



DESIGNERS  
WITHOUT  
BORDERS

# PANDEMIC

## PROCESS BOOK

**James Pai**

HCID 511 Ideation Studio  
Hamacher

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# The Team

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James Pai



Kasturi Dani

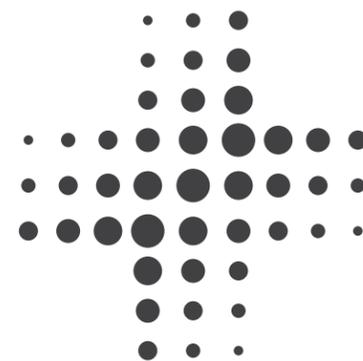


Kyle Freed



Megan Taylor

For this project, we formed a team of four MHCID graduate students with a wide range of expertise in research, ideation, and design. Our team name was *Designers Without Borders*.



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# Introduction

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Our team was given a multi-stage project that took place over the course of four weeks as part of the Ideation Studio (HCID 511) curriculum.

The project's overall theme was 'pandemics' in the context of Ebola outbreaks in rural US settings. By researching the topic in this context and consulting our subject matter expert (SME), Dr. Phil Green, we were able to identify specific problem areas in the health-care system and come up with solutions to help manage pandemics more effectively.

We started from a macro level with broad ideation of potential solutions (60 ideas) and systematically narrowed them down with increasingly focused exploration in order to develop a final solution.

Our final solution, Lynk, was introduced in a 10-minute presentation to faculty and classmates.

**"One of the lessons of Ebola should be to ask ourselves: are we as ready for that as we should be?"**

**- Bill Gates**



# Problem Statement

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The healthcare system needs better ways of dealing with infectious diseases by utilizing existing technologies, because an unforeseen pandemic can be catastrophic.



**CASES**  
**28,634**  

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**DEATHS**  
**11,314**



**PART 1**

# **RESEARCH**

# Subject Matter Expert Interview

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## Dr. Philip Green, MD

Emergency Medicine Physician  
Walla Walla, WA

Due to time and resource constraints within the project timeline, we had to rely on our subject matter expert for first-hand information about the kind of problems encountered by hospital staff during a pandemic.

Dr. Philip Green has been an emergency physician for over 15 years, and has experienced pandemics such as Ebola and Avian flu. He was able to provide us with valuable insight into the issues he deals with currently and in the past.

Our team was also able to interview Dr. Green about his experiences working in an emergency environment in order to inform our designs and familiarize ourselves with the problem space.

**“Communication is a huge issue.”**

One of the key takeaways from speaking with Dr. Green is that there is often a severe lack of communication involving hospital staff, CDC, and the general public that prevent pandemics from being dealt with efficiently.

# Popular Media Search

To improve our understanding of Ebola, our team performed a popular media search and read through numerous news articles and websites. These sources revealed different issues and dilemmas faced by government and healthcare personnel.

Key findings include the spread of panic and chaos that creates further complications for hospitals and healthcare providers. There were also various innovative technological solutions proposed such as advanced scanning machines at hospitals and airports to prevent spreading of diseases, as well as robots that could provide basic care to patients.

Based on these findings, our team came up with various technology-based concepts, some of which are focused on providing accurate information to the general public as well as reducing unnecessary panic.

## Key Headlines

How panic about Ebola is spreading faster than the virus - **BBC NEWS**

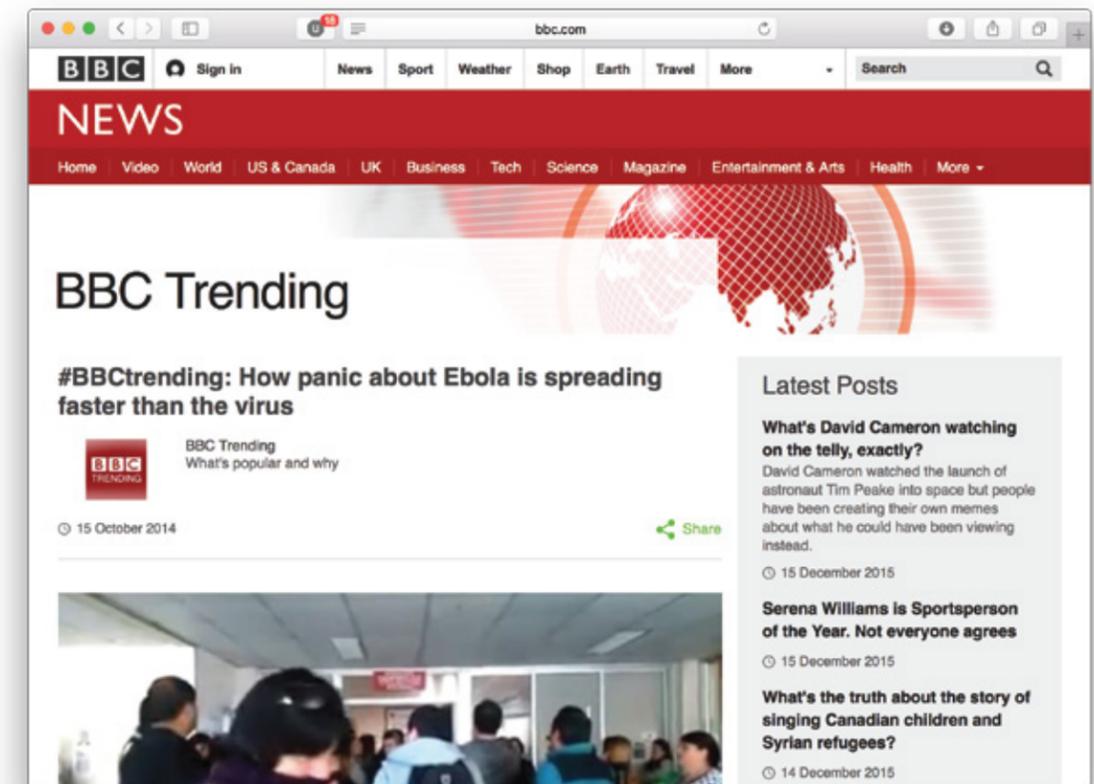
Ebola panic spreading much faster than disease in U.S. - **CBS NEWS**

Ebola news coverage linked to public panic - **Science Daily**

Hand-washing study to research substances effective in preventing ebola outbreak - **The Tufts Daily**

Japan, Gambia to Sign U.S.\$95,000 Ebola Prevention Project - **AllAfrica**

Robots That May Help Fight Ebola - **New York Times**



# Mood Board

In order to communicate the overall feel of our desired solutions, our team created a mood board from images found on the internet.

These images are meant to convey the ideal feelings of trust, connectedness, family, safety, and health. We felt that these were some of the most important factors that needed to be provided by our designs, and putting together a collage of images helped our team think on the same page.



