



ÉCOLE  
**D'INGÉNIEURS**  
PARIS-LA DÉFENSE

# Project Report: Labyrinth

# Introduction

## *The labyrinth*

The labyrinth have a rectangular shape and it is surrounded by walls. We can download a specific shape of the labyrinth by importing a text file. The aim of the game is to escape the labyrinth. There is only one exit, the fighters have to go through it to win the game.

## *The game*

The labyrinth is a grid where each cell can be occupied by a wall, the exit of the labyrinth, a fighter, an object or nothing. When a fighter goes over an object he takes it and his power level increases. When an aggressive fighter is next to an other fighter, he fights him. If the second fighter is not aggressive, he runs away. All the fighters have a life level at 100 points at the beggining and a power level at 10 points. When he attacks, he loses power point. When he is attacked, he loses life point.

## Implemented features

The maze can be initialized using a text file containing 0, 1 and 2. This initialization is protected against wrong-formatted files (width changing, unwanted character ...).

The end of the program is triggered by a fighter moving into the exit special cell.

The object are generated randomly in the constructor but no fabric has been done. They are placed randomly at the start of the game and each time the voice reset (each 5sec).

The fighters are moving through a personnal thread. It has an attribute containing a list of the objects he can get from te ground.

At each tick of the thread, two cases exists :

- The fighter is offensive and looks for ennemy near him, if he found one, he fights him, if not, he moves.
- The fighter is passive and only moves.

If a fighter dies, he is remove from the maze.

Every 5 secondes, a reset happens in the maze, removing all the objects from the fighters and placing it randomly of the empty cells of the maze.

## Missing features

The two fabrics are missing, they have been replaced by a switch case in the constructor.

The fighters are moving randomly in possible direction, they have no artificial intelligence for the moment.