Brick Tag

Brick Tag is a “Capture the Flag”/”King of the Hill” type game where the goal is to get a flag and hold onto it longer than any of the other players. What makes this game unique is that it is a 2-D side-scrolling platformer, similar to Super Mario Bros. As the player, you will compete against up to three other players and the player with the most points at the end will win the game. Each player will also be given a certain number of blocks to begin each level, these blocks can be placed adjacent to the player in any direction, so long as there is space. In order to gain more blocks, the player will need to destroy their own or other players’ bricks by jumping underneath them. In order to obtain the flag, the player needs to run into the flag or the player holding the flag. If the player loses the flag to another player, the player originally holding the flag will not be able to regain the flag for a set amount of time. Whilst a player is holding the flag they will not be able to place or destroy bricks making the game a more balanced experience for all the players. The players will also be able to find random power-ups throughout the world hidden in blocks similar to Super Mario Bros.

UI

There will only be a few things on the HUD: how many bricks the player has, the players’ score, if a player has a power-up, and the timer on the level. As a high-bar item, discussed later in the high-bar section, there may be a live leaderboard showing the score of all the other players in the game.

Entities

The entities in the game will include the bricks, the flag, and the players.

Bricks

The bricks in the game will act as a block so the players cannot go through them. Since the players themselves are placing them they are there to both aid and hinder players. Players will be able to place bricks on the ground in front of them or behind them, and if they were to jump up then they can place the brick beneath them. The player holding the flag, however, will not be able to place the bricks. There will only be a set number of bricks on the map at one time. The only way a player can get more bricks is to destroy bricks that have already been placed. In order to destroy a brick, the player needs to go underneath it and jump up into it.

Special bricks will randomly spawn on the map. When these bricks are broken, the player who destroyed it gains a power-up.

The Flag

The flag will “stick to” any player that touches it. The one exception to this is if a player loses the flag they will not be able to regain the flag for a set amount of time. While a player is holding the flag, they will be gaining points towards their total.

The Player

The player will be the entity controlled by the person at the computer. The player entity will have to deal with gravity and impassable obstacles.

Sticking Points (potential obstacles)

- ☐ Making sure code is clean and separate for clarity within the group
- ☐ Efficient tile mapping & player tracking system (performance-wise)
- ☐ Proper separation of files for transitioning to networking
- ☐ Networking capability
- ☐ Networking latency

Development Strategy

The development strategy is to have a list of items that need to be done and each group member will take a new item once they finish their old one. With this, there will be a discussion on what tasks are more important than others. There will be no prior code other than the JIG and Slick libraries.

Initial work allocation:

Colton will focus on network functionality
Brain will focus on game development
Josh will focus on game development

11/15/2021 (**hard goal**)
[Milestone 1] Basic tile movement within tile map & network connection established

11/22/2021 (soft goal)
[Milestone 2] Refined character movement (including gravity) in scrolling tilemap & partial network integration/testing

11/29/2021 (soft goal)
[Milestone 3] multiplayer functionality (with network/game adjustments to ensure smooth gameplay over network) & additional game features such as powerups/points/block placement

High Bar Items

- ☐ Advanced power-ups - power-ups that do a bit more than basic number changes (one idea was to have a bird that would chase your enemy & daze them)
- ☐ Death system - not required for basic gameplay but would return the player to a “spawn point” upon death
- ☐ Player brick claiming - players will be able to break and claim bricks to increase the amount they own, this would then allow them to place more in the world

Low Bar

- ☐ Server/Client system - A system will need to be created for the players to play together on separate computers
- ☐ Tile-based map - A map will need to be created for the game to be played on
- ☐ Scrolling world - the map will be designed to scroll left & right for the players to navigate
- ☐ Art - Pixel art for each player, the bricks, and the flag will need to be created or found
- ☐ Physics - The players will need to adhere to gravity
- ☐ Point System - track player points to determine a winner
- ☐ Objective - functioning chase item (flag for example) that the players will compete to control for points
- ☐ Player movement - players will need to have control of an in-game character that moves and feels smooth to play
- ☐ Player brick placement - The players will need to be able to place bricks in the tile map & start with a set amount that they can place
- ☐ Player jumping - this will take advantage of gravity to implement a jumping system for the player when the spacebar is pressed
- ☐ Power-ups - items in the game that have special effects when claimed

Draft Complexity Rubric

Scrolling World	20
Platforms and Gravity	30
Multiplayer	10
Networking	50
Power-ups	10
Total	120