# Personas



**PERSONA**

**BEN COUGHIN**

**BIO**

- Male, 37 years old
- Occupation: construction & building inspector
- Earns \$45,000 annually
- Married
- Lives with wife and dog
- High school graduate, college dropout
- Lives in Walla Walla, Washington

**GOALS & NEEDS**

- Wants to avoid needing to be hospitalized
- Wants to ensure that his family is cared for in a crisis
- Hopes that he will be able to cover expenses in event of an emergency
- Needs medical experts to perform procedures
- Wants to get in and out of hospital as quickly as possible
- To have an accurate estimate of wait times at the hospital

**BEHAVIORS**

- Works fulltime
- Occasionally receives minor injuries on the job
- Familiar with Walla Walla General Hospital
- Prefers to use the walk-in clinic during weekends, outside of work hours
- Accompanies wife whenever she needs to visit hospital
- Manages finances

*"I brace myself for every visit to the ER, and I find I'm always underprepared."*

DESIGNERS WITHOUT BORDERS | PAGE 5



**PERSONA**

**MIGUEL IGLESIAS**

**BIO**

- Male, 43 years old
- Occupation: Field worker at a major vineyard
- Earns \$21,000 annually
- Married with kids
- No high school education
- Speaks very little English
- Lives in Walla Walla, Washington

**GOALS & NEEDS**

- Needs to earn money to support his family and relatives back in Mexico
- Strong communication within his community
- Very little communication outside of community
- Doesn't have money to pay for medical work

**BEHAVIORS**

- Works fulltime
- During the harvest season, hosts family from Mexico
- Limited budget and no health insurance means no regular visits to the doctor or preventative care
- Limited understanding of finances and no disposable income
- When injured he stays home until it heals

*"When it comes to health, I'm on my own."*

DESIGNERS WITHOUT BORDERS | PAGE 7



**PERSONA**

**SAM WALKEN**

**BIO**

- Male, 29 years old
- Student at Walla Walla Community College
- Enrolled in the Entomology and Viticulture program
- Works part time as sales rep at the Va Piano winery
- Graduated from Walla Walla high school
- Lives with girlfriend in Walla Walla, Washington
- makes around \$18K a year
- Has student loans to pay off once he graduates

**GOALS & NEEDS**

- Wants to graduate soon and be able to save up some money
- Wants to ensure that he will not be dragged down by huge medical bills
- Hopes that he will be able to cover expenses in event of an emergency
- Does not want expensive, complex medical procedures performed on him
- Wants to get in and out of hospital as quickly as possible
- To have an accurate estimate of procedure and medical costs at the hospital

**BEHAVIORS**

- Studies and works part-time
- Trying to save money to invest in his own winery
- Has occasionally visited Walla Walla General Hospital
- Is partially covered under student health insurance
- Had a broken leg few years ago, thought he was overcharged due to unnecessary tests and procedures and struggled with paying off the medical bills
- In the event of another medical emergency, he does not have the funds to pay off the treatment cost
- Tends to avoid going to the clinic or hospital unless he absolutely needs to, in order to save on costs

*"I cannot afford any medical emergency."*

DESIGNERS WITHOUT BORDERS | PAGE 6

Our team created three personas of the average citizens in Walla Walla, WA. The three personas are the standard citizen, the migrant farm worker, and the college student. These personas helped us visualize the goals and needs of the types of people that may be affected by a pandemic.

In order to make the personas as accurate as possible given our constraints, our team conducted online research about the demographics of Walla Walla and used information provided by Dr. Green (a Walla Walla resident).

The personas helped us highlight some important issues with health-care in rural locations. Since the average income is relatively low compared to urban locations such as Seattle, rural citizens may feel isolated, unprepared, or unable to afford adequate healthcare. We were then able to use these personas to frame the problem from a user perspective and build an experience map.

# Experience Map

Since our team had limited experience with emergency room visits and even less so with Ebola, we worked off our personas to create an experience map from the perspective of an Ebola patient visiting the ER to help us empathize with the patients we were designing for. We mapped out stages of the patient's journey including touchpoints, needs, thoughts & feelings, context, and insights & opportunities.

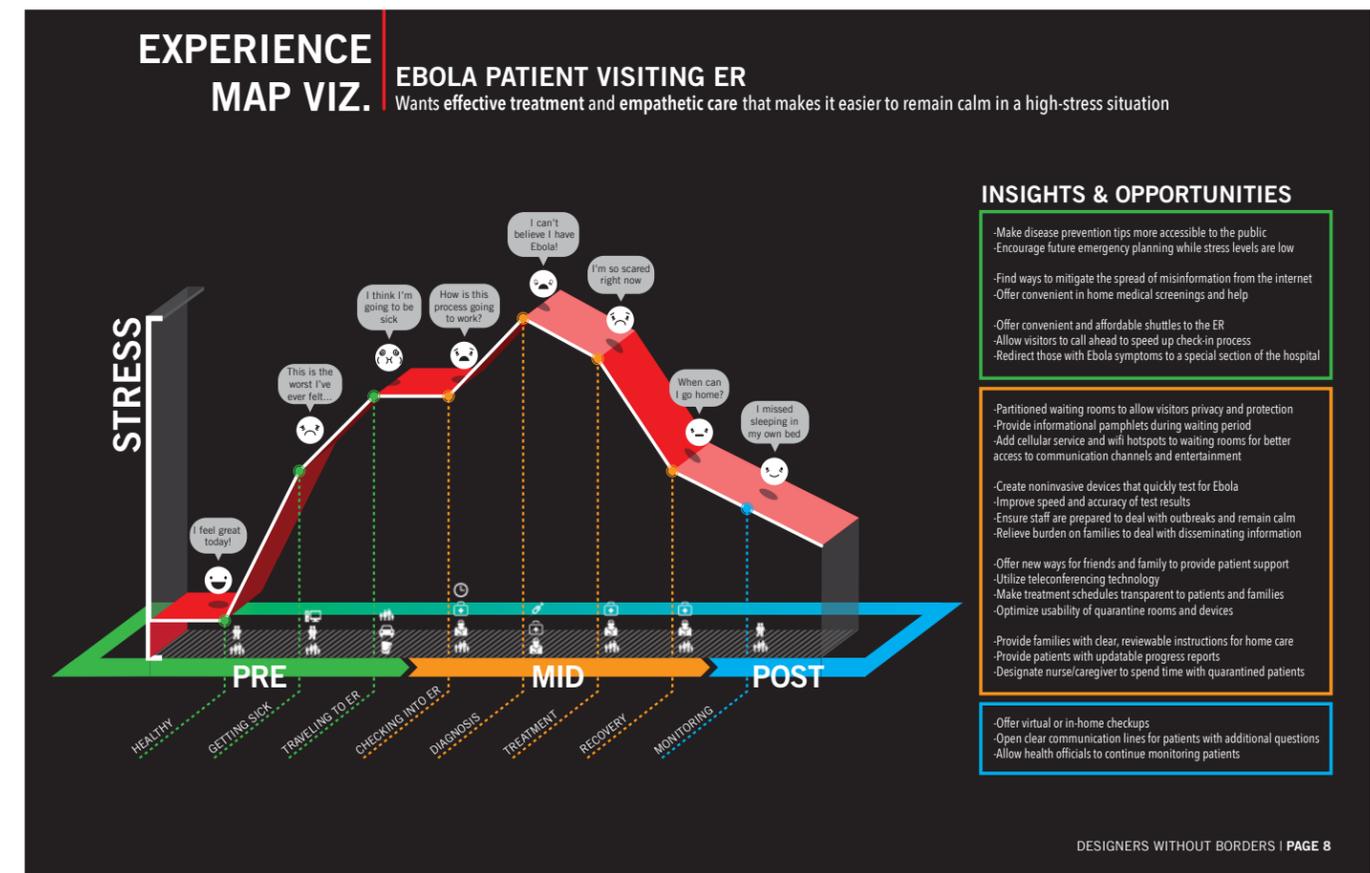
After creating a comprehensive map of the experience, our team created a visualization of stress levels over the stages and identified key pain points where possible solutions could be integrated.

