## <u>Implementation</u>

Cohort 1, Group 5
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#### LibGDX

- Licence: Apache License 2.0
- Suitability: The Apache License 2.0 is an open-source licence that allows free use, distribution (and modification) of the thing it is on.

## Junit

- Licence: Eclipse Public License 1.0
- Suitability: The Eclipse Public License 1.0 is an open-source licence that allows free use, distribution (and modification) of the thing it is on.

#### Gson

- Licence: Apache License 2.0
- Suitability: Same as other Apache License 2.0

#### Game Assets

- Licence: No licence provided
- Suitability: It states that it can be used for any commercial or non commercial project and may be modified, credit: <a href="https://shubibubi.itch.io/">https://shubibubi.itch.io/</a>

### LibGDX Default Skin

- Licence: Apache License 2.0
- Suitability: Same as other Apache License 2.0

### Craftacular UI Skin for LibGDX

- Licence: CC BY 4.0 DEED
- Suitability: The CC BY 4.0 is a licence that allows free use, distribution (and modification) of the skin, even in a commercial setting, as long as credit is given to the creator of the object under the licence,

credit: https://ray3k.wordpress.com/craftacular-ui-skin-for-libgdx/

#### **Background Music**

- Licence: Pixabay Content License
- Suitability: The Pixabay Content License allows for the free use of content, including modification. As long as the use case complies with certain conditions which this used case does, credit:

https://pixabay.com/music/acoustic-group-in-the-forest-2-21402/

#### User Requirements not complete:

UR\_RECREATION\_RANGE - was not fully implemented as the assessment 1 only required one place to relax so would aim to add in the second phase for example as we have a cinema maybe a sports activity that uses energy to do.

Everyother requirement has been implemented.

# Implementation

# Cohort 1 Group 8

Roy Asiku, Tianqi Feng, Andrew Jenkins, Nicholas Lambert, Tom Byron

### **3rd Party Libraries**

The library that was the basis for our implementation was the libGDX library (<a href="https://libgdx.com/">https://libgdx.com/</a>). It provided crucial functionality for rendering the game and handling logic - it was absolutely necessary for our project. LibGDX is open source, meaning that we were free to use it as we pleased. We used this in combination with the open source Gradle Build Tool (<a href="https://gradle.org/">https://gradle.org/</a>) to build our game. Additionally, we used the JUnit open source library for our software testing as well as the Gson library for loading and storing our building data.

Our used 3rd party assets include:

- A tileset that is stated to be free for commercial and non-commercial use and can be modified: https://shubibubi.itch.io/
- A skin for our game's UI, that is also stated to be free for commercial use and modification as long as credit is given: <a href="https://ray3k.wordpress.com/craftacular-ui-skin-for-libgdx/">https://ray3k.wordpress.com/craftacular-ui-skin-for-libgdx/</a>
- A soundtrack for the game, which is available to be used in a commercial and non-commercial manner as long as it is not standalone: <a href="https://pixabav.com/music/acoustic-group-in-the-forest-2-21402/">https://pixabav.com/music/acoustic-group-in-the-forest-2-21402/</a>

#### **Requirements Review**

We had a very solid base to work on after picking the project up, the previous team had implemented the majority of their requirements. We did however need to finish implementing some requirements from part 1 that they had been unable to finish, as well as add some of our own requirements that we believed that they had missed.

Now, at the end of the project, we have implemented all of our listed requirements from both part 1 and 2, and tried to polish the game as much as possible in the time given. However, there are some requirements that upon review could be interpreted as incomplete or only partially complete. These include:

FR\_ACCESSIBILITY: Although the majority of the game is accessible to most users, there are a few sections of text, particularly the text that appears upon interacting with an activity, that could potentially be too small for users with impaired vision.

NFR\_GAME\_DIFFICULTY: Similarly, this requirement is true for the most part in that an inexperienced user is unlikely to get a very high score on their first run, but is likely to get a passing score upon following tips from the given tutorial. It is however possible, due to the nature of the game, that a new user could get the maximum score on their first run, as it simply involves them pressing buttons, and the tutorial gives the player all the information they need. Although, we believe that this approach is better than throwing the player in without guidance and making them "guess" what they are supposed to do to achieve a high score, as the strategy isn't completely intuitive, and would likely just lead to frustration.