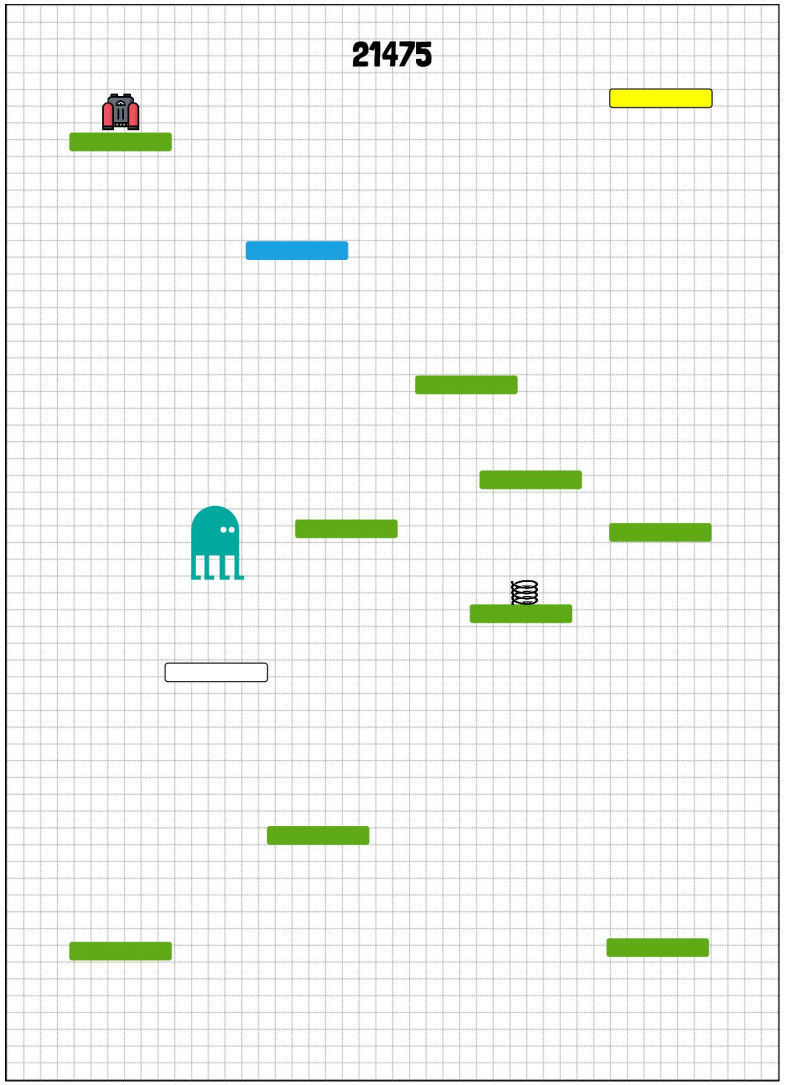
University of Antwerp
Faculty of Science

