

Team: HvZ App

Members: Santiago Rodriguez, Alex Hadley, Matthew Waddell, Kyra Clark

Project 1D.1 — Final Proposal

Report:

https://github.com/alexhad6/HvZ-app/blob/master/Administrative/Phase%201/proposal_1d.pdf

Primary author: Matthew

HvZ App Proposal

Overview: Concept and Users

Currently, the game of Humans v. Zombies (HvZ) is played by hundreds of students across the Claremont Colleges. It is a live action week-long game of tag where humans try to survive without getting converted into zombies. There are missions and quests along the way which the moderators of the game set up and run. As the game continues to evolve, the way that it is being run needs to adapt as well. The current infrastructure relies on emails and a website to get information to players and for asynchronous interaction. This limits the amount of ways that the players and moderators alike can interact with the game and each other, and it results in information being spread across too many platforms. The website is not configured to handle the needs of the players as they are on the go, and there is no way for moderators to guide the game for the players in real time. The website might also become unusable in the near future due to an update to the language it was written in. We propose to make a mobile device app to solve this problem. The mobile functionality of an app allows players to easily access information while out playing the game. It also provides an avenue for moderators to be able to interact with players in real time, updating them with new information as the need arises.

The main users of our app would be members of the Claremont Colleges, whether it be students, faculty, or staff. They are subdivided into two main groups: players and moderators. The players currently have no convenient access to information about the game while on the go. This includes information about mission objectives and paths, quest instructions, and information about players and their current roles in the game (human, zombie, legendary human, legendary zombie). An app would allow them to access this information in a new way, providing a space solely for their HvZ needs. The moderators need a way to make sure players have the necessary information for the game. This includes information about logistics, mission and quest definitions, routes for missions, spawn location for zombies, and any real-time changes such as the rerouting of a path due to unforeseen safety hazards. A mobile app would allow them to easily send this information to the players who could easily access it through the same medium.

Competitors:

Our app has four main competitors, the original website (claremonthvz.org), email lists, other constructed HvZ apps on GitHub, and Discord. Each of these competitors has different helpful features that we can incorporate into the app. Furthermore, some of these competitors could still be used in conjunction with the app, which will still reduce overall lack of organization for the games.

The most notable competitor is the HvZ website. The website has been used for years for Claremont HvZ games, and thus, the transition away from it might be difficult. The website has been the traditional hub to serve for most all the game's function, most notably to search for other players and input feed codes. However, the website also has a lot of unused or clunky functionality, which users choose not to use. In addition, with upcoming updates, the website's code may become unusable.

The email lists have also been used in previous Claremont HvZ games. They provide a direct way to contact all the players and reach out to the moderators. However, they have a lot of shortcomings. The game required a large amount of emails to be sent out, which bombards users and creates an unorganized and confusing game for players to try to navigate. However, because the Claremont Colleges' provide school email, every student was able to play.

We also looked into other apps that were already constructed for similar HvZ games at other schools. These provided us with some information on how they handled player registration in the app. However, due to the specific needs and features that Mudd players wish to see in the app, a general app designed for other schools would not suffice for Claremont's HvZ games. Therefore, already constructed apps do not seem to be a viable competitor for our app, specifically designed for the 7Cs.

The last competitor, Discord, shows a lot of potential strength. Although it has never been implemented in the past, current moderators are considering incorporating the Discord app and communication server to replace the website. Discord easily helps provide different chat channels for different players to communicate too. Its different channels could also serve as places to store information for the story, missions, and rules of the game. Finally, with the roles feature of Discord, the zombie, human, and mod players could be easily tracked and accounted for with the properly coded bots to regulate the chat. However, because Discord is a text-based medium, these channels are less organized, more difficult to use for new players, and less interactive and intuitive.

User Validation

We conducted a requirements elicitation session with three potential users. In particular, they were players and not moderators. When asked what they would like to see in an HvZ app, the users brought up several key ideas, such as the app organizing important information (whereas before they felt bombarded with emails), displaying a player roster, having a map component, and basic game functionality such as managing zombie feed codes. When prompted about other features we had thought of in our brainstorming session, the users readily provided feedback and came up with additional ideas for app functionality. The users seemed to understand the need and utility of the app and were excited about providing features, validating our assumption that an HvZ app is a useful and compelling product.

