

# Final Project Summary

## National Park Builder

**National Park Builder** is a game application that involves park management along with doing daily tasks which give rewards and virtual guests coming to your park and giving you revenue. Its purpose is to show people and remind them how beautiful these parks are and why they need to visit them more.

**Project** had faced a lot of challenges including: developing our own wrapper for a C++ Library that provided UI components for us, huge transition from one language to another (C++ into Javascript) followed by webpack configuration and React.js famous lib for creating responsive user interfaces in javascript language.

**Spanning** from first up to the second release, we as a team developed the fully functional web based application that mainly aims for entertainment and involvement into National Parks as a whole. During the First release we faced a huge change which was transitioning from C++ environment into Javascript (Web) environment. However, before transitioning happened we had enough time to complete the C++ setup and develop basic Controllers and UI elements. During and after the transitioning, such major parts as UI elements, Controllers, Database and Graphics basic functionality were completed. During the Second release we already had the fully functional web based game application which represented the idea of building from scratch and looking after a virtual park.

**During Testing** we involved such parts of our applications as Database Interactions and UI & Controllers functionality.

All those tests included : Checking stable DB connection, Checking Ticket revenue from guest “coming” action, Getting people ordered by excitement points amount, Setting Last Visit entry of a person after each player game session, Getting all the buildings objects from the DB.

Fortunately all the tests passed and there were no issues and regression testing will be needed only in case of updates or any changes to the code.

**During the Inspections**, we found out that most of our team do need to develop their coding skills in terms of naming conventions, meaningful variable naming and formatting. We as a team conducted that the following changes need to take place:

- Improve variable naming, specifically rename such variables as res1, res2, res3 into something meaningful.
- Add such an amount of comments that clearly shows the purpose of the code.
- All the exception handlers should be added (reject blocks), in order to avoid possible errors in the future.
- Code should be rewritten in a way that describes itself. This change should be made in any possible piece of code as much as needed.

**Regarding Project issues** we came up with the two following ones:

Keeping the customers for longer at each entry to the game.  
Availability to play on mobile platforms (IOS/Android)

We indeed do not actually know the efficient way to keep the customers playing this game for a longer time, as far as we have the following triggers for the player to come back: revenue from being offline, guests coming to the park, daily tasks along with their rewards. Similarly, we do not know whether it is possible and comfortable to extend our game to the OIS and Android platforms, as it may be uncomfortable to play such a game with the current UI that we have for the web.

**Furthermore**, we came up with a following items in the waiting room for this project:

- Developing Better notification system (more interactions)
- Adding Shadows and Textures
- Paying for an entry when visiting other players' island that they set for the other players
- Developing better economy and consistent player progression in game over time.
- Bringing in game items that give a slight boost that players can get from doing tasks and sell on in-game auction to the other players with some fixed price of in-game currency.

**Moreover**, if you want to see the solutions we came up with, please refer to our final report document [page 20]

**To sum up**, all the methods that we used to develop and complete this project did not exceed the regular ones of diving a work and the ones mentioned during the class lectures.