Project Assignment

Advanced Programming
2021-2022

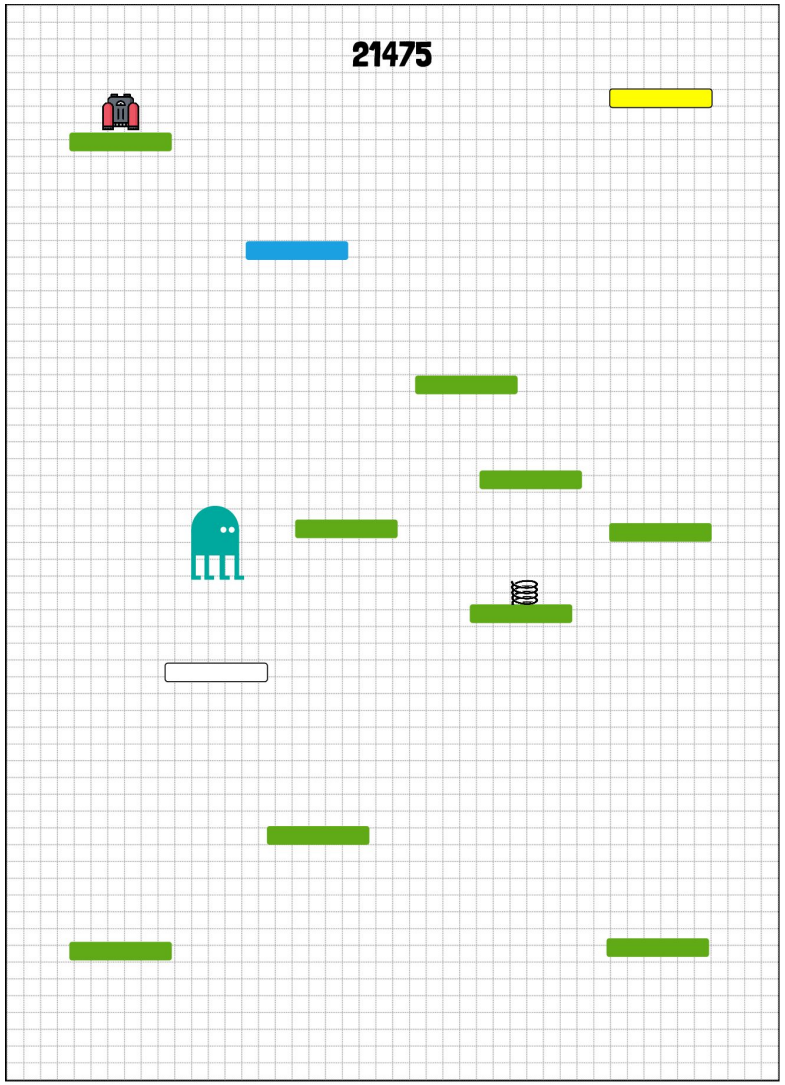
Doodle Jump

- Implement game inspired by Doodle Jump
- Using C++ and SFML
- Focus on good code design and quality



Gameplay

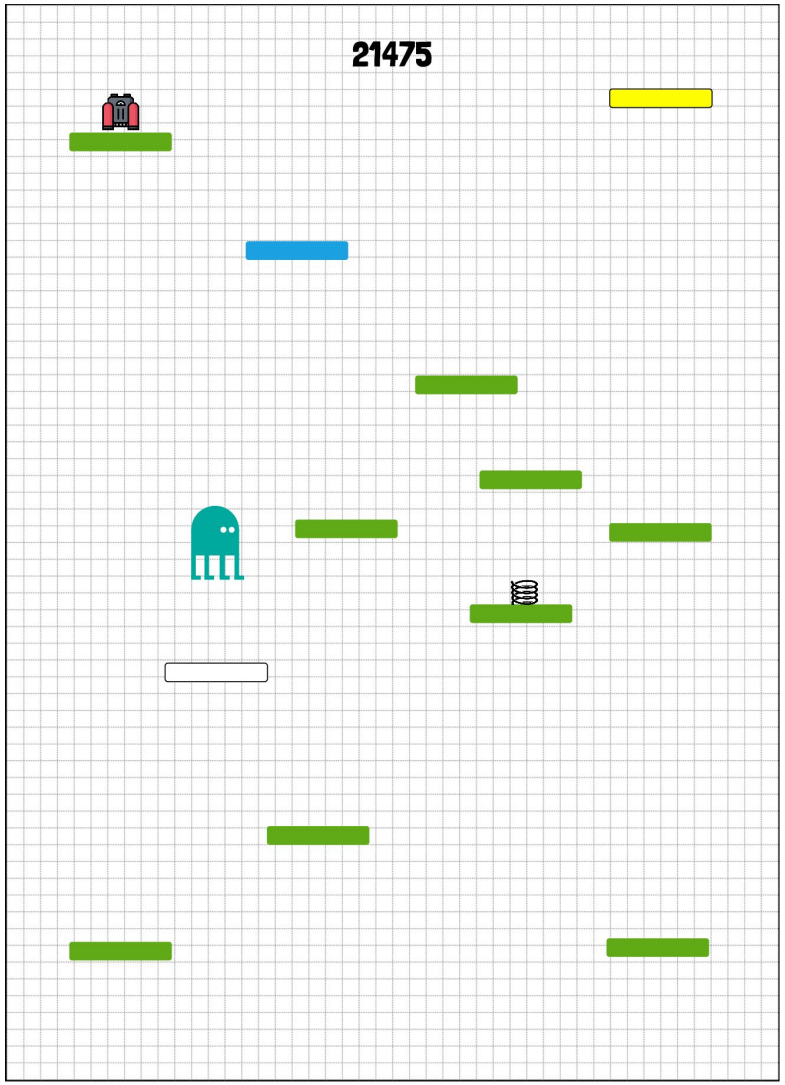
- Automatically jump up and down
- User input to move left or right
- Pass through platforms from below
- Bounce off platforms from above
- Climb as high as possible!
- Infinite world generation
- Camera scrolls up with player



