Sprint 3 Planning Document

Team 1 - S2 Studios

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Sprint Overview

The purpose of this sprint is to polish and put the finishing touches on the game. This process involves the following: Add two different game modes, including a new unique idea called fill the bar. A fourth and final time distortion will be added that will reverse time. The final visual touches to add to the game is to improve both the heads up display (HUD), and special condition animations. We're also including unit tests on all important scripts. Additionally, we will expand the map selection with two new dynamic maps Finally, original music and sound effects will be added into every aspect of the game, volume can be adjusted in the settings menu.

It should also be noted that testing will be performed using live inputs and some scripted events, given this is a videogame. Additionally, unit testing for our important scripts will be implemented.

Scrum Master

Michael Parr

Scrum Meeting Schedule

We are going to have 2 meetings every week where we use to have lecture, each meeting is going to be about an hour long and 1 meeting on the weekend.

Risks/Challenges

This sprint, most of the overhead will simply be the busy work that comes from implementing unit testing. We've reached end stage development. The tendency in game development is to work overtime and grind many new features into the game near the end. We'll have to combat this urge and make sure the game is functionally sound without any irrelevant additions to gameplay.

Current Sprint Details

User Story 1

As a User, I want a fill the bar game mode that pits players against each other, each time a player steals time, the time instead fills a bar with the player's corresponding color. By the end of the match, whichever player stole the most time wins!

#	Task Description	Estimated Time	Owner
1.	Implement game controller, the logic of the game.	8 Hrs	Michael
2.	Create a victory screen to show the users the winner of the match.	4 Hrs	Mehran
3.	Implement the transition from the end of the match to the menu.	3 Hrs	Michael
4.	Test the logic of the game controller for fill the bar.	5 Hrs	Michael

Acceptance Criteria:
- Given that the game mode for fill the bar is set up, when the users starts the game, then they will win the game if their player collects the most time.
- Given that the transition from the end of the match to the menu is implemented, when the match ends, then the user will be able to see a transition to the menu.
- Given that the victory screen is created, when a user wins the match, then they will visually see it on the screen (and can brag to their friends).
- Given that the tests are created, when a developer runs the tests, they will be able to verify that it the logic works correctly.

User Story 2

As a User, I want a capture the flag game mode that pits two teams of players against each other. Each team attempts to grab a flag from one side of the map and bring it back to their base. Doing so will steal a large chunk of time from the enemy team. Last team surviving wins.

#	Task Description	Estimated Time	Owner
1.	Implement game controller, the logic of the game.	8 Hrs	Brian
2.	Create a victory screen to show the users the winner of the match.	4 Hrs	Brian
3.	Implement the transition from the end of the match to the menu.	3 Hrs	Brian
4.	Test the logic of the game controller for capture the flag.	5 Hrs	Brian

Acceptance Criteria:
- Given that the game mode for capture the flag is set up, when the users starts the game, then they will win the game if their team is the last ones standing.
- Given that the flag capturing mechanic is set up, when the a user's team captures the flag, their team's time will go up while the opposing team's goes down.
- Given that the transition from the end of the match to the menu is implemented, when the match ends, then the user will be able to see a transition to the menu.
- Given that the victory screen is created, when a user wins the match, then they will visually see it on the screen (and can brag to their friends).
- Given that the tests are created, when a developer runs the tests, they will be able to verify that it the logic works correctly.

User Story 3

As a User, I want to see finishing visual touches on the game.

#	Task Description	Estimated Time	Owner
1.	The time left in the HUD should also include a radial circle to indicate the time remaining.	2 hrs	Elijah
2.	The player's current time distortion should be indicated in the HUD.	2 hrs	Elijah
3.	Transitions between scenes should be gradual rather than abrupt, possibly fading in and out.	3 hrs	Harrison
4.	Animation indicating player was hit.	3 hrs	Harrison
5.	Animation indicating player performed a backstab.	1 hrs	Harrison
6.	Testing the animations and transitions.	2 hrs	Harrison

Acceptance Criteria:
- Given that the radial circle for player time remaining is implemented, when a user is close to dying, then they will know.
- Given that the player's current time distortion is indicated in the HUD, the player will be able to visually read and know their current time distortion.
- Given that the transitions between scenes are gradual, the transitions between scenes will be less abrupt.
- Given that the backstab animations have been created, when a player hits another in the back, then the new animation will be shown.
- Given that the player hit animations have been created, when a player is hit the player will know.

User Story 4

As a User, I want to be able to hear the actions in the game. I also want to enjoy background music in various sections of the game.

