

BULLETHEAD

2D PLATFORMER/RPG TDD

Bullethead is an RPG with Platforming elements and turn-based combat. The player plays Bullethead, a man with a bullet for a head. The main character also interacts with the player (breaking the fourth wall) to advance the plot and provide some comedy to the story. Bullethead must traverse various landscapes, from text-only dungeons inspired by games like Zork and Multi-User Dungeons, to platforming levels that are accessed via a world map. The game will be mostly text with the platforming elements being rendered in 2D. The combat system will be the turn based element, similar to games like Final Fantasy, with each player and enemy taking one turn at a time.

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Environment/World

Most of the “environment” in Bullethead will be descriptive text with very little graphics accompanying it. There will however, also be 2D Platforming levels, as well as a world map to move between different levels and advance the story.

UI

The UI will be similarly sparse, with Zelda-inspired hearts to represent health, a bullet icon with a number for ammo. Twine, using Cradle in Unity, may also be used in platforming scenes and on the world map for dialogues, otherwise a DialogueManager script will use Unity's Queue command to display different dialogue arrays, which will be stored in a separate script.

Player

Basic movement will be with the WASD keys on the computer. Space to jump, left click to fire a bullet, right click to fire a grenade. On the world map W and S keys will move along the vertical axis and jump will be disabled.

I've also experimented somewhat with combining 2D and 3D, by the player, while still 2D, change perspective (and therefore size), by moving towards or away from the camera. R moves away from the camera(shrinking Bullethead, and F moves towards the camera (embiggening Bullethead).

E will be used for interactions with the environment.

Enter or mouse click will be used for advancing dialogues or other UI pop-ups.

Enemies (Artificial Intelligence)

Enemy AI will be extremely simple. In platformer levels, enemies will simply advance towards the player once they have come within a certain distance. In the turn based battle system, enemies will spawned randomly from an array, and will range in difficulty levels based on the players progression through the story. There will also be scripted fights (using the same turn based system) with some characters to advance the story.

Interactions

Most of the interaction will take place between the main BattleSystem script and other scripts. These include a Toolbox with a Singleton pattern, a PlayerManager, an EnemyManager, a third-party script to store and evaluate player and enemy health, a SceneManager, and a script for the UI during the turn-based battles.

The remaining bulk of the game will consist mostly of interactions between converted Twine scripts and UI, as well as two scripts for player movement, one for platforming levels and one for moving on the world map.

There will be a dialogue system that loads stored dialogues as arrays and individual scripts will be used as triggers for different dialogues and interactions in the game.

The rest of the scripts will be to manage Menus and other UI components.

Screens

The opening screen will be the main menu, which will be identical to the pause menu in functionality. This will house the Start Game button, as well as an Exit button.

When the player presses start game, they are taken to the opening Twine/Cradle script screen.

After progressing to the Tine passage where the player is attacked, the first battle scene will load. After the initial battle is complete the player will have the option to return to the Twine story or enter the 2D aspect of the game.

If they choose to return to the text based story progression, a new Twine/Cradle script scene will be loaded with the remaining story and battles both optional and unavoidable.

If they choose to enter the 2D aspect of the game, they will load into a 2D platforming level which they must complete in order to open the 2D world map, where they can find further platforming challenges.

Through interaction with the environment, the player will be able to go back and forth between these different “layers” of levels (text, 2D platformer, and isometric RPG).

Pressing the escape key at any time will pause the game and open a pause menu (panel) identical to the main menu.

Game Flow Diagram

Non-Goals

Tools

Unity 2020.1.5f1

I'm at least somewhat proficient at using Unity, and starting to get more comfortable with C# and Unity offers a toolset large enough to expand game elements in the future (Cinemachine, Inkle, Different Inputs, Different Platforms, etc.)

Visual Studio 2019

Again what I'm familiar with using, and has various features that integrate with Unity and will be helpful for completing the project efficiently.

DOTween

DOTween will be used primarily to enhance the UI/UX of the game.

Photoshop 2018

Photoshop will be more than adequate for all basic and any additional UI/UX components.

3DS Max 2019

3DS Max will be used for any 3d modelling necessary in the game.

Twine

Twine will be used to write and build the text based story components of the game.

Cradle 2.0

A plugin for Unity that coverts Twine HTML Stories to C# scripts will be used for much of the text based aspects of the game, and possibly for dialogues as well.