This visualization helped us pinpoint the most critical stages and frame the hospital experience by providing context.

### EXPERIENCE MAP

#### HOSPITAL EXPERIENCE MAP FROM THE PERSPECTIVE OF AN EBOLA PATIENT VISITING THE ER

| TIMELINE OF JOURNEY STAGES  | BEFORE THE HOSPITAL   |   |   | INSIDE THE HOSPITAL   |  |   |  | AFTER THE HOSPITAL   |
|---|---|---|---|---|--|---|--|--|
|   | LIVING HEALTHY  | DEVELOPING HEALTH PROBLEMS  | TRAVELING TO THE ER   | CHECKING INTO THE ER  | DIAGNOSIS  | TREATMENT   | RECOVERY   | MONITORING   |
| <b>TOUCHPOINTS</b><br>Who or what are they interacting with?  | - Family<br>- Friends<br>- Coworkers<br>- Service providers   | - Family<br>- Friends<br>- Coworkers<br>- Service providers   | - Family member<br>- Car<br>- Bucket<br>- ER personnel  | - Family member<br>- Other hospital visitors<br>- Waiting room chairs<br>- Hospital bathroom  | - Nurses<br>- Doctor<br>- Specialists<br>- Examination rooms   | - Nurses<br>- Doctors<br>- Other patients<br>- Family<br>- Medical equipment  | - Nurses<br>- Doctors<br>- Other patients<br>- Family<br>- Medical equipment   | - Family<br>- Friends<br>- Coworkers   |
| <b>FAMILY'S NEED</b><br>What is their top need? What needs are not being met?   | - Stay safe and healthy<br>- Make enough money to get by<br>- Spend time together<br>- Enjoy hobbies<br>- Avoid getting sick      | - Find a way to control symptoms<br>- Get better fast<br>- Cancel prior engagements<br>- Get back to work and family<br>- Avoid overreacting in case it isn't Ebola                                 | - Decide who will help transport and who will stay home<br>- Get to hospital<br>- Avoid throwing up in the car  | - Fill out paperwork<br>- See a doctor as quickly as possible<br>- Avoid sharing or picking up germs from other people  | - Find out what is wrong<br>- Understand what to expect for treatment<br>- Inform other family, friends and coworkers about the situation<br>- Make sure no one else was infected  | - Stay informed about treatment schedule and health status<br>- Offer support to sick family member<br>- Make the right medical decisions<br>- Prepare for worst case scenario (death)  | - Update other family, friends and coworkers<br>- Navigate to hospital room<br>- Sign release papers<br>- Prepare house for patient's return<br>- Transport patient home                                       | - Avoid contact with bodily fluids<br>- Schedule follow-ups<br>- Avoid needing to go to the ER again<br>- Pay hospital bills   |
| <b>THOUGHTS &amp; FEELINGS</b><br>What are their innermost thoughts at this precise moment?   | - "I feel good today."<br>- "I can't wait to relax this weekend"  | - "I feel the worst that I have ever felt."<br>- "Could this be Ebola or just the flu?"<br>- "Am I overreacting?"<br>- "I think I need to see a doctor."  | - "I think I'm going to be sick."<br>- "Are we there yet?"<br>- "Where do I go in the hospital?"<br>- "Can I just walk right in?"<br>- "Can you help me?"   | - "I hope they hurry up."<br>- "How is this process going to work?"<br>- "Am I contagious?"<br>- "Are other people in the waiting room contagious?"<br>- "Did I infect my family?"  | - "When will the doctor get here?"<br>- "What are you testing for?"<br>- "I can't believe that it's actually Ebola."<br>- "Am I going to die?"<br>- "Did I infect my family?"  | - "Do I have to stay in this hospital room?"<br>- "I hope that the doctor knows what he is doing."<br>- "I miss my family."<br>- "I'm scared of what might happen to me"  | - "I'm starting to feel better."<br>- "When can I go home?"<br>- "Am I still contagious even though I survived?"<br>- "I'm scared of what might happen to me"  | - "I'm glad to be home."<br>- "I missed sleeping in my own bed."<br>- "I hope our insurance covers this."<br>- "I need to be careful not to spread the infection."   |
| <b>CONTEXT</b><br>What else in the environment might influence them?  | - Works full time to support a family<br>- Comes in contact with many people throughout the day<br>- Lives in an urban area       | - Symptoms: vomiting, diarrhea, fever, muscle pain, weakness<br>- Online research of symptoms increased worry and paranoia<br>- Came in contact with someone infected with Ebola without knowing it | - Driven to hospital by spouse<br>- Little planning for trip<br>- Using sick days during the workweek<br>- Family member not strong enough to carry sick person on their own<br>- Lots of bodily fluids being expelled by patient | - Has insurance<br>- Is given basic tools to deal with symptoms (vomit tray)<br>- Staff begins to react to a possible Ebola case<br>- Panicking at the severity of the diagnosis  | - Periods of waiting between doctors and tests<br>- Poor cell reception<br>- Dehydrated, difficult to draw blood<br>- Panicking at the severity of the diagnosis   | - Transferred to Ebola center<br>- Hooked up to monitoring equipment<br>- Wearing hospital gown<br>- Nurses must suit up before entering room<br>- No visitors  | - Symptoms subsiding<br>- Appetite returning<br>- Strength returning<br>- Anxious to return home<br>- Still in isolation   | - Has family around to help with getting settled in.<br>- Has work and other responsibilities to catch up with<br>- People seem uncomfortable interacting with a former Ebola patient                                |
| <b>INSIGHTS &amp; OPPORTUNITIES</b><br>What can you do to help them meet their needs, make the experience easier or more enjoyable? | - Make disease prevention tips more accessible to the public<br>- Encourage future emergency planning while stress levels are low | - Find ways to mitigate the spread of misinformation from the internet<br>- Offer convenient in-home medical screenings and help  | - Offer convenient and affordable shuttles to the ER<br>- Allow visitors to call ahead during travel to speed up the check-in process   | - Partition waiting rooms to allow hospital visitors privacy and germ protection<br>- Provide informational pamphlets during the waiting period<br>- Add cellular service and wifi hotspots to waiting rooms for increased access to communication channels and entertainment | - Create noninvasive devices that test for Ebola<br>- Improve speed and accuracy<br>- Ensure that staff are prepared to deal with outbreaks and remain calm<br>- Relieve some of the burden on families to deal with disseminating information | - Offer new ways for friends, family and Ebola survivors to share their support with patients<br>- Utilize teleconferencing technology<br>- Make the treatment schedule transparent to patients and families<br>- Optimize usability of quarantine room and devices | - Provide families with clear, reviewable instructions for home care<br>- Provide patients with updatable progress reports<br>- Designate a nurse/caregiver to spend time with the patient while in quarantine | - Offer virtual or in-home checkups<br>- Open clear lines of communication for patients with additional questions<br>- Allow health officials to continue monitoring patient for a medically relevant period of time |



