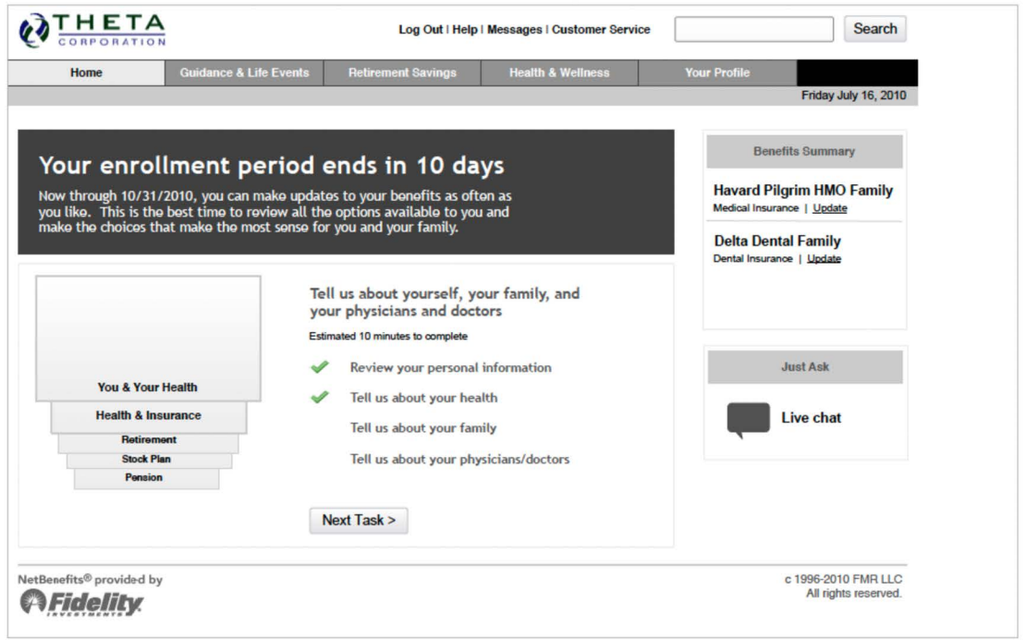
From an UX perspective, we recommend that these type of controls get baked into all wizards in the future to help build on the consistency of this approach, but also to make it easy to assemble any wizard together in the future.

Coachable Moments
Not every page will require this although, where we feel it is necessary, we highly recommend providing this where a task may end up frustrating the end user and turning into a phone call. We advice that click analysis charts are reviewed, along with phone calls to the service center, to help find patterns where guidance could be added.

OFFERING STRUCTURED ENROLLMENT SUPPORT FOR EMPLOYEES TO CONFIDENTLY NAVIGATE THEIR BENEFITS.

