2018

“Jessica”

Plan Report

Team 6 - nozamA Studios

Team Members

Back row (left->right): Ellen Li, Suying Shen, Raymond Young, Edwar Zhang, Yianni Bares

Front row (left->right): Grace Meng, Kevin Mason, Jenny Lee

Team Times

- Tuesday 2-6pm (time may be extended depending on progress)
- Thursday 4-6pm (time may be extended depending on progress)
- Meeting locations- breakout rooms in OGGB, Leech, Science common area depending on space availability

Game Overview - "Jessica"

Serious game concept

Women in engineering

Game genre

Role playing, action, dungeon crawling

Game mode:

Single-player

Target audience

High school (13-18) **Player type**: explorer, achiever

Game storyline

Our main character is Jessica, a female software engineer working at a company named NOZAMA, 40 years in the future. Jessica invents a time machine and is praised worldwide. One day, Jessica overhears some company executives planning to travel back in time to sabotage her career path in order to steal her patent on the time machine. NOZAMA plans to do this by using society's unconscious bias to erode her confidence level, in order to discourage her from ever becoming an engineer. To protect herself, Jessica needs to travel back in time and inspire her younger self to keep pursuing her passion for engineering.

To discourage the younger Jessica, the company goes back to several critical points in her earlier life, where they manipulate characters around her who express negative sentiments and biased viewpoints about females in engineering, in order to break her confidence. The player, controlling future Jessica, needs to solve puzzles, fight against biased and evil characters, and locate role models for young Jessica. These help build young Jessica's confidence in herself so she can indeed become an engineer, allowing her to overcome the evil agents sent back by NOZAMA.

Overall goal

One main concept of this game is to raise awareness of the unconscious biases facing female engineers, potentially discouraging them from pursuing their passions. Rather than just avoiding these obstacles, Jessica leads her younger self to the right role models to build her confidence and prove that girls can be engineers too.

Throughout the game, future Jessica offers guidance to young Jessica. By discovering possible biases, stereotypes, and sources of doubt that can stop girls from becoming an engineer, this game builds the player's empathy for women in engineering. The game's story of a girl becoming an engineer despite all the societal obstacles also presents a role model, encouraging younger generations (e.g. the target audience) to have confidence and make choices to overcome bias.

Central character

The main character, Jessica is a female engineer who invents the time machine. She travels back in time to encourage her past self to pursue an engineering degree in order to protect her future self from being erased.

Jessica can move in all directions (up, down, left, right, diagonally) in the top-down 2D game environment. She is able to interact with and collect objects that can be used to unlock maps and interact with NPCs to collect clues. Objects are stored in Jessica's inventory.

To remove enemies, Jessica can use a teleportation device to fight enemies from NOZAMA, in order to send them back to the future. When Jessica moves around she is able to boost her speed using the controls.

Throughout the game, young Jessica follows future Jessica around. By controlling future Jessica, the player is able to affect the perception of the world young Jessica has, and young Jessica's "confidence" level.

Game world

The game world is a top-down world through which the player (future Jessica) guides her past self (young Jessica) in order to build her "confidence". Level locations include: young Jessica's home, young Jessica's high school, and the city's roads on the way to an engineering open day. Each represents a critical scene in young Jessica's life where she may encounter bias discouraging her from choosing to pursue engineering as her passion.

Throughout the world, objects and NPCs can be interacted with to either increase or decrease her "confidence" level.

NPCs, such as henchmen from the company expressing biased views, aim to demotivate young Jessica and decrease her "confidence", and must either be removed or avoided. Interacting with and navigating dialogue options with role model female engineer NPCs increase her "confidence" and should be found.

Collecting and reading objects such as newspaper clippings about girls in engineering increase her "confidence". Passing by objects such as misogynistic advertisements decrease her "confidence". Other objects like keys are able to unlock chests and doors. Chests can contain items which increase "confidence" or upgrade future Jessica's weapon. Unlocking doors allows progress to more sections of the map.

In each level, the player has a goal to locate and reach to progress to the next stage. For example, the goal might be to reach a helpful mentor in young Jessica's life that is placed somewhere on the level. This goal cannot be passed until the player has passed a threshold "confidence" level in her past self through interactions with objects and NPCs.

Scoring and lives mechanisms

The player, future Jessica, has a "confidence" bar which is a measure of the younger Jessica's "confidence".

The "confidence" bar needs to reach a certain threshold in order for the player to successfully complete the goal for that level. If the "confidence" level is too low, the player is unable to complete the level when they interact with the final goal (e.g. reaching a helpful mentor), and must continue to search the level to find things which increase young Jessica's "confidence".

If the "confidence" level reaches 0, then young Jessica feels doesn't feel confident enough to become an engineer, succumbing to society's biases, so the player must repeat the level from the beginning.