# Critical Paths

By using the pain points identified in the experience map, our team created visualizations of a critical moment during the hospital visit. The critical moment depicted is when a sick patient is seen by the doctor. This can have a very positive outcome or a very negative outcome based on potential issues in the healthcare system.

The critical paths helped us understand how hospital visits are experienced by sick patients at one of the most critical moments. One of our key findings is that good communication streams for patients prior to the hospital visit are vital. This can result sick patients holding out longer than they should, potentially infecting others.

## Positive



## Negative

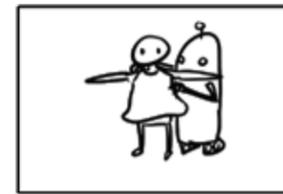
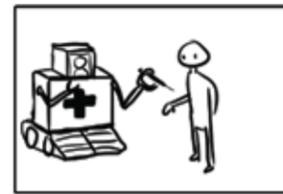
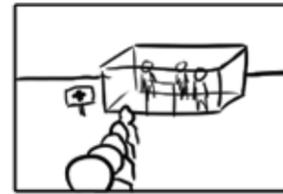
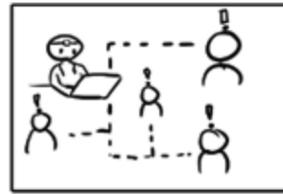
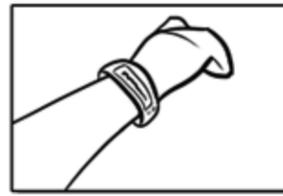


**PART 2**

# **IDEATION**

# Stage 1: Broad ideation

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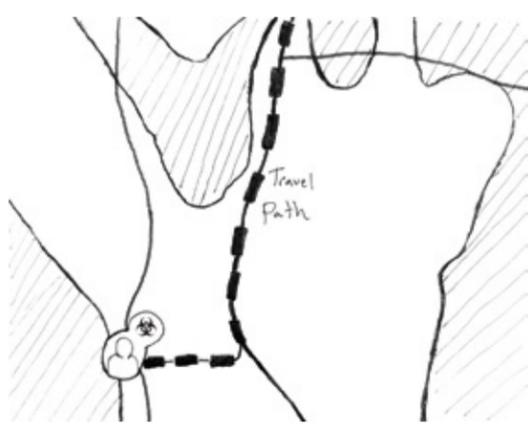
Our first process of ideation was to generate 15 ideas each for a total of 60 ideas between the team. This was done by sketching thumbnails with a descriptive title next to each one, then sharing them with the rest of the group.

Because of the constraints and background information we identified, we noticed that there were many similarities in our ideas. This made it easier to narrow our ideas down to 6 compelling concepts.

# Stage 2: Six Ideas

**CONCEPT 1**

## LOCATION HISTORY



Location services already track our locations daily, often times even when high accuracy GPS settings are off. When a person is confirmed as infected with a disease like Ebola, the system compares data against who else was in the area. It works to send notifications that you were potentially in contact with a dangerous disease and to contact an authority.

**CONCEPT 4**

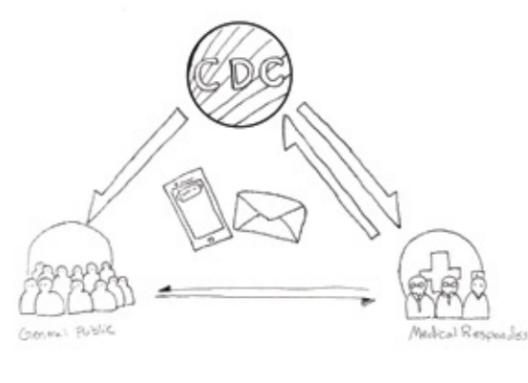
## SUPPLY SHARING SYSTEM



This informational pandemic service notifies hospitals about outbreaks and provides plans for containment within the United States. The system facilitates the distribution of equipment, including hazmat suits and respirators, to areas in need. Hospitals that are far from the outbreak zone are also encouraged to ration and share their existing supplies.

**CONCEPT 2**

## CDC COMMUNICATION

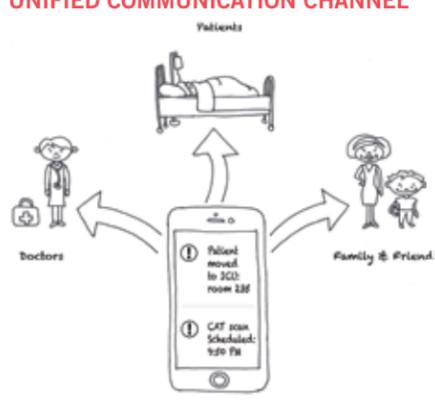


This system facilitates communication from the authority on the contagion outbreak. This system uses two primary information streams: one to medical responders and one to the general public. Medical responders receive updated practices, supply lists, and what the CDC currently believes the future of the disease to be. This channel operates two ways, allowing medical responders to push information back up about generalizable innovations and successes they have accomplished or persistent problems to refine their knowledgebase. The second channel is to the general public, where the CDC pushes preventative information, symptom watch lists and other crucial knowledge.

The problem here is right now the CDC has information that is important, the consumption however is forcibly passive. Alerts include:  
SMS, push via app, email

**CONCEPT 5**

## UNIFIED COMMUNICATION CHANNEL



Hospital patients and their family members are often frustrated by the lack of information they receive from nurses and doctors. Accordingly, this HIPAA approved information sharing platform attempts to make the schedule for procedures and test results more transparent. Patients can approve the members of their sharing circle, who will then receive a unique login code. After logging in, members can view the patient's medical dashboard containing health status, room number, upcoming procedures and any restrictions that the patient might have. For example, family members may not bring flowers into the ICU.

