NATIONAL AND STATE PARKS DIRECTORY

Revision Sheet

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Preface

Purpose

To create a clear, concise and modern online park system for users and employees.

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1: Introduction

Executive Summary

Our goal is to create a single, centralized website for all nation and state parks. We plan to ensure that this park system is clear, modern and easy to use by all visitors- guest and employees. We want to increase the interest of users by allowing them to interact with the website and the potential parks they wish to visit by creating a video game that has users excited to be exploring the park. We will provide maps, pictures and tip during their visit to the parks. The website will also allow users to review each park they have visited and share images. If a user wishes to make any kind of payment through the website for donation or violations, they will easily be able to find the payment processing page for each action.

Project deliverables

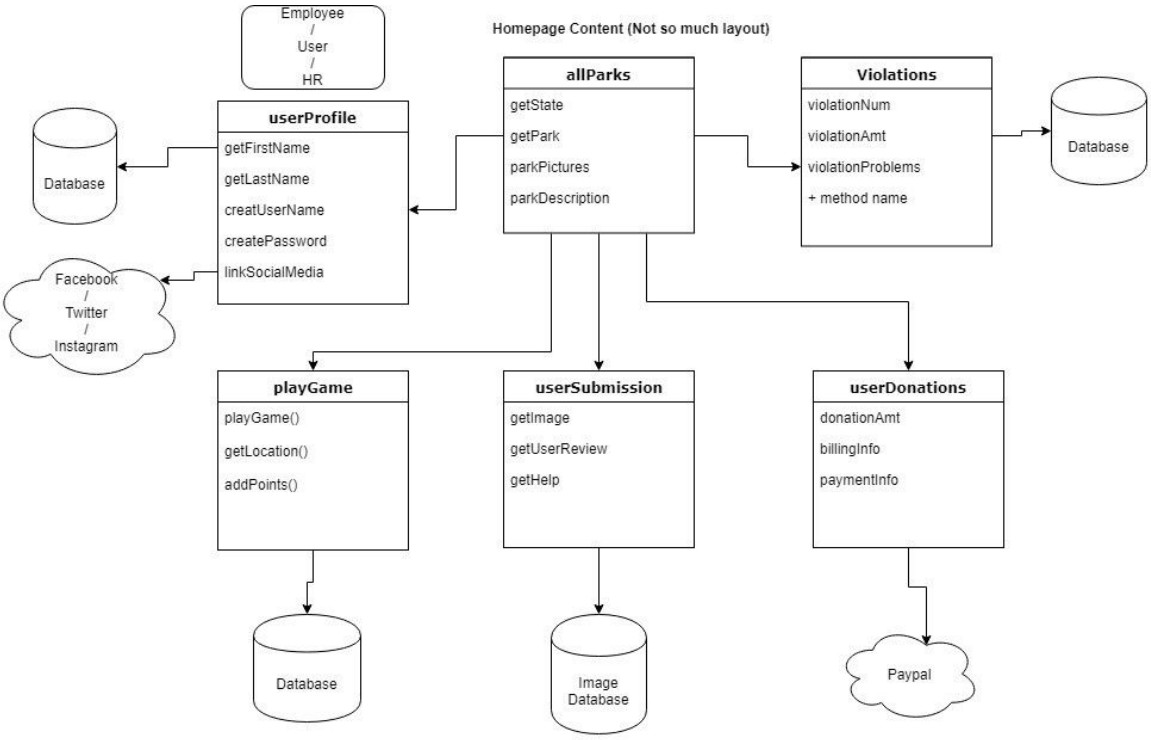
Mar 4 - Mar 10	Create Timeline
Mar 11 - Mar 17	Configure Back End Design Front End Design Game
Mar 18 - Mar 24	Create Homepage Create Databases (Elasticsearch, S3, SQL) Start Game
Mar 25 - Mar 31	Mid Semester Presentation
April 1 - April 7	Flesh out front end design, create barebones pages & website structure Work on website permissions Work on game

April 8 - April 14	Fill in web pages with static info Finish website permissions, start filling databases Work on game
April 15 - April 21	Fill in information based on permissions Finishing touches on back end Work on game
April 22 - April 28	Finish website If back end done, help front end Finish game
April 29 - May 5	Final Testing and Bug Fixes
May 6 - May 12	Deployment, Create Presentation
May 13 - May 19	Final Presentation

2: Project Organization