#	Task Description	Estimated Time	Owner
1.	Implement Menu Audio	4 hrs	Michael
2.	Implement Gameplay Music	6 hrs	Michael
3.	Implement sound effects for all player actions	4 hrs	Harrison
4.	Implement sound effects for powerup pickups	2 hrs	Harrison
5.	Implement a victory tune for the end of the match.	2 hrs	Michael
6.	Hallway testing to make sure that the music is enjoyable.	2 hrs	Michael

Acceptance Criteria:
- Given that the menu audio is implemented, when the user is interacting with the menu, then they will be engaged with the game.
- Given that the gameplay music is implemented, when the user is playing the game, then they will feel immersed.
- Given that the sound effects for all player actions are implemented, all players will hear sound effects when actions happen.
- Given that sound effects for powerup pickups are implemented, all players will hear sound effects when powerups are picked up.
- Given that the victory jingle is implemented for the end of the match, all players will hear a victory jingle when the match ends.

User Story 5

As a User, I would like to have more function in game-setup menu. I would like to be able to change teams and change players' colors.

#	Task Description	Estimated Time	Owner
1.	Implement team selection function	5 hrs	Han
2.	Implement color selection function	4 hrs	Elijah
3.	Testing different selection functions	3 hrs	Han

Acceptance Criteria:
- Given that team selection is implemented, when players is at the game setup menu, then they are able to selection the team they would like to join.
- Given that the dropdowns to change colors for players is finished, when the dropdowns are modified, then the users will see the changes to the players in game.
- Given that testing for the game-setup menu is done, we will be able to ensure setup menu functionality supports switching color and team of the player.

User Story 6

As a User, I would like a manual that teaches me how to play the game.

#	Task Description	Estimated Time	Owner
1.	Create a pdf that can be accessed from the game.	3 hrs	Harrison
2.	Describe how to navigate the menu.	2 hrs	Harrison
3.	Describe how to perform each player action	2 hrs	Harrison
4.	Describe what each powerup does.	1 hr	Harrison
5.	Describe what each time distortion does, and how to use it effectively.	1 hr	Harrison
6.	Describe each of the different maps.	1 hr	Harrison
7.	Describe each of the various settings that can be changed.	1 hr	Harrison
8.	Hallway testing to make sure it is understandable.	1 hr	Harrison

Acceptance Criteria:
- Given that the pdf is game accessible, when the user selects to open the manual, then the pdf should be loaded up in a new window.
- Given that each aspect of the menu has been described, when the user reads the manual, then they should have a thorough understanding of how the game works.
- Given that hallway testing is in progress, when a random person reads the manual, they should be able to play the game with ease.

User Story 7

As a User, I would like to have a dynamic map with islands and bridges.

#	Task Description	Estimated Time	Owner
1.	Design the map using tiles	3 hrs	Han
2.	Add colliders to objects on the map	3 hrs	Han
3.	Add dynamic movements and scripts for moving objects	5 hrs	Han
4.	Testing the map and dynamic collisions in it.	4 hrs	Han

Acceptance Criteria:

- Given that the map is designed, when the user selects the map, then they will see a unique aesthetic.
- Given that the colliders are implemented, when a player hits a wall, then they will be stopped.
- Given that movement scripts have been applied, when the user loads the map, then various objects in the map will move in a predictable pattern.
- Given that the testing is implemented, when tests are run, then they will uncover bugs in the code.

User Story 8

As a User, I would like another dynamic map with rotating walls.

#	Task Description	Estimated Time	Owner
1.	Design the map using tiles	3 hrs	Elijah
2.	Add colliders to objects on the map	3 hrs	Elijah
3.	Add dynamic movements and scripts for moving objects	5 hrs	Elijah
4.	Testing the map and dynamic collisions.	4 hrs	Elijah

Acceptance Criteria:

- Given that the map is designed, when the user selects the map, then they will see a unique aesthetic.
- Given that the colliders are implemented, when a player hits a wall, then they will be stopped.
- Given that movement scripts have been applied, when the user loads the map, then various objects in the map will move in a predictable pattern.
- Given that the testing is implemented, when tests are run, then they will uncover bugs in the code.

User Story 9

As a User, I would like an in-game menu.

#	Task Description	Estimated Time	Owner
1.	Create the art for the menu.	2 hrs	Mehran
2.	Register the handler for a specific key to open the menu and close it.	2 hrs	Mehran
3.	Create an exit functionality to go back to main menu.	2 hrs	Mehran
4.	Create a settings functionality that allows on the fly change to certain settings, such as volume.	2 hrs	Mehran
5.	Testing the in-game menu in different maps and game modes.	4 hrs	Mehran

Acceptance Criteria:
- Given that the art for the menu is created, when the player sees the in-game menu, then they will know that an interrupt in the game flow has happened.
- Given that the register handler for a specific key to open the menu and closed it is implemented, when the user presses the specific key, then they will expect to interrupt the game.
- Given that an exit functionality is created to go back to main menu, when the user interacts with the exit functionality, the scene will switch to the main menu.
- Given that the settings is created, when the button is clicked, then options to change the music volume, sound effects volume, etc. will be available to the user.
- Given that testing for the in-game menu is done in different maps and game modes is done, we will be able to ensure smoother in-game menu functionality in different game modes and different maps.

