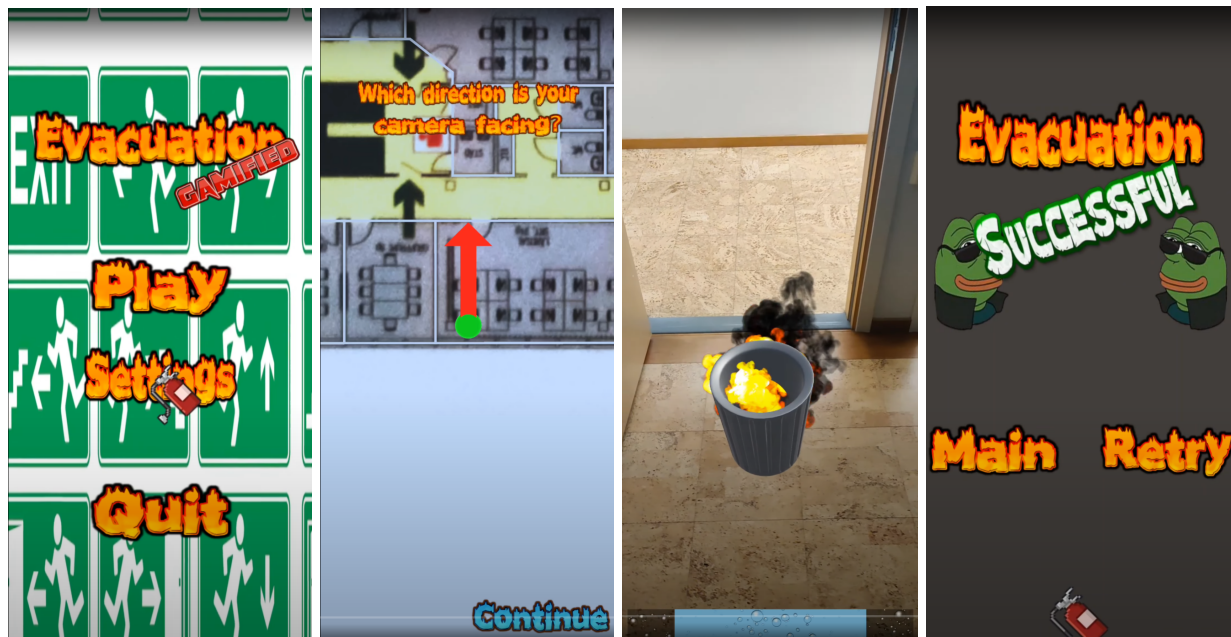


Technical Document

for Gamification of Evacuation Drills

Classification of the software system

The software we developed during the past weeks fits well into the four different interface types. The types are graphical, mobile, touch and augmented reality. The software is a gamification of an evacuation drill using augmented reality to simulate a case of emergency. Augmented reality is the integration of digital information with the user's environment in real time, which requires a camera and therefore it was developed for mobile. The phone is used to display the different obstacles the user must navigate around and also used for navigation and data gathering. The application has graphical elements other than the obstacles, for example the main menu, settings and an instruction that the user can interact with through the touchscreen.



Feedback and solutions

In light of the criticisms of our prototype from milestone 1, we have come up with a variety of potential fixes/enhancements. For instance, the powerpoint presentation received some criticism that it was too brief. To make this better, we could give the powerpoint more context and perhaps cover more information about the game's gameplay. We can also present some of the challenges we faced when creating the application and the sources of our assets. Another

thing we could implement in the powerpoint is some of the changes we would like to make to the application.

According to various complaints regarding the scrum plan, it may be broadened and can be difficult to follow and comprehend for people outside the team. We could prioritize tasks, add expected completion times, and other improvements to this to make it better. This ought to make it simpler to understand the team's priorities.

There doesn't appear to be any complaints, or structural criticisms of the requirements document. It seemed to have received more acclaim than anything else.

Testing procedure

Component testing was conducted for the development testing procedure of our Gamification of Evacuation Drills system. The testing was done on PC using the Unity editor which when taken into consideration that our application is made for mobile phones might be considered suboptimal since some of the components don't produce the same results on PC as they would on the intended platform. This point was mentioned during the component testing and if we were to conduct more tests we would do it on the appropriate platform. If you were to run the tests yourself, we recommend using the Unity Remote 5 app to help with testing touch input.

Youtube link: <https://www.youtube.com/watch?v=ANm1G1aci90>

Google Drive: [Component testing 2.3.mkv](#)

Packaging and deployments requirements and procedure

For both the mobile application and the web server we have comprehensive documentation and setup instructions in their [respective repositories](#). See these for more detailed instructions.

The project was packaged for distribution to the client using GitHub, where the client can choose to clone the source code or download prebuilt binaries. For the mobile app, the minimum requirements to get the app running on a phone would just be Android 7 or above (tested on Android 10). Then you'd just have to download the binary apk file from GitHub. Please note that during development, it was found that more powerful and newer phones ran the tracking much better than older hardware. Also note that the prebuilt binary does not contain any server credentials, there are instructions for setting that up in the readme.

To get the Unity environment of the project set up, you simply need to clone the repository and open it in Unity version 2021.3.14f1. All you would need to do to package new features into the project is push your changes to the repository as usual, and use GitHub releases if you want to upload a prebuilt apk.

For the web server, things are a little more involved but all it needs is a machine capable of running docker compose. Adding changes is as simple as making sure they work and pushing it to the repo.

Please contact [Clover83](#) or one of the other contributors if you want to be added as a collaborator to any of the repositories, or fork the repository.