**CONCEPT 3**

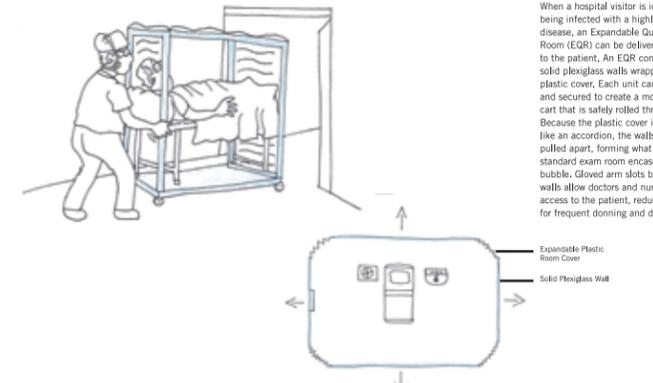
## AVOID HOSPITAL CONTAMINATION BY PUBLIC



A pop up testing structure removes the uncertainty of a potential contamination agent from walking into a fully operating hospital. This structure is made from low cost materials and can be placed next to a hospital or in a higher traffic area. It is run by a lightweight staff of just a few nurses or nonessential medical personnel, and serves mainly to administer quick disease tests. Donning and doffing gear is kept to a minimum thanks to the clinic's singular purpose - gear is kept on for longer shifts. Mobile video screens allow doctors to communicate with staff without being present.

**CONCEPT 6**

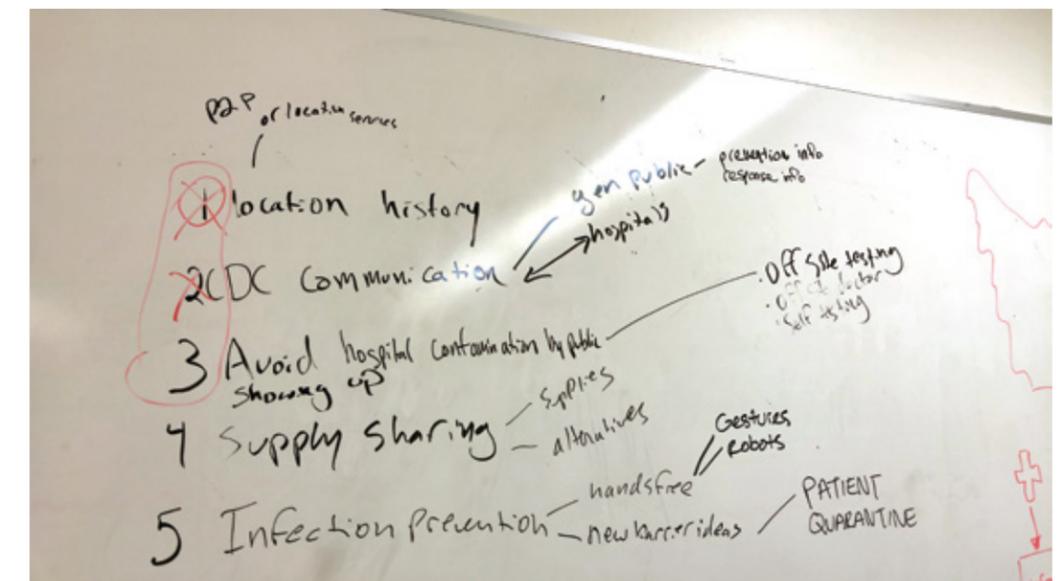
## EXPANDABLE QUARANTINE ROOM



When a hospital visitor is identified as being infected with a highly contagious disease, an Expandable Quarantine Room (EQR) can be delivered directly to the patient. An EQR consists of four solid plexiglas walls wrapped in a clear plastic cover. Each unit can be collapsed and secured to create a mobile containment cart that is safely rolled through hallways. Because the plastic cover is folded together like an accordion, the walls can also be pulled apart, forming what looks like a standard exam room encased in a plastic bubble. Gloved arm slots built into the walls allow doctors and nurses basic access to the patient, reducing the need for frequent donning and doffing.

The next step of our ideation process required us to narrow our 60 ideas down to 6 in-depth solutions. We did this by closely examining and discussing our ideas and then identifying 6 categories of recurring themes. We then took the categories and turned them into concrete ideas as a group.

The 6 ideas (location history, CDC communication, contamination avoidance, supply sharing, unified communication, and expandable quarantine) were then sketched out and presented to the class and instructors for critique.

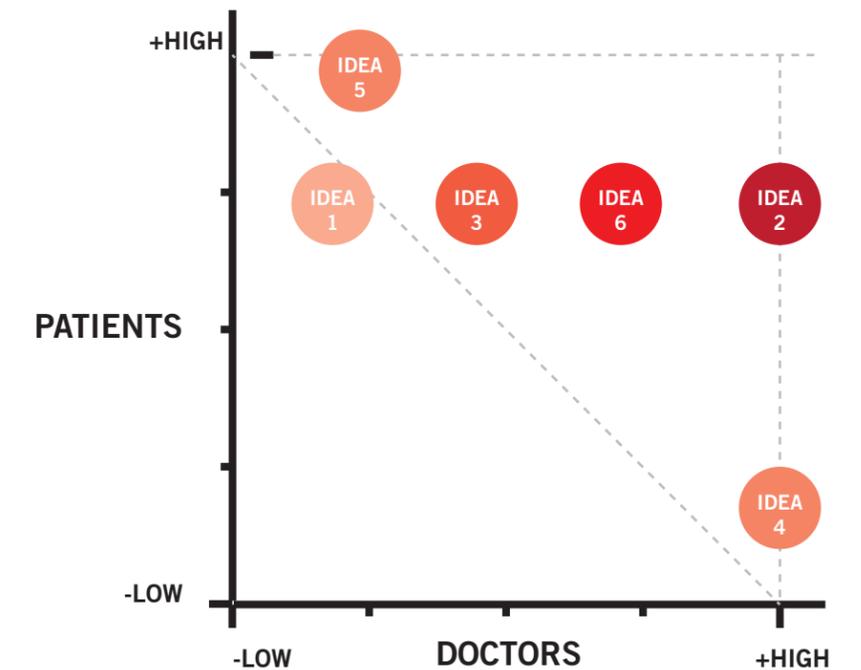


# Concept Evaluation

The next step after narrowing our 60 ideas down to 6 ideas was evaluate them. This was done by using a concept evaluation matrix to rate each idea on perceived importance to patients and medical staff through group discussion. These ratings were then multiplied in order to come up with a total score for each of the 6 ideas.