User Story 10

As a User, I would like the option to end a tied game in a sudden death rather than a draw.

#	Task Description	Estimated Time	Owner
1.	Modify the free for all gamemode types to account for sudden death.	3 hrs	Han
2.	Modify the team game mode types to account for sudden death.	3 hrs	Han
3.	Adapt the fill the bar gamemode to account for sudden death.	2 hrs	Han
4.	Create a visual effect to let the user know that a sudden death is taking place.	3 hrs	Brian
5.	Create tests for sudden death scenario.	3 hrs	Brian

Acceptance Criteria:
- Given that the free for all gametypes have been modified, when two players die at the same time, then they will be revived in sudden death.
- Given that the team game mode types have been modified, when an even amount of players on each team dies at the same time, then create a fair sudden death for each team.
- Given that the fill the bar gamemode has been modified, when two players collected the same amount of time, then have the two players fight to the death.
- Given that the visual effect has been created, when a sudden death occurs, then the users will know.

User Story 11

As a User, I want to change the game before it starts with settings.

#	Task Description	Estimated Time	Owner
1.	Implement slider to change music volume.	2 hrs	Elijah
2.	Implement input selection function.	2 hrs	Mehran
3.	Implement slider to change sound effects volume.	2 hrs	Brian
4.	Implement slider to change players' starting time.	2 hrs	Elijah
5.	Implement button to enable/disable for power ups.	3 hrs	Elijah
6.	Implement a testing script to ensure that values are changed.	4 hrs	Harrison

Acceptance Criteria:
- Given that the slider to change music volume is implemented, when the user changes the slide, then the game's music volume will adjust accordingly.
- Given that input selection is implemented, when players is at the setting menu, then they are able to change between control inputs for each player.
- Given that the slider to change sound effects volume is implemented, when the user changes the slide, then the game's sound effects volume will adjust accordingly.
- Given that slider to change players' starting time is implemented, when the user changes the slider , then in the game all players' will have a different starting time.
- Given that the button is implemented to enable/disable power ups, when the user interacts with this button, then they will have or not have power ups in the game when playing.

User Story 12

As a User, (upon picking up the respective powerup) I want to be able to reverse time for a small period and area (backtrack).

#	Task Description	Estimated Time	Owner
1.	Implement the reverse time powerup.	2 hrs	Brian
2.	Create the art and animation for the affected area.	3 hrs	Mehran
3.	Add the collision detection for the affected area.	1 hrs	Mehran
4.	Implement the logic of reverse time distortion.	4 hrs	Mehran
5.	Testing the reverse time distortion.	4 hrs	Mehran

Acceptance Criteria:
- Given that the reverse time powerup is implemented, the distortion for the respective player will change to the reverse time distortion type.
- Given that the art and animation for the affected area is created, the users will be able to see a change in art and animation within the affected area after the distortion is used.
- Given that the collision detection for the affected area is implemented, collisions within the affected area will be registered and detected.
- Given that the logic of the reverse time distortion is implemented, the reverse time distortion will operate according to the logic of the reverse time distortion.
- Given that testing for reverse time distortion is done, we will be able to ensure a less buggy and error-prone reverse time distortion.

TIME TABLE WORKLOAD AND TOTAL (In Hours)

Harrison	Mehran	Brian	Han	Michael	Eli	TOTAL
31	30	30	31	30	30	182

Remaining Backlog

Functional Requirements

1. ~~As a player, I would like to chain melee attacks into a combo for more dynamic gameplay.~~
2. ~~As a player, I would like to have a ranged attack, that costs time to "throw."~~
3. ~~As a player, I would like to charge my attack to use the ranged throw, this would stop movement.~~
4. ~~As a player, I would like to be able to aim while charging the attack.~~
5. ~~As a player, I would like to have a backstab mechanic in which a player can inflict/take more time when meleeing another player from behind.~~
6. ~~As a player, I would like to be able to dash through attacks/arrow from ranged weapons.~~
7. ~~As a player, I would like to distort time in a radius around me to add a twist/challenge to those fighting me (costs extra time).~~
   Powerups:
8. ~~As a player, I would like to pick up power-ups that allow me to further explore the idea of time, by permanently changing my time distortion mechanic.~~
9. ~~As a player, I would like the default time distortion to slow the time around me.~~
10. ~~As a player, I would like to have a power-up that changes my distortion to speedup time.~~
11. ~~As a player, I would like to have a power-up that changes my distortion to freeze time around me.~~
12. ~~As a player, I would like consecutive identical distortion power-up pickups to multiply the effect of the distortion.~~
13. ~~As a player, I would like a power-up that slows time.~~
14. ~~As a player, I would like a powerup that changes my distortion to rewind time.~~