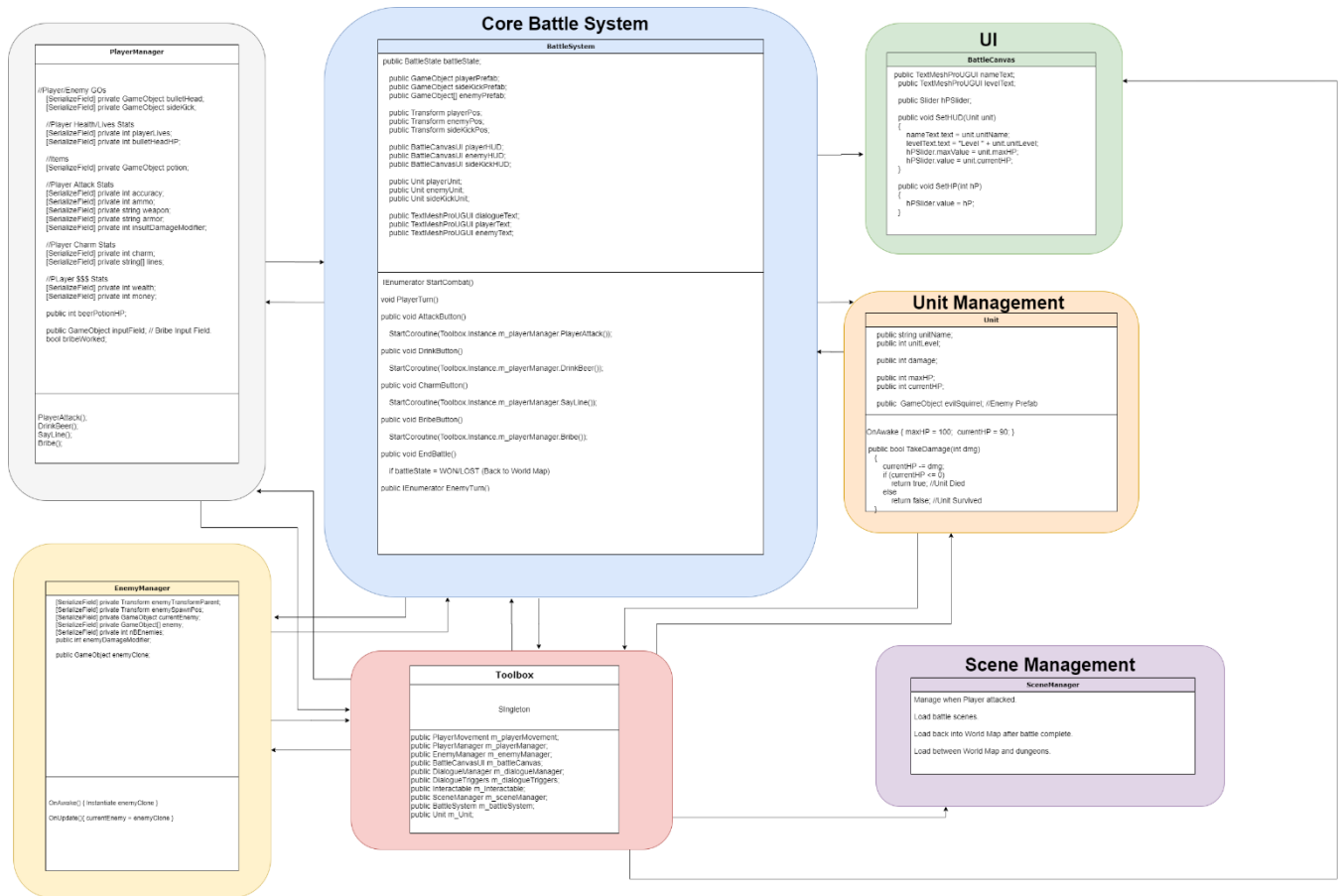
Systems

The main storytelling system in the game will be built in Twine, and then incorporated into Unity via Cradle.

The main Battle System in the game, which is laid out in the System Diagram, is what will operate the battles in the game, instantiating enemy prefabs, managing turns, and communicating with the individual Unit scripts on the player and enemies.

There will be a series of platforming levels that can be accessed via a world map, and it will be possible to return to the text based story system through either the world map or the platformer levels by interacting with the environment.

System Design Diagram



Open Issues

Enemy Damage increments by 1 and doesn't seem random?

Document Changelist

| Date | Name | Changes |
|------------|------|-------------|
| 24/11/2020 | Tim | Document v1 |
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