After rating each idea, we plotted the ideas against patient importance and doctor importance. This allowed us to see which ideas were the most impactful and of high importance to both patients and medical staff.

|                          | IDEA 1                    | IDEA 2            | IDEA 3        | IDEA 4                | IDEA 5                        | IDEA 6                     |
|--------------------------|---------------------------|-------------------|---------------|-----------------------|-------------------------------|----------------------------|
|                          | LOCATION HISTORY TRACKING | CDC COMMUNICATION | POP UP CLINIC | SUPPLY SHARING SYSTEM | UNIFIED COMMUNICATION CHANNEL | EXPANDABLE QUARANTINE ROOM |
| PATIENT IMPORTANCE       | 4                         | 4                 | 4             | 2                     | 5                             | 4                          |
| MEDICAL STAFF IMPORTANCE | 2                         | 5                 | 3             | 5                     | 2                             | 4                          |
| MULTIPLIED TOTAL SCORE   | 8                         | 20                | 12            | 10                    | 10                            | 16                         |



# Stage 3: Three Ideas

**CONCEPT 1**

## CDC COMMUNICATION

The diagram shows a central yellow circle labeled 'CENTER FOR DISEASE CONTROL (CDC)'. To its left is a red circle labeled 'GENERAL PUBLIC' containing icons of people. To its right is an orange circle labeled 'MEDICAL PROFESSIONALS' containing an icon of a doctor. Arrows indicate the following interactions:
 

- From CDC to General Public: 'Location Data' (red arrow pointing left)
- From General Public to CDC: 'Casualty Updates' (yellow arrow pointing right)
- From CDC to Medical Professionals: 'Outbreak Research' (orange arrow pointing right)
- From Medical Professionals to CDC: 'Protocol Updates' (yellow arrow pointing left)
- From Medical Professionals to General Public: 'Medical Guidance' (orange arrow pointing left)
- From General Public to Medical Professionals: 'Medical Needs' (red arrow pointing right)

**PROBLEM**

- Communication is lacking between the general public and the CDC and medical responders and the CDC.

**SOLUTION**

- System which facilitates communication from the authority on the contagion outbreak to spread information to general public and medical responders.
- Privacy respecting alerts using local services information inform people to seek medical attention.

**PARTIES INVOLVED**

- CDC
- Hospitals and their staff
- General public

**SCALE**

- Very large, national

**CONCEPT 3**

## DEISOLATION COMMUNICATION

The illustration shows a person lying in a hospital bed. To the right of the bed is a large tablet mounted on a stand. The tablet screen displays a video call with a family member. This represents a platform for communication between the patient and their family while they are in the hospital.

**PROBLEM**

- Lack of communication between hospital and patient family causes unnecessary concern.

**SOLUTION**

- Platform that increases transparency of patient status. Information is shared with approved family.

**PARTIES INVOLVED**

- Doctors
- Patient's Family
- Patient

**SCALE**

- Local

**CONCEPT 2**

## POP UP CLINIC & EXPANDABLE QUARANTINE ROOM

The diagram shows a large hospital building on the left. To its right is a smaller, portable structure labeled 'POP UP CLINIC'. Further right is an 'EXPANDABLE QUARANTINE ROOM' containing a patient on a gurney. Dotted lines indicate the flow of patients from the hospital to the pop-up clinic and then to the quarantine room.

**PROBLEM**

- Crowds can be and harmful to an operating hospital.
- Preventing disease spreading upon first entry and subsequent moving of a contagious patient is critical.

**SOLUTION**

- Pop up clinic for quick testing
- Expandable and portable quarantine room allows safe entry and transport of contagious patients

**PARTIES INVOLVED**

- Patients
- Doctors

**SCALE**

- Regional

Taking the feedback we received from instructors and classmates, our team further narrowed the 6 ideas down to 3. We did this by combining some ideas and eliminating others.

This was a more difficult process that required lengthy discussion in order to determine the best way to proceed, but some of the 6 ideas were similar enough in theme that we could combine them. For example, location tracking and supply sharing were merged with CDC communication.

These three ideas were presented once again to faculty and classmates for critique in the third week.

# Stage 4: Final Concept

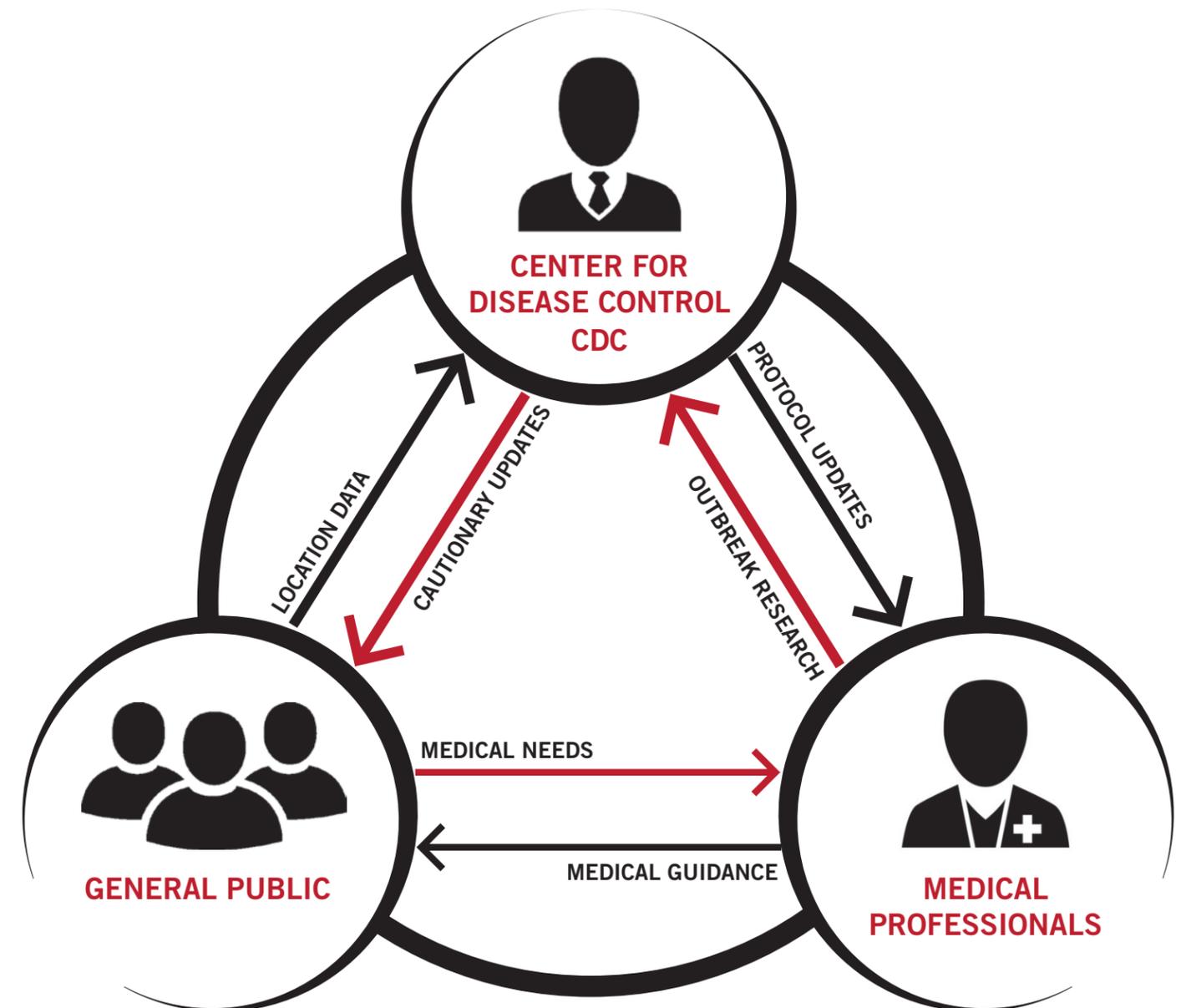
## Emergency Communication System

In the final stage, we had to choose 1 of our remaining 3 ideas. This was relatively straightforward, since our feedback encouraged us to move forward with the CDC Communication concept.

