# Problem statement and software requirements

Project name: Run and shoot. Group name: D.

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- The Purpose of the game is playing game and have some fun time with friends.
- In the first release of the software we propose a single player game including a dynamic map and a players which can move toward a destination. The map include some moving objects which player should avoid.
- In the final release we intend to add a second player to the game and define different level of difficulties.

#### Game menu (available in first release)

- Add some items to menu, so the player can move between the items and choose one of them. Items are:
  - Single player game
  - Multiplayer game (inactive in initial release)
  - Credit
  - Options
  - Exit
- The menu can be entirely done within consul.

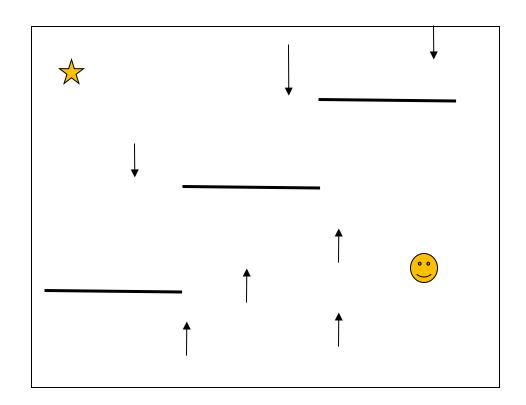
## Single player mode (available in first release)

- Game description
  - Each game has a 2D-map which a player can move inside it reading some keys from the keyboard.
  - The map has 4 edges which act like a wall and the player movement is only defined within these walls and can't go further.
  - The map has a destination point which the player should reach it to wins.
  - There are some places in the map that the player can freely move around and some moving/static barriers which the player cannot move through them and should avoid.
  - There are some random moving bullets/arrows in the map which can hit the player and if any does hit him/her, player loses a score.
  - If player loses all its scores, game is over.

# Single player mode (available in first release)

- A sample map can look like this:
  - Destination 🖈
  - Player
  - Barrier \_\_\_\_\_
  - Arrows

The map is definitely not graphically intensive. It can be done in consoul or at most a very basic canvas.



## Multiplayer mode (only available in final release)

- In this level, we want to add another player to the game .
- The goal is reaching the destination.
- Both players will be able to shoot each other.
- If they can hit each other, the player which is shot will be out of the game and the one who is still in the game should reach the goal.
- The game will over when one player reach the goal.

## Options (available in final release)

- In options tap one can select a specific map from the existing available maps.
  - Map number one
  - Map number two
- Also one can select the game difficulty. When difficulty goes higher, the number and the speed of the arrows will increase.
  - Easy
  - Moderate
  - Hard

#### Credit (available in first release)

• If credit item is selected, a screen should be shown and state designers and contributors' name.

#### • Exit (available in first release)

• If one selects exit tab, the program is done, and game should gracefully close all open windows.

#### Prioritization for first release:

- 1. Define and implement a functional menu.
  - 1. Add menu options and move between options and able to open and close each option.
- 2. Create a simple map.
  - 1. Add map walls and destination.
  - 2. Add map moving barriers.
  - 3. Add random arrows.
- 3. Create the player.
  - 1. Make player moves.
  - 2. Make win if player reaches the destination.
  - 3. Lose 1 score if an arrow hits the player and game over when all scores are used.

#### Prioritization for final release:

- 1. Create the second player.
  - 1. Add player movement.
  - 2. Add the shooting option for the players.
  - 3. Player will lose a score if is shot and will be out of the game if she/he lost all the scores.
- 2. Create options.
  - 1. Create different map.
  - 2. Create different difficulty for the game.