The amount of "confidence" Jessica has at the end of each level determines their score. Each level is also timed so the player can see both their best "confidence" score and their best time.

Level generation

The layout of the levels are randomly generated. Rooms are randomly generated, then corridors randomly generated to connect the rooms. Decorations are then generated before chests and objects are randomly placed somewhere on the level. There is also a fixed set of specialty rooms added to each level, which can contain items or NPCs that assist the player.

Next, enemy characters are randomly placed. Each level includes enemy characters, some of which need to be defeated in order to progress. The enemies will be able to attack the player, which will reduce their "confidence".

Enemy attack damage is randomly determined with a certain range (e.g. one enemy might attack for a random amount between 10- 15 confidence if its attacks hit).

Items can be found randomly in the map which can be used by the player to complete objectives e.g. keys to unlock doors, weapons/ammo to zap enemies, inspiring stories to recover "confidence". These may also be randomly dropped by enemies upon defeating them.

Tools and technology details.

Google Drive

Platform where stores and share all project documents so that all members can collaborative on them.

https://drive.google.com/drive/u/0/folders/0AB6b1Yn9E1ngUk9PVA

Unity

Game will be developed using Unity, chosen because of its multi-platform ability.

Github

Source control will be managed using Github for ease of collaboration, and wiki used to manage documentations.

https://github.com/rayyoung122/306-Project-2

Facebook Messenger

Used as our main platform for communication to arrange meetings and share ideas.

Features

Design Features

- A player life/health system where lives/health can be lost/gained/maxed out.
- Achievement system (e.g. rewards unlocked based on performance.)
- A high score screen (and a mechanism for storing those high scores) allowing users to enter their name for the high score function.
- Adding sound/music to the game and triggering on appropriate events.

Advanced Features

- Level generation plan: Modifiable difficulty for fixed level design

Plan Structure

Work Breakdown Structure & Distribution Plan

Task	Allocation	Task	Allocation
1. Preparation & Planning			
1.1 Learn how Unity works	Everyone	1.2 Group member introduction	Everyone
2. Storyline development			
2.1 Brainstorm ideas	Everyone	2.3 Write scripts for the storyline	Dev 1, 2
2.2 Concept on how to introduce storyline	Everyone	2.4 Design screen to show storyline	Dev 1, 2
3. Visual design			
3.1 Design main characters	Dev 3, 4	3.4 Design controls (left, right..)	Dev 3, 4
3.2 Design NPCs	Dev 7, 8	3.5 Find assets to use for game	Dev 3, 4

3.3 Design for background and environment	Dev 5, 6		
4. Main character			
4.1 Create artwork/assets and integrate in Unity	Dev 3, 4	4.3 Implement behaviour, code script for movements	Dev 3, 4
4.2 Design size, look, status and speed of movements for the character	Dev 3, 4	4.4 Test main character's interaction with the game world	Dev 3, 4
5. NPCs & enemies			
5.1 Design and find assets for characters	Dev 7, 8	5.4 Testing for NPC	Dev 7, 8
5.2 Decide and implement NPCs' behaviours and path of movement	Dev 7, 8	5.3 Implement actions and interactions with the game world	Dev 7, 8
6. Game world and Environment			
6.1 Design and find assets for game world	Dev 5, 6	6.3 Implement physics for world	Dev 5, 6
6.2 Integrate assets into Unity	Dev 5, 6	6.4 Testing	Dev 5, 6
7. Project management			
7.1 Document wiki throughout the project	Everyone	7.4 Package game for deployment	Everyone
7.2 Conduct regular meetings	Everyone	7.5 Complete final report	Everyone
7.3 Set up Github and IDEs	Everyone		
8. Levels			
8.1 Decide number of levels and scene for each level	Dev 1, 2	8.3 Design layout, and characters/objects involved in each level	Dev 1, 2
8.2 Design increasing difficulty progressively	Dev 1, 2		
9. Sound			
9.1 Designmusic and sound effects	Dev 3, 4	9.3 Integrate music into Unity	Dev 3, 4
9.2 Create, find sound assets	Dev 3, 4		
10. Scoring and life system			
10.1 Design score mechanism	Dev 7, 8	10.3 Implement score-tracking functionality	Dev 7, 8
10.2 Design UI for scoring system	Dev 7, 8	10.4 Implement best score functionality	Dev 7, 8
11. Achievement system			
11.1 Design what achievements to collect	Dev 5, 6	11.3 Design achievements screen	Dev 5, 6
11.2 Implement functionality in Unity	Dev 5, 6		
12. menu screens			
12.1 Design flow through different screens	Dev 1, 2	12.4 Implement pause screen	Dev 1, 2
12.2 Design UI for all screens	Dev 1, 2	12.5 Implement score screen	Dev 1, 2
12.3 Implement welcome/ main screen	Dev 1, 2	12.6 Implement exit screen	Dev 1, 2