We developed the idea into an emergency communication system that facilitates communication streams that exchange information between the three major parties: CDC, medical professionals, and the general public.

This is a unified platform that is accessible to all three parties. The CDC is able to send out cautionary updates to the public and protocol updates to medical professionals. Medical professionals can also share the latest findings on outbreak and provide medical guidance to those in need. Finally, the general public passively provides location data for infection tracking and is also able to notify medical professionals of their medical needs.

The final step in our process was to refine this idea before presenting it to faculty and peers.



**PART 3**

# **REFINEMENT**

A man with short dark hair and glasses, wearing a blue button-down shirt, is seated at a desk. He is looking at a laptop screen. The background is a blurred office environment with a large window and some office equipment. The overall lighting is soft and professional.

# LYNK

Public Health Communication Platform

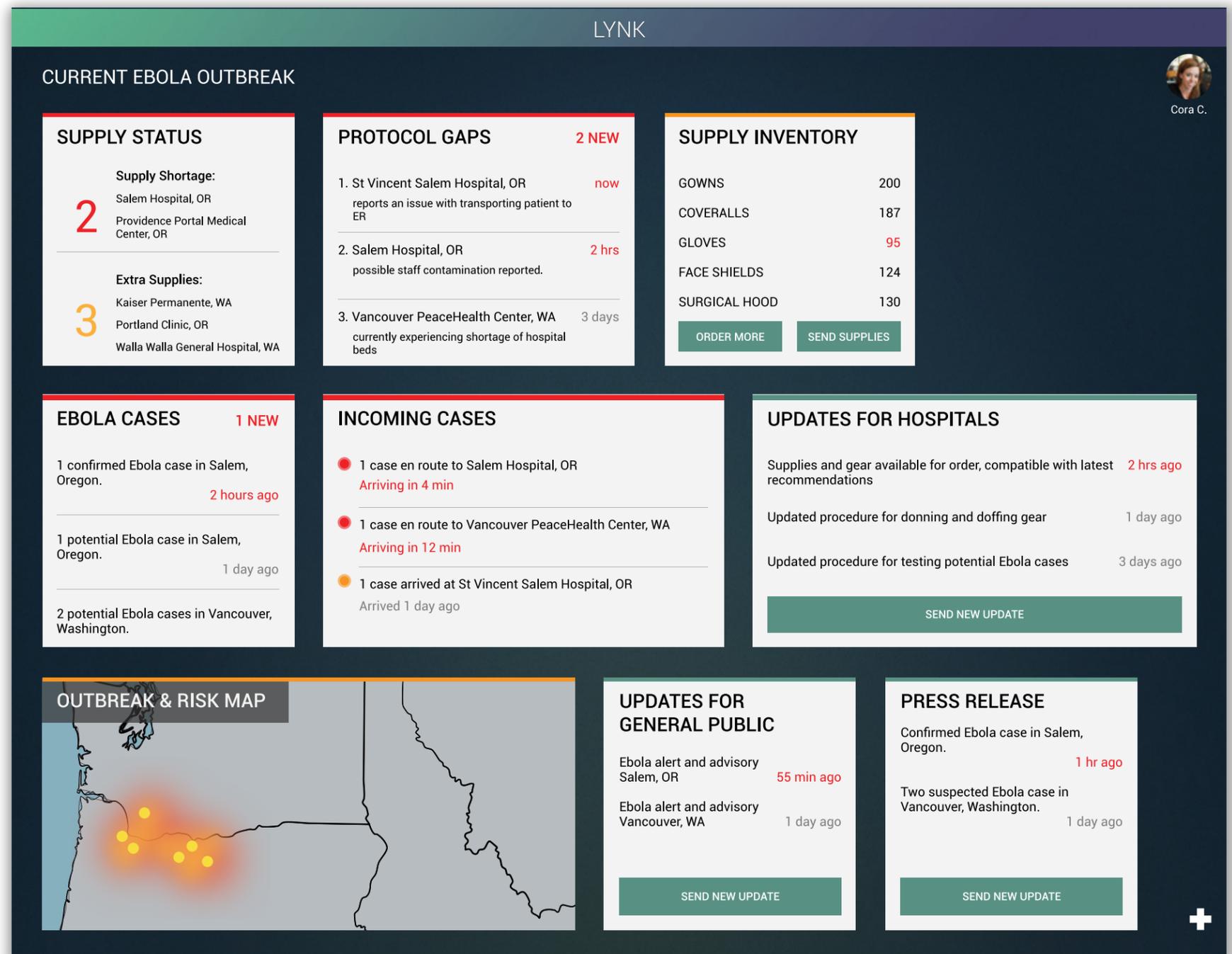


# Interface Mockup

Our interface mockup of the CDC dashboard visualizes several important sources of information that CDC personnel would need to monitor in a situation such as an Ebola outbreak.

The widgets provide real-time updates for incoming information and also allows the user to push outgoing information to the public, hospitals, and the press.

In addition, this modular dashboard allows the user to customize the information they need to see on the dashboard by selecting from a variety of widgets or by adding a new source for incoming or outgoing information.

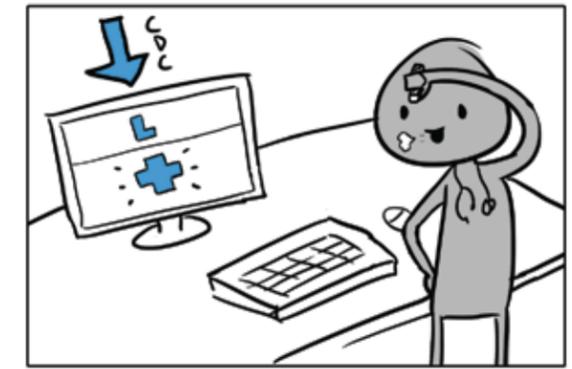
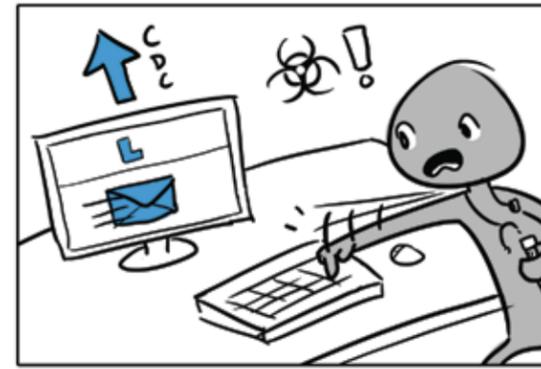
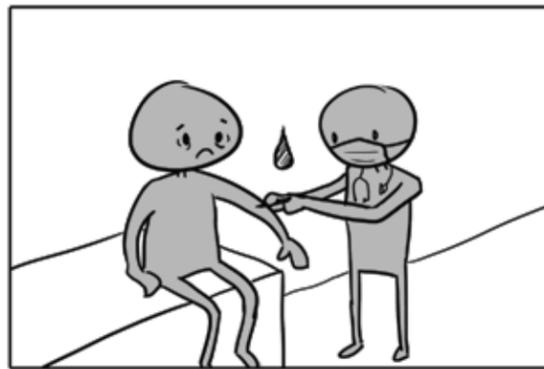


