Gate:Crash

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CST-452 Development Release Notes

Grand Canyon University

Instructor: Professor Mark Reha

Revision: 1.4.0

Date: 4/24/2023

Summary:

This code release focused on adding the final components of the fundamental game functionality and adding more assets to the individual aspects of the game, including the player and the enemies. This code release also saw the creation and finalization of the player combat system, supported through the use of the Finite State Machine structure. Additionally, this code drop has the introduction and finalization of the random dungeon generation post processing functionality, which allows the game to randomly generate the dungeon, apply the fog of war, identify the location and type of each individual room, and spawn the enemies within a room that the player enters. This was accomplished through the framework introduced through the Edgar Dungeon generation asset. Additionally the code drop includes the logic and control for transitioning between scene views within the game, such as the main menu, the lobby/hub, and the dungeon scenes. This code drop also removed the previously introduced NavMesh components for the enemy entity navigation. This was due to conflicts between the functionality of the enemy entity and the logic automatically provided through the NavMesh. Additionally, for the NavMesh to properly function the game would need to automatically bake the navigation area each time a dungeon generates, which simply wasn't feasible at this stage. To supplement this, the development team utilized a built in Unity function called "MoveTowards" which allows the developers to define the target that the entity wishes to navigate towards. Any additional movement required of the enemies is still supplemented with standard velocity and physics controls. Finally, this drop introduced new visuals for the game including a smaller Lab scene, a teleporter object that transports the player to the dungeon, and slightly different map designs that better allow for the player and enemies to navigate around.

Requirements:

This code release supports the following features:

Feature:	User Story:
Random Map Generation	As a system, I would like to randomly generate a map for the player to navigate.
Random Map Generation	As a system, I would like to spawn the player character at a starting point in the map so that the player is now present in the round.
Random Map Generation	As a system, I would like to generate the enemies within the map throughout the duration of an instance of a game
Player Movement	As a player I would like to press the left analog stick left, or "A" on the keyboard so that the character moves left.
Player Movement	As a player I would like to press the left analog stick right, or "D" on the keyboard so that the character moves right.
Player Movement	As a player I would like to press the left analog stick up, or "W" on the keyboard so that the character moves up.

Player Movement	As a player I would like to press the left analog stick down, or "S" on the keyboard so that the character moves down.
Player Movement	As a player I would like to press "B" on the gamepad, or "LEFT SHIFT" on the keyboard so that the character dodges/rolls.
Player Combat	As a player I would like to press "Right Trigger" on the gamepad, or "Left Click" on the mouse so that the character attacks using their equipped weapon.
Player Combat	As a player I would like to use the right analog stick on the gamepad, or move the mouse so that I can precisely aim my weapons.
Enemy AI	As an enemy, I would like to detect when the player is within my detection radius, so that I may prepare to act in response.
Enemy AI	As an enemy, I would like to actively navigate throughout the map, so that I do not stay in the same place throughout the duration of the instance of the game.
Enemy AI	As an enemy, I would like to pursue the player while they are within my detection range, so that I can attempt to get within my range of attack.
Enemy AI	As an enemy, I would like to attack players within my attack range, so that I can damage the player.

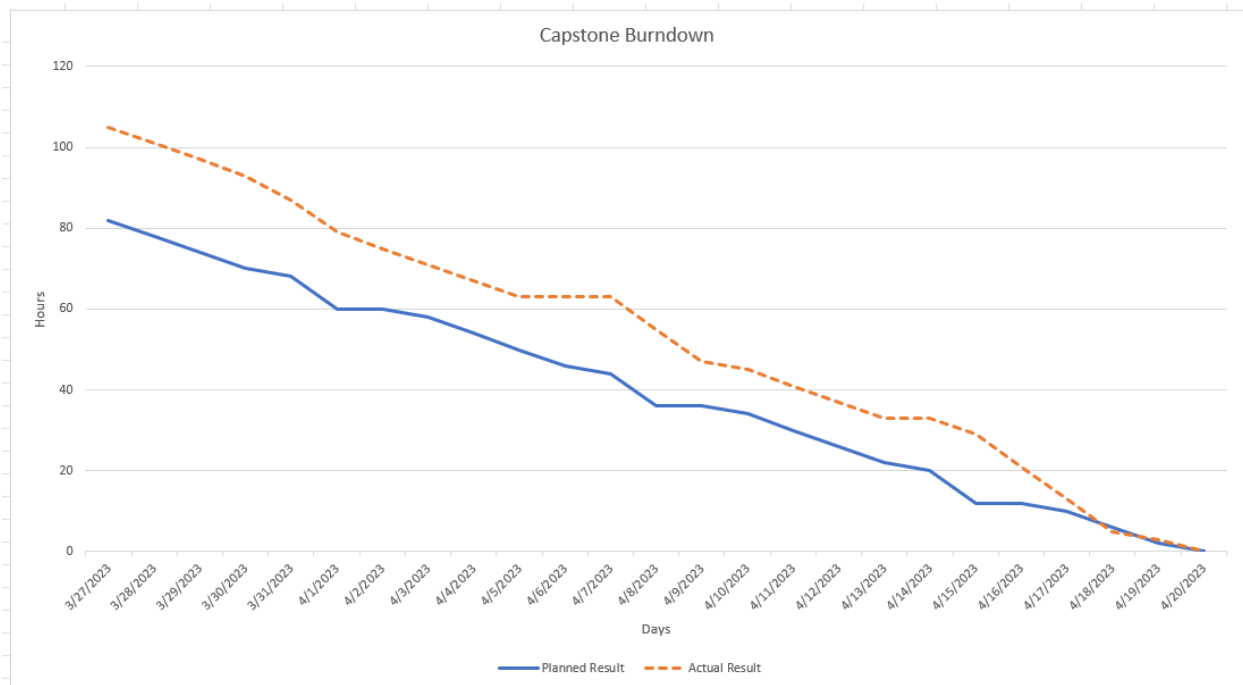**Reports:**

Requirements Delivered: 38.46% (15/39)

Requirements Delivered to Date: 87.18% (34/39)

Requirements Taken Out of Scope: 0

Burndown Chart:

Day	Planned	Actual	Planned Result	Actual Result
3/27/2023	2	2	82	105
3/28/2023	4	4	78	101
3/29/2023	4	4	74	97
3/30/2023	4	4	70	93
3/31/2023	2	6	68	87
4/1/2023	8	8	60	79
4/2/2023	0	4	60	75
4/3/2023	2	4	58	71
4/4/2023	4	4	54	67
4/5/2023	4	4	50	63
4/6/2023	4	0	46	63

Date				
4/7/2023	2	0	44	63
4/8/2023	8	8	36	55
4/9/2023	0	8	36	47
4/10/2023	2	2	34	45
4/11/2023	4	4	30	41
4/12/2023	4	4	26	37
4/13/2023	4	4	22	33
4/14/2023	2	0	20	33
4/15/2023	8	4	12	29
4/16/2023	0	8	12	21
4/17/2023	2	8	10	13
4/18/2023	4	8	6	5
4/19/2023	4	2	2	3
4/20/2023	2	3	0	0

Capstone Burndown

Working Code Demonstration:
https://www.loom.com/share/a99168c84919449a83e25feb9cbf1818

GitHub Link:
https://github.com/Giovanni-E-Martinez/Senior-Capstone