15. ~~As a player, I would like a one-time pick-up that increases my remaining time.~~
16. ~~As a player, I would like a HUD text indicator to show my time remaining.~~
17. ~~As a player, I would like a radial circle to indicate the time remaining.~~
18. ~~As a player, I would like to play with my friends.~~
19. ~~As a player, I would like to play with at least three friends.~~
20. ~~As a player, I would like a sudden death implementation when there is a tie.~~
21. ~~As a player, I would like the sudden death mode to have less time than standard as well as the removal of the time steal mechanic.~~
22. ~~As a player, I would like to play against my friends or strangers.~~
23. ~~As a player, I would need to steal "time" from other players, creating competition and survival instincts to occur between players.~~
24. ~~As a player, I would like to differentiate myself from the people I am facing visually using customization options or character options.~~
25. ~~As a player, I would like to know when I am about to die (via visual indicator).~~
26. ~~As a player, I would like to have a option menu for game mode values.~~
27. ~~As a player, I would like to switch teams between players.~~
28. (If time allows,) As a player, I would like to vote for the next game mode/map.
     Game modes:
29. ~~As a user, I would like a game mode that pits players together in a deathmatch free for all, last player standing wins.(FFA)~~
30. ~~As a user, I would like a game mode that pits two teams against each other in a deathmatch to run the other team's cumulative time out. (TDM)~~
31. ~~As a user, I would like a game mode in which players play to capture the most time from different points on the map in a king of the hill style game. (KOTH)~~
32. ~~As a user, I would like a game mode that causes stolen time to instead fill up a U.I. bar in the player's color. The player who contributed the most after the bar is filled wins, infinite respawns (after timeout). (FTB)~~
33. ~~As a player, I would like to be able to select game modes that has players capture flags to homebase. (CTF)~~
34. ~~As a user, I would like a vanilla gamemode FFA without any powerups.~~
35. (If time allows,) As a user, I would like to own a large quantity of seconds to use as currency.

36.   If time allows, I would like to play an adventure mode that has a story line.(Adv)
37.   If time allows, I would like to have a lobby to organize online play.
38.   If time allows, I would like to be able to integrate online and local play.
39.   If time allows, I would like a reward for successive wins.
40.   If time allows, I would like to play the game on different platform.
41.   If time allows, I would like to play with/against with players from different platform.
42.   If time allows, I would like the game be able to record my match history.
43.   If time allows, I would like to save my single player game process.
44.   If time allows, I would like to use time as a currency to buy rewards, such as randomized cosmetic items.
45.   If time allows, I would like to pair against strangers online.
46.   If time allows, I would like to pair with strangers online.
   Kits:
47.   If time allows, I would like to choose between multiple characters with different "kits."
48.   If time allows, I would like to have each character look aesthetically different.
49.   If time allows, I would like to have a character that starts with more time, but moves a bit slower.
50.   If time allows, I would like to have a character that moves faster, but steals less time from other players.
51.   If time allows, I would like to have a character that steals more time from other players, but starts with less time.

(Non-Functionals are on the following page)

Non-Functional Requirements

1. ~~As a player, I would need to move consistently and one to one with my inputs with lowest input delay possible. (Response time)~~
2. ~~As a player, I would like the game's interface to be easy to pick up but difficult to master. (UI)~~
3. ~~As a player, I would like to have a melee attack that feels like an attack that has impact; action and reaction sort of animation or visual effects.~~
4. ~~As a player, I would like the game to be very responsive(low response time) because it's a real time video game.~~
5. ~~If time allows, I would like the game to have a wide selection of maps.~~
6. If time allows, I would like the game to have a custom map creator.
7. If time allows, I would like the game to have an adventure co-op mode.
8. If time allows, I would like the game to have war fog or limitations on vision of the player.
9. If time allows, I would like the game to have a floodlight/blind mode of gameplay mixed with a split screen form of gameplay.
10. ~~If time allows, I would like the game to have more than one game mode or custom lobby type.~~
11. If time allows, I would like the game to have a sparklight mode of gameplay where the player can only see around the character when the character performs an attack on a nearby object or player.
12. If time allows, I would like the game to look sleek and smooth in its animations and art style.
13. ~~If time allows, I would like the music and sound effects to really immerse me in the game.~~
14. ~~If time allows, I would like the game to have scalability of the UI for different platform. (Usability)~~
15. If time allows, I would like the game to have colorblind mode. (Accessibility)
16. If time allows, I would like the game sessions and player files to be safe and secure so that the game is not vulnerable to hacking. (Security)