**­­­­Senior Design Final Report**

The F.E.W.W.: Game Development

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# 1.Introduction

## 1.1 Background

 The California State University Los Angeles Computer Science Department collaborated with the College of Arts & Letters to develop a game called The F.E.W.W. The F.E.W.W. game is created to help illustrate social issues affecting society today. The F.E.W.W. is an interdisciplinary game development project that involved students from multiple disciplines including Computer Science Programmers, Artists, and Writers. The F.E.W.W. was programmed using Unity3d and developed for mobile devices that operate on Android OS.

## 1.2 Design Principles

 The main goal of the game was to design a fun and interesting narrative to illustrate social issues. We created a 2D top down world that was open to be explored. We Implemented a dialogue system to help progress the story and keep the player engaged. Giving the player choices to give them a unique gameplay such as different weapon options. A save feature to allow the user to save their progress and start again anytime they want. There is a menu system that allows the player to keep track of their inventory and location in the world. An intuitive HUD so the player always has all necessary information available to them without cluttering the screen. The controls are placed in a natural position for comfort of the player. NPCs will be used to help with world building and immerse the player in the story. Background music and sound effects will be used to further immerse the player.

## 1.3 Benefits of design

 The main goal of all the design principles is to create an interactive and engaging user experience. The world is open to allow the player to freely explore and immerse themselves in the world. The dialogue system allows the player to interact with NPCs to world build and create the story in an easy to understand and intuitive way. Weapon choice allows the player to feel importance of their decisions as it affects gameplay. A minimalist HUD design keeps the screen from being cluttered so the player can focus on the game. Touch responsive controls allow for playability on any mobile device.

## 1.4 Achievements

 Over the course of the year our team practiced and familiarized ourselves with Unity. We explored all the functionality that it had to offer and prepared to use it to build our game. Using this knowledge, we created the intro level for the Faburkan story and had it built for Android and put on the Play Store.

# 2.Related technologies

## 2.1 Implementation of related technologies

* Unity 3D – Unity is a Game engine that allows for efficient reuse of code in creating 2D and 3D games. The F.E.W.W. utilizes unity and all its features to construct the world and all the functionality of the game
	+ C# - C# is an object-oriented programming language and is used in conjunction with Unity as it’s scripting platform.
	+ Unity Collaborate – functions similarly to Github and allows users to quickly and efficiently share and download updates as they are created
* Adobe Photoshop – was used to make sprite sheets as well as make minor edits to images to better fit the theme.
* Slack – Slack was used for basic team communication and to set up in person meetings
* Google Drive – was used for file sharing between us and the art team

# 3. System architecture



* **Splash Screen** – allows us to play an intro video and show the logo.
* **Title Screen** – The main menu screen from where the player can choose to continue their game if they already have a save file or start a new game. They will also be able to adjust the volume of the background music from this screen.
* **Intro Sequence** – Unity allows us to seamlessly switch scenes even with animations and cutscenes.
* **Game Start** – The scene where the game and the players journey will begin. Playthrough includes only the first level at the moment
* **End Sequence** – When all the objectives have been completed the end sequence will be triggered to signal the end of the game.

# 4. Conclusion

## 4.1 Results

 We have created the first level of the game using placeholder artwork that we acquired through a fellow student. Using this artwork and with the direction from the art team we were able to create this first level and have it built and prepared for mobile devices as well as add it to the Android PlayStore. Using Unity we created any and all scripts necessary to have the game run smoothly. Through our collaborative efforts with the art team we were able to develop character mechanics and game elements in a way that would help illustrate the story while keeping the game play engaging. We learned how to successfully structure team meetings, create deadlines, delegate responsibilities, and how to organize the workspace so that we could constantly demo each new mechanic to make adjustments in a timely manner.

## 4.2 future work

 The plans for the future are to continue expanding the game to tell the full story envisioned. With more time to receive assets and develop game mechanics more precisely other elements of the story can begin to be fleshed out. Working on other elements to fit better with the theme such as the background music. The game must also be built and tested on Apple devices and put on the App Store.

# 5. REferences

* Unity
	+ <https://docs.unity3d.com/Manual/index.html>
	+ <https://docs.unity3d.com/ScriptReference/index.html>
	+ <https://unity3d.com/get-unity/download>
* Adobe Photoshop
	+ <https://www.adobe.com/products/photoshop.html>
* Slack
	+ <https://slack.com/>
* Google Drive
	+ <https://www.google.com/drive/>