

## Topics of choice

The authors have decided to take the topics of game design and working with JSON.

- **Game design:** this consists of designing the board, the buttons and the layout of the menus.
- **Working with JSON:** JSON files are used to store level info, but also to store user's progress and preferences.

## Features

There are many features that the authors implemented, and they were sorted by priority. Priority order (from most important to least important): startup, rendering the board, taking inputs, opening a new board, checking the solution, registering the completion of a level, reading the rules, opening the settings.

### Startup

After the startup, the user has an option to enter the levels menu, enter the settings menu, open the rules or exit the game.

- To enter the levels menu, press "Play"
- To enter the settings menu, press "Settings"
- To enter the rules menu, press "Rules"

### Opening a new board

After entering the levels menu, the user can choose a level to play.

- Press the number of the level that you want to play

### Rendering the board

After choosing a level, a board of that level opens up. The board consists of squares in a square grid. The board is partitioned into regions of equal size. Different regions are of different colours. Some of the cells are already filled in and cannot be changed.

### Taking inputs

The user may insert any number into any empty square. Additionally, it is possible to remove a number from a cell that has been previously filled by the user.

- Select a cell you wish to insert a number to, then choose that number from the number selector on the right and click on the cell.

### **Checking the solution**

After all 36 cells have been filled, the programme verifies whether the given solution of the board satisfies all the requirements. These are explained in the rules menu.

### **Registering the completion of a level**

After the grader has verified the solution, the level is marked as graded and this can be seen in the levels menu.

### **Opening the settings**

In the main menu, the user may adjust some of the settings of the game, such as the volume or the theme of the game.

### **Reading the rules**

In the main menu, the user might want to read the rules of the game before playing. The menu will contain all information about the rules of the game.

The rules of the game are:

- Each region contains distinct numbers.
- Each column contains distinct numbers.
- Each row contains distinct numbers.