Unfortunately, we were unable to interview an experienced moderator. One member of our team is a new moderator, so he has offered some insight on why moderators would want an HvZ app. The role of the moderators is to offer the best experience for the players, so if the players would find our app useful, we expect that the moderators would want to use it.

Key Requirements

Design:

- Code is clear, readable, and documented so that mods can maintain and change the app in the future.
 - The product must satisfy this requirement both for future adaptation of the code and to speed up reviewing each other's code. Since this has been a standard practice in Mudd CS classes we may trust this requirement.
- The visual interface is clear and organized, with tabs for each category of information (night, day, legendary, story, logistics; the stuff that goes in emails).
 - This feature is key because if the app is too complicated to use many users may prefer the old functionality of the game, negating our work on the project. We can trust this feature after doing more formatting practice with JavaScript/other app development languages and iterating our code over user feedback on whether the design is intuitive enough.

User Classification:

- Players can register for the game and create an account.
 - This feature is essential in order to have objects to assign classifications. Will be essential to create Mods, assign Human Qr codes, and allow zombies to

accumulate feed codes. We can trust this requirement after doing more research on the implementation of login systems.

- Players can log into their accounts.
 - Will be essential in order to know which account information to display on the app. We can trust this requirement after doing more research on the implementation of login systems as well as research on generalizing the personal info display screen.
- There is an admin login for the mods, with a different UI.
 - This is a key requirement because an app without separate permissions will make no distinction between player and mod making the app rely completely on an honor-based system which is unreliable. We can trust this requirement after having done more research on the assignment of UI at or post registration.

Data Display:

- There is a list of players, displaying names and status as a human or zombie, accessible from the home screen.
 - This key feature is necessary both for humans and mods to have a quick way to track the game at any snapshot and act accordingly.
- The number of humans remaining is displayed on the home screen.
 - This key feature displays the most important information of the above table more concisely for users and we can trust this feature since it was recommended by users and would be easily implemented by acting in accordance to our stated key coding practices.
- Players can easily find and view important information about the game (rules, logistics, mission information)
 - This key feature would take the place of emails sent out by mods. Would allow for all necessary information to be stored in one location which would in theory make navigating the game easier for users. The success of our implementation of this feature largely depends on having an intuitive design as outlined in key coding practices.
- There will be a detailed map of the 7Cs in the app.
 - This key feature will allow both for new players unfamiliar with the campus to easily navigate the game as well as provide a grid for Mods to be able to easily communicate location of events to users.

Mod Permissions:

- Mods can start, end, and reset an HvZ game.
 - This feature is a key requirement because the game cannot be modified until it is initiated and resetting may be important if either an accumulation of errors makes it easier to restart a game then modify the existing game or for the purposes of creating a new game when the present game has ended. We can trust this feature because we trust our ability to be able to classify users and give those classes separate perms.
- Mods can update night mission, day mission, and legendary quest information.
 - Without this key feature mods could not dynamically affect gameplay and all missions would need to be set with date and time at the initiation of the game which is not realistic.
- The Mods will have access to adjust players status. They should be able to update legendary status for zombies, resurrect human players, and update zombie upgrades.
 - This key feature allows mods to adapt user info without having to reset the game in the case that mistakes are made by players or mods.

Player Permissions:

- Zombie players can scan Human QR feed codes from their phones.
 - This is a key feature which will be necessary both in order to implement a brain purchasing system and in order to update the table on who individually is a zombie/human and to update human count.
- Zombies can purchase upgrades using brains and transfer brains to other Zombies.
 - This key feature will expedite the organization of the brain market both in terms of purchase and currency transfer between zombies in a way that would be impractical to implement without app bookkeeping.

Feasibility:

Because apps are popular and commonly made, there are many tools and resources to help create them. With a team with prior knowledge of coding, software engineering, and server databases, constructing an app such as this is a very reasonable goal. We have lots of helpful resources at our disposal, and with the proper amount of time and focus, this is definitely a feasible project for our team to create. Once it is made and correctly implemented, we know it will be widely used by the players at Claremont's HvZ team. With our connections to the moderator teams, we will be able to teach them how to use and edit the app, such that they will be able to properly incorporate it into their games for years to come.