# CRC Design

Classes:
AMazeActivity.java
GeneratingActivity.java
PlayManuallyActivity.java
PlayAnimationActivity.java
WinningActivity.java
LosingActivity.java
a_maze_activity.xml
generating_activity.xml
play_manually_activity.xml
play_animation_activity.xml
winning_activity.xml
losing_activity.xml

## AMazeActivity.java:

Responsibilities: Asks for user's input. Knows maze builder. Knows robot driver. Knows skill level. Determines whether to create a new maze or load a stored maze.
Collaborators: Controller.java which stores information that user puts in. GeneratingActivity.java which uses input from it. a_maze_activity.xml, which arranges GUI contents in the title state.

## GeneratingActivity.java:

Responsibilities: Generates a maze according to input in the previous state. Directs to PlayManuallyActivity.java, if the robot driver is manual driver. Otherwise, directs to PlayAnimationActivity.java.
Collaborators: Controller.java which generates a maze and initializes a robot driver, according to the input stored. AMazeActivity.java, which gives information to this class. PlayManuallyActivity.java and PlayAnimationActivity.java, which uses information in this class. generating_activity.xml, which arranges GUI contents in the generating state.

## PlayManuallyActivity.java:

Responsibilities: Creates a manual driver. Enables users to navigate the driver to exit. Shows map, walls, and the solution. Directs to WinningActivity.java, if the robot gets out of the maze successfully. Otherwise, directs to LosingActivity.java.
Collaborators: Controller.java, ManualDriver.java, BasicRobot.java, which enables the user to control the robot. GeneratingActivity.java which generates a maze for use. WinningActivity.java and LosingActivity.java which uses the outcome of this class (whether the user can get out of the maze). play_manually_activity.xml, which arranges GUI contents in the play manually activity state.

### PlayAnimationActivity.java:

Responsibilities: Creates a robot driver. Enables the robot driver to go to the exit by itself. Shows map, walls, and the solution. Directs to WinningActivity.java, if the robot gets out of the maze successfully. Otherwise, directs to LosingActivity.java.
Collaborators: Controller.java, Wizard.java, Explore.java, WallFollower.java which make the robot automatically go to exit. GeneratingActivity.java which generates a maze for use. WinningActivity.java and LosingActivity.java which uses the outcome of this class (whether the robot can get out of the maze). play_manually_activity.xml, which arranges GUI contents in the play animation activity state.

### WinningActivity.java:

Responsibilities: Shows path length. Shows the shortest path. Shows the energy consumption. Shows congratulation messages.
Collaborators: BasicRobot.java which stores robot information. PlayManuallyActivity.java and PlayAnimationActivity.java, which gives information. winning_activity.xml, which arranges GUI contents in the winning activity state.

### LosingActivity.java:

Responsibilities: Shows path length. Shows the shortest path. Shows the energy consumption. Shows losing messages.
Collaborators: BasicRobot.java which stores robot information. PlayManuallyActivity.java and PlayAnimationActivity.java, which gives information. losing_activity.xml, which arranges GUI contents in the losing activity state.

### a_maze_activity.xml

Responsibilities: arranges GUI contents in the title state.
Collaborators: AMazeActivity.java

### generating_activity.xml

Responsibilities: arranges GUI contents in the generating state.
Collaborators: GeneratingActivity.java

### play_manually_activity.xml

Responsibilities: arranges GUI contents in the play manually activity state.
Collaborators: PlayManuallyActivity.java

### play_animation_activity.xml

Responsibilities: arranges GUI contents in the play animation activity state.
Collaborators: PlayAnimationActivity.java

### winning_activity.xml

Responsibilities: arranges GUI contents in the wining activity state.
Collaborators: PlayAnimationActivity.java

## losing_activity.xml

Responsibilities: arranges GUI contents in the losing activity state.
Collaborators: PlayAnimationActivity.java