# Storyboards

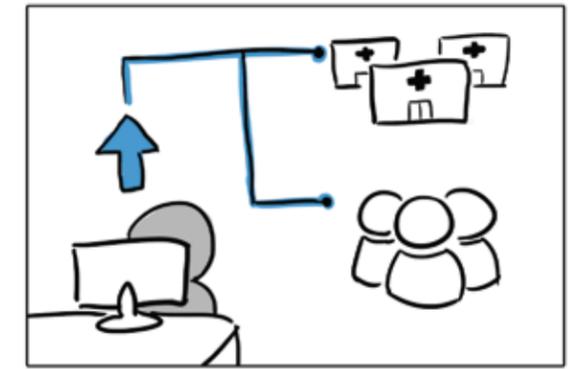
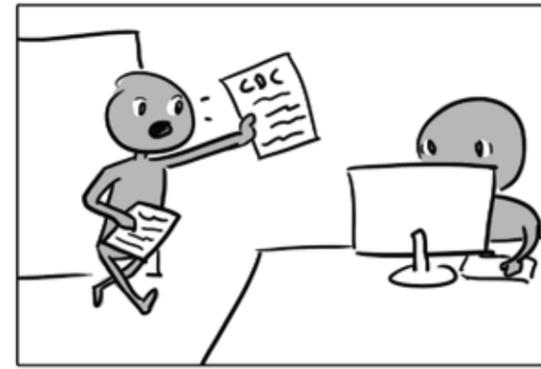
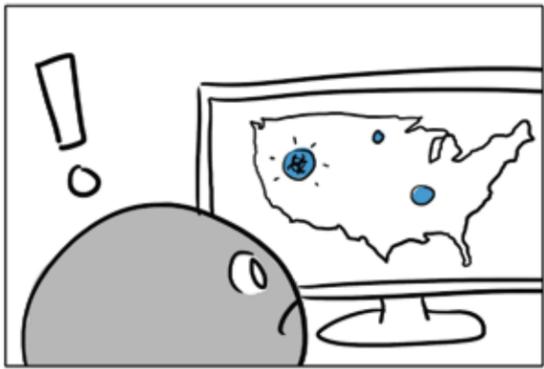
In order to help visualize the ideal scenarios in which Lynk can be utilized to effectively manage a viral outbreak, we created a series of storyboards from the perspective of the three major parties.

The storyboards illustrate an outbreak scenario from the detection of a deadly virus through CDC response and notification of the general public. These were shown as part of our final presentation.

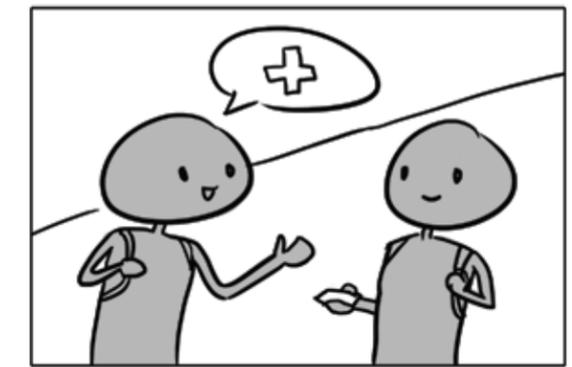
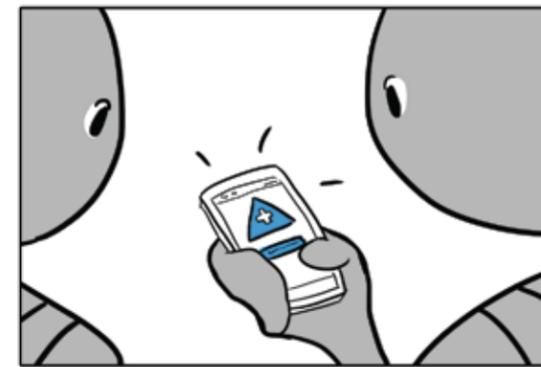
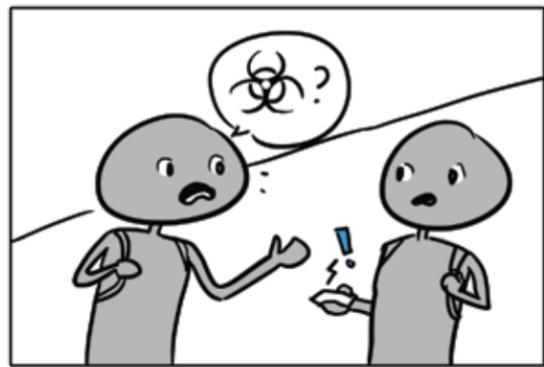
Medical  
Personnel



CDC



General  
Public



# Final Thoughts

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## My Insights

My experience working on this project made me realize just how many opportunities there are for improvement and innovation in the public health sector. Our team identified many critical problems, but it was particularly surprising how most of the problems could be solved by applying existing technologies and systems. Going forward, I think the public health sector can and should be integrated with these technologies in order to promote efficiency and accessibility for all stakeholders.

## The Project

We used the four week project timeframe to familiarize ourselves with the topic, research problem spaces, and ideate potential solutions. The multi-stage format allowed us to start with broad exploration and systematically narrow down to a single concept that we then refined into a powerful product idea. The biggest challenge we encountered was our lack of familiarity with pandemics. Because of the fast-paced timeline, our project could have used more research (e.g. interviews with different stakeholders, understanding constraints) in order to design more comprehensive solutions.

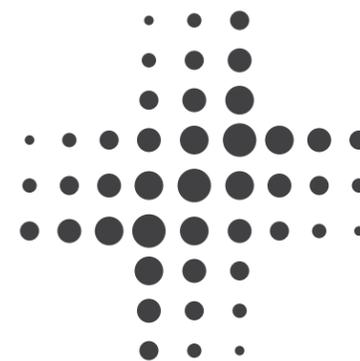
## Our Solution

By identifying communication as the most critical part of managing pandemic situations, we found that the current public health sector is lacking a consistent and unified information sharing system. This drove us towards designing a communication platform and our end result was Lynk, a concept that we are proud to share. Future work on Lynk would involve doing further research into the types of information that different stakeholders require and how we can partner with stakeholders in order to integrate our solution.



**James Pai**

**THANK YOU**



DESIGNERS  
WITHOUT  
BORDERS