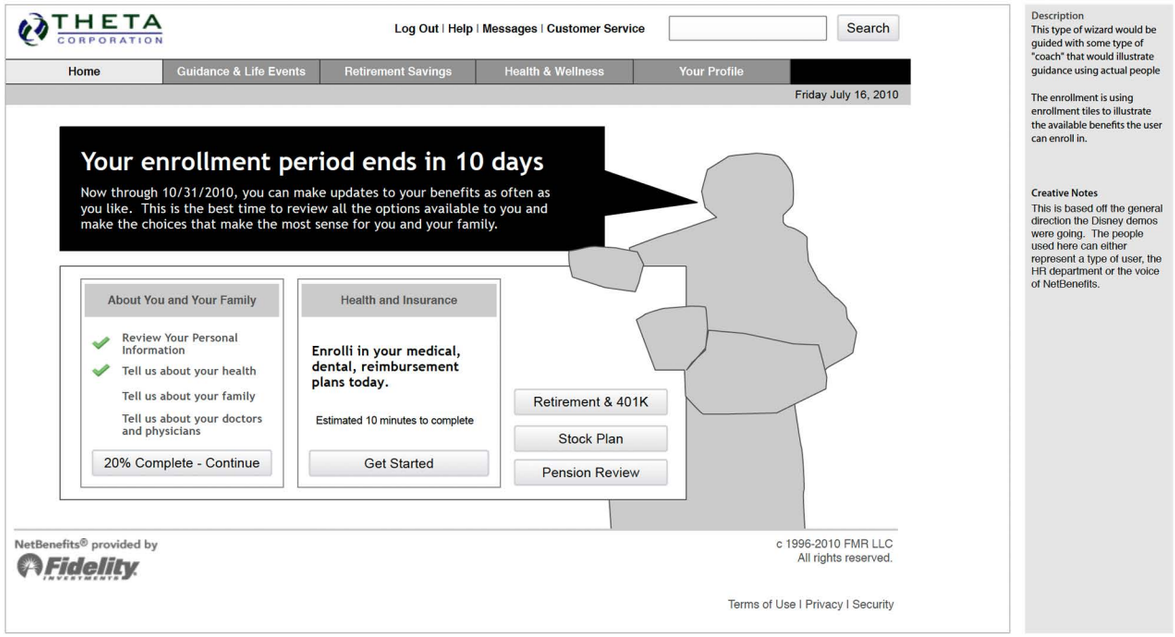
HIGH-FIDELITY WIREFRAMES





OFFERING STRUCTURED ENROLLMENT SUPPORT FOR EMPLOYEES TO CONFIDENTLY NAVIGATE THEIR BENEFITS.

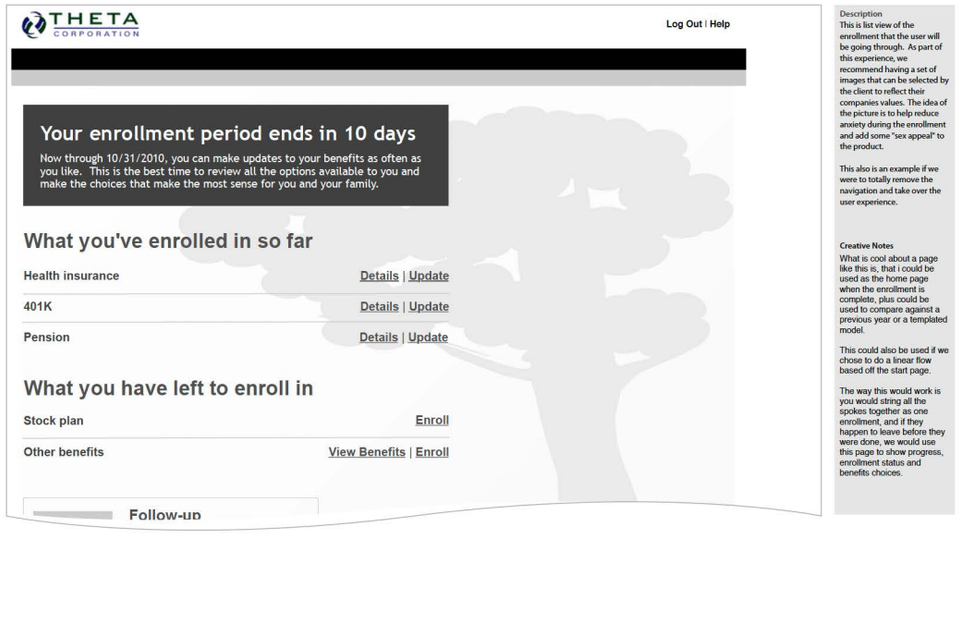
HIGH-FIDELITY WIREFRAMES



Description
This type of wizard would be guided with some type of "coach" that would illustrate guidance using actual people

The enrollment is using enrollment tiles to illustrate the available benefits the user can enroll in.

Creative Notes
This is based off the general direction the Disney demos were going. The people used here can either represent a type of user, the HR department or the voice of NetBenefits.



Description
This is list view of the enrollment that the user will be going through. As part of this experience, we recommend having a set of images that can be selected by the client to reflect their companies values. The idea of the picture is to help reduce anxiety during the enrollment and add some "sex appeal" to the product.

This also is an example if we were to totally remove the navigation and take over the user experience.

Creative Notes
What is cool about a page like this is, that i could be used as the home page when the enrollment is complete, plus could be used to compare against a previous year or a templated model.

This could also be used if we chose to do a linear flow based off the start page.

The way this would work is you would string all the spokes together as one enrollment, and if they happen to leave before they were done, we would use this page to show progress, enrollment status and benefits choices.

THANK YOU.

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