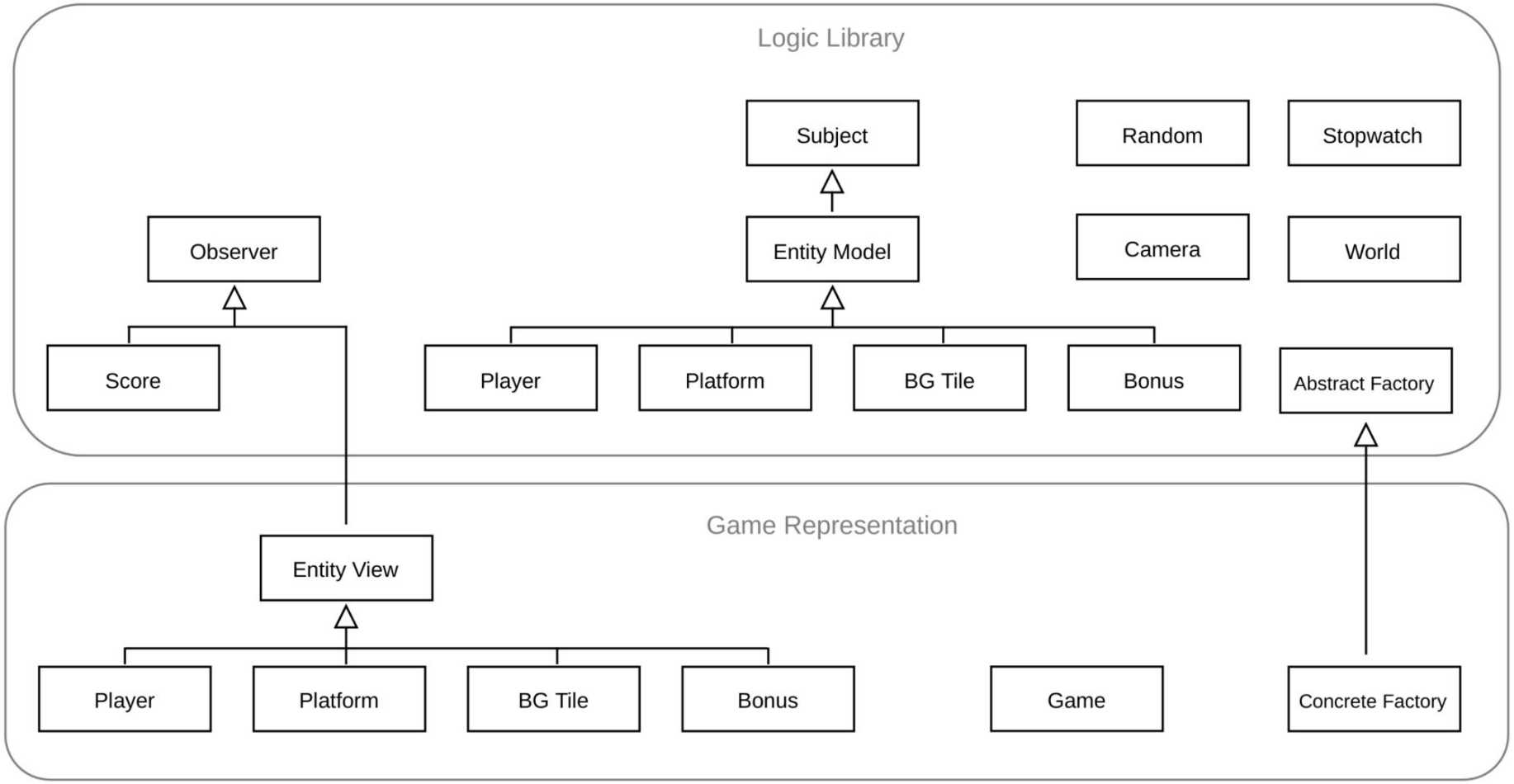
Gameplay

- **4 Different platform types:**
  - Static (Green)
  - Horizontal (Blue)
  - Vertical (Yellow)
  - Temporary (White)

- **2 Different bonuses:**
  - Springs
  - Jetpacks



Design


Logic Library
Subject
Random
Stopwatch
Observer
Entity Model
Camera
World
Score
Player
Platform
BG Tile
Bonus
Abstract Factory
Game Representation
Entity View
Player
Platform
BG Tile
Bonus
Game
Concrete Factory

Required Classes

- Game
- Stopwatch
- Camera
- Random
- World
- BG Tile
- Bonus

Design Patterns

- Model-View-Controller (MVC)
- Observer
- Abstract Factory
- Singleton

Grading

- **40%**: Core game requirements
- **40%**: Good design and code quality
- **10%**: Project defense
- **10%**: Documentation & Report
- **10%**: Bonus points

CI/CD

- Create a **private** GitHub repository and invite *thomasave*
- Set up a CI platform to automatically build your project
  - Instructions for CircleCI listed on the lab session webpage
  - Make sure I can view the build configuration and result
- Final commit must show a successful build on GitHub

Questions

- Are there any questions?
- Post a new thread on the Blackboard forum for the project
- Send an e-mail to Thomas.Ave@uantwerpen.be