Problem Definition

Right now, the Regina Fire & Protective Service (RFPS) has no modern way of communicating with, and educating both parents and kids. The only means of education at the moment is travelling to schools, and putting on informative assemblies/workshops for students. They then provide the students with documents and pamphlets with the hopes that they will bring them home to their parents. Furthermore, they have no real way to simulate the modern smartphone for 911 education. They are currently using an obsolete wired phone to do so, much to the confusion of students who have grown up in the era of touch screen smartphones. They would like this smartphone simulation to be able to dial a mock 911 operator, and have a RFPS staff member to be able to receive this phone call and communicate with the student.

Project Vision

Team B (Squadron) is going to build out an application with three distinct modules. The first of these modules will be one directed at parents. It will not only contain information allowing parents to educate themselves, but act as an always online reference in case of emergencies. The second module is designed for children. It will provide kid friendly information, as well as means to make education fun. For example, we may include a little game that will teach kids their address etc. The third module will be a smart phone simulator. This will allow people to interact with the simulator much like they would with a real phone. This would be a working phone that would be able to connect with real phones, allowing a real time phone conversation. This web app will act as a portal of information that will always be online, and thus always accessible.

Project Rationale

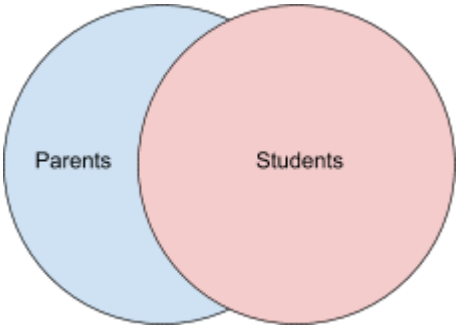
By creating a webapp, we are not limiting ourselves to a single platform. All that would be required would be a device with an internet connection. We don't want to force RFPS to be forced to use a single device or platform. The three unique modules that we are developing are direct solutions to each of the three problems pitched to us by RFPS. The parent module will provide an education/reference point for parents or adults in general with questions about fire safety and prevention. By having this information available online, it will allow RFPS to reallocate more of their human resources effectively. The next module is the one designed for kids. Once again, this will act as an education/reference point but geared towards a younger audience, using kid friendly language, design, etc. Again, the goal of this module is to provide the same level of education currently provided by the RFPS. Finally the phone simulator will most likely live within the kids module. This simulation will be used in the RFPS's safety demonstrations, allowing children to become more comfortable contacting 911.

North Star Customer & Stakeholders

Our north star customer would be any person curious to educate themselves about fire safety, as well as fire prevention. It is important to keep this project as accessible as possible so people of all ages need to be able to use the project, and leave feeling educated, and satisfied. The application should be self sufficient, or "set and forget" in the eyes of RFPS. This allows us to focus our efforts on the everyday person.

As this is an educational application, we envision that it will be ‘free’ for all. The only real cost would be for hosting and for the Twilio API (allowing us to make phone calls). These costs would be trivial, and would most likely be covered by the fire department currently using the software. This project will be highly modular, so it will be quite easy to get in the hands of fire departments all over the world.

Customer Ecosystem Map



Assumptions:

We are assuming that we are not limited to a certain tech stack. Due to this assumption, we are going to make a web application using Angular. There shouldn’t be any backend work required for this application, so we will be programming in TypeScript. We are also assuming that this application will be used in locations that will have internet. The primary use case of this application will be in schools, all of which have internet.

Constraints:

The application needs to be accessible by all. This includes designing in accordance with the Web Content Accessibility Guidelines (WCAG). Another constraint is the cell phone simulator should resemble a familiar phone interface, such as iOS’s design. Finally, we need to ensure that the simulator is not able to reach 911 at any time.

Customer Needs & Requirements (Experiences):

- Smartphone simulator that feels like an actual cell phone
- Phone simulator needs to be able to contact a real RFPS staff member
- Users of the simulator should be able to ‘call’ 911
- Parents/Adults should be able to leave the application feeling educated
- Kids should be able to leave the application feeling educated
- RFPS should be able to manage information
- Accessible design
- Educational games in the kid’s module
- Address reinforcement for kids
- Information portal for both kids and adults