

## Final Project Proposal

### GROUP MEMBERS:

Ishmal Khalid ik1299

Ayesha Zafar az1866

### OVERALL GAME IDEA:

*Gashti Unlimited* is a 2 player maze game. Both players compete to collect rewards (coins) during the game. The game ends when all the coins are collected or when the health of one of the players equals zero. The player who collects the most coins wins the game. The overgame has 2 modes: [Snow](#) and [Grass](#).

### CONTROLS:

Player 1 is controlled by the LEFT, RIGHT, UP and DOWN arrow keys.

Player 2 is controlled by A, W, D and S.

Mouse is used to select modes and to restart the game.

### GAME FEATURES:

The game begins with the instructions of how to play the game and a menu which allows the user to select a mode of their choice. *Gashti Unlimited* is a 2D maze game in which players, the enemy and the rewards are randomly placed. A sample template of the maze in the field mode is as below:



We will use a clipart of [Ice/Bush](#) to trace this maze. The players will move as the user moves their keys. Initially, both players have full health and coins will be placed in 21 random positions. When a player comes in contact with these [coins](#), a sound effect is produced, his score is incremented and the coin will disappear. There will be a common enemy: [penguin/farmer](#) shooting in all directions. When players come in a certain proximity to the enemy, they lose half of their health. Similarly when players collide with each other, both lose half of their health. Only when players collide with each other, a [health kit](#) is randomly placed somewhere in the maze and the player that comes in contact with the kit first restores his health. The kit is then removed from the game.

### **WIN CONDITION:**

If a player's health is completely exhausted or reduced twice without being restored, he dies and the other player wins. Otherwise, the winner is based on who collects most coins once all coins are collected. Once the game is over, the screen displays the winner and his score. There will be a replay button players can press to replay. The initial screen where the user is asked for the mode they want to play in is displayed.

### **IMAGES:**

1. Player 1: [Penguin](#) [Cow](#)
2. Player 2: [Penguin](#) [Cow](#)

### **TASK DIVISION:**

Ishmal Khalid:

- Create a maze class which would represent the maze based on the template above into a 2D array. Set background and define the coordinates of the pathways and the walls.
- Create a class which defines the number of the objects such as coins and health and their relative positions in the game. The class also includes their properties such as incrementing score and decrementing health.
- Code closing actions such as controlling the game over page. The game ends when all the coins are collected or one of the players has no health left. The score is displayed on the screen along with the option to restart the game.

Ayesha Zafar:

- Create a generic class for characters and subclasses for player 1, player 2, enemies and their respective roles. General attributes include not walking into the ice/grass blocks in the maze and being randomly assigned initially.
- Define the actions of each player when a coin or a health kit is picked up. Picking up a coin increases the score of a player. Picking up a health kit maximizes the player's health but if it is already full, there is no further increase in the player's health and the health kit simply disappears.
- Code initial setup and create the mode choice and initial instructions page. Initial instructions page will ask the user for which mode they want to play in. different modes have different graphics and players, however, the main concept of the game is the same.