

Kids on the Bus

Design Document

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Introduction

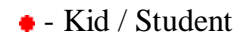
Kids on the Bus is a one to four player online game that places each player in the role of a bus driver who is delivering kids to school in a neighborhood setting. Steering their vehicles around the neighborhood, players focus on gathering students to deliver to the school for points. Difficulty may vary depending on the time limit for the match, as well as the max amount of points required to win. In a multiplayer setting, the player with the most amounts of points at the end of the time limit wins the match.

While seemingly simple, the game intends to offer a few distinct methods for players to strategize to maximize their score gathering, as well as deny other players points. The game will boast basic vehicle steering controls that allow the player buses to drive, reverse, and turn accordingly. The game will further have a number of collision components that will allow the buses to effectively collide, knock-back, and bounce against other objects. Since players need to position themselves and reduce their speed to gather students into the bus, other players can take advantage of the physics to interact with other players in manners that might send the other bus spinning in an exaggerated manner, allowing them to steal the possible points. Also, by running into other player buses, it will be possible for players to force other buses to ‘drop’ students that can then be recollected.

Evidently, the direction of the game is meant to be comical and exaggerated. Buses will be able to collide and knock-back with other buses, vehicles, and characters. However, aside from undergoing the forces applied, the vehicles and characters will not undergo any further changes aside from re-pathing to the nearest appropriate area. Therefore, part of the game’s appeal relates to the amusement of competing against other players in an environment that encourages players to drive around, collect points, and interact with each other in a simple environment.

Gameplay

The game will be played from a top-down perspective. Due to the reality that the members working on the project are not from artistic backgrounds, most of the visuals will be simple and confined to a number of defined shapes. While buses, other vehicles, and houses may be drawn out for viewing purposes, grid tiles and student sprites may simply be squares and circles that are color coded.



During actual gameplay, each player is only responsible for movement controls mapped to the WASD keys. W and S will allow the player to move forward or reverse, while the A and D keys will enable them to steer and turn the vehicle. In game visuals and animations may eventually serve to provide indication concerning when a player is moving forward or backward. This information may be useful for other players seeking to navigate around other buses.

Goal of the Game

The goal of the game primarily involves allowing players to compete against each other in order to collect the most amounts of points within a given time limit. However, in the event of only having one player, the player will have a maximum goal to reach during gameplay. While the game is much more focused on its multiplayer aspects, the single player component will be available for testing and limit purposes, allowing anyone to enjoy to core gameplay without the need for other players.

In order to win the game, the players must navigate around the small map and locate Kids positioning around sidewalks and yards. By entering within their vision range, as well as slowing down a certain amount, the player can trigger the response of the Kid(s). Once slowed down enough and within range, the bus doors will open and the characters will attempt to pathfind to the bus doors, increasing the bus population count as they enter the doors. If the bus reaches its

maximum, further Kid(s) will not be allowed to jump on board, and will no longer react to the bus.

At that point, the player must find their way to the school area, stopping within the front of the school to drop off the students, thus gaining points for each student delivered. At the end of the time limit, the player with the most points is declared the winner, and gameplay returns to the lobby area.

Kid Information

Throughout the game, Kid characters will appear throughout the map, allowing the players multiple options in terms of deciding which areas of the neighborhood to search around. Each Kid will share a set amount of similar behaviors, however various types will be color-coded and be distinguished by specific varying traits.

- Standard Kid
 - Appears from house
 - Walks to sidewalk
 - Waits for bus
 - May appear in groups
 - Will pathfind to nearest sidewalk if dislocated
 - Worth normal point value
- Sleeper Kid
 - Appears from house
 - Walks to sidewalk
 - Waits for a set amount of time
 - Returns to house if not picked up in time
 - Will pathfind to house if dislocated
 - Worth high point value
- Walker Kid
 - Appears from house
 - Pathfinds to school

- Will continue pathfinding to school is dislocated
- Worth high point value

Bus Collision Features

Throughout the game, players can take advantage of the light physics to interrupt each other in order to fight for points. This means that by interacting with other buses or characters they may be able to dislocate them from the area. Furthermore, on static collisions such as houses, the bus may undergo a bounce off of the objects.

Each bus will have an integrity meter that starts at a max. Through testing, this may or may not be visible to all players. Depending on the force of collisions with any objects, the integrity meter will decrease accordingly. After a delay of not colliding with objects, the meter will begin gradually filling back up. If the meter goes below zero, the meter is returned to its max and the remainder is further decremented. At that point, if the player has any Kids on board, they will then proceed to drop a set amount, likely one or two, that can then be recollected by other players.

Stretch Goals

Some aspects of the project have been cut to maintain scope, but in the event of available time and interest, there are some other areas that can be examined to add functionality to the game.

- Minimap
 - Shows locations of Kids on the map
 - Eases search process
- Car Vehicles
 - Cars will pathfind along set lines (roads)
 - Cars will interact with collisions
 - Cars will repathfind if dislodged
 - Cars may potentially drop Kids during collision
 - Car sprite will show if the car has already done so

- Other Kid Types
 - Delinquent
 - Faster than other kids
 - Moves around map randomly
 - Decreases score if they enter the bus
 - Does not count as actual bus population
 - Biker
 - Doesn't attempt to enter bus
 - Through collision, bike can be destroyed
 - Will enter the bus if without bike
 - Worth high point value