1.4 Programming Technicals

1.4.1 Use Cases

1. Game Objectives

Use Case: Deliver Pizza

Actor: Gamer/User

Basic Flow: Player will be moving around the map going from the restaurant location to n locations. Player will have to deliver pizza within countdown timer. Once delivered the player will gain score and 1 health

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Use Case: Fail to Deliver Pizza

Actor: Gamer/User

Basic Flow: Player will be moving around the map going from the restaurant location to n locations. Player will have to deliver pizza within the countdown timer. If player fails to deliver within the countdown timer, player will lose a life and not gain extra score.

Should we add incentive for delivering pizza after timer runs out? Maybe more punishment the later the pizza is delivered. Like -10 points for every tick or something

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Use Case: Deliver all pizzas

Actor: Gamer/User

Basic Flow: Depending on the difficulty, the player will have to deliver n pizzas to different locations. Upon delivering n pizzas successfully, the game will end, and the player will win and see their final score.

2. Descriptions (layout, UI design)

Use Case: Get Map

Actor: Main

Basic Flow: Main method will load an object map according to the player's corresponding level. KeyID in this case will be the identifier for the map creation.

If the player starts the game the level will be 1. keyID =1.

Alternative Flow: special easter egg map if the user presses the car logo in the middle of the start screen 20 times in a row.

Use Case: Get Characters

Actor: Main Method

Basic Flow: Main method will load an object delivery cars, enemy cars, and rewards onto the map vector.

Conditions: when placing object delivery cars, enemy cars, and reward nodes

-placeCharacter(Map (I,j)),

-placeEnemy(Map (I,k)),

-placeRewards(Map (n,m)), is loaded in the vector[a,b] Map where (I,j) != (I,k) != (n,m)

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3. Technical gameplay

Use Case: Main

Actor: Gamer/User

Basic Flow: User presses start on the game and the game loads with car loaded on a map vector. User will have 3 lives to begin with and the game will end as soon as lives = 0.

Use Case: Moving around the game.

Actor: Gamer/User

Basic Flow: Each level will iterate more destinations at a rate of n + 1. The player can move up, down, right, left around the board. The board will have boundaries depending on their level. It will become more complex (maze like)

Use Case: Player runs into the police enemy

Actor: Gamer/User

Basic Flow: While moving on the map, the player can run into the police. If the player runs into police, the game will end, and a busted screen will pop up.

Use Case: Player Loses All Health

Actor: Gamer/User

Basic Flow: While moving on the map, the player can lose all their life. If the player's health goes to zero by failing to deliver pizzas on time or by running into a spike strip the game will end and a broken car will pop up.

Use Case: Getting Wrench Reward

Actor: Gamer/User

Basic Flow: While moving around the map, the player moves over the wrench reward. Once moved over, player health increases by 1 and the wrench disappears.

Use Case: Getting Clock Reward

Actor: Gamer/User

Basic Flow: While moving around the map, the player moves over the clock reward. Once moved over, 'time stops' and the police car will stop moving and the countdown for the delivery will also stop for a short period and the clock will disappear.

Use Case: Getting Shield Reward

Actor: Gamer/User

Basic Flow: While moving around the map, the player moves over the shield reward. Once moved over, the shield icon disappears and the player is granted temporary immunity from negative rewards and police enemy. Although immune from direct attacks, the player is not immune from losing health for not delivering the pizza on time.

Use Case: Getting Spike Strip Reward

Actor: Gamer/User

Basic Flow: While moving around the map, the player moves over the spike strip reward. Once moved over, player health decreases by 1 and the spike strip disappears. If the player has no health after this happens, the game ends.

Use Case: Getting Speed Bump Reward

Actor: Gamer/User

Basic Flow: While moving around the map, the player moves over the speed bump reward. Once moved over, the speed bump disappears and the player is temporarily unable to move. If the countdown reaches zero or the police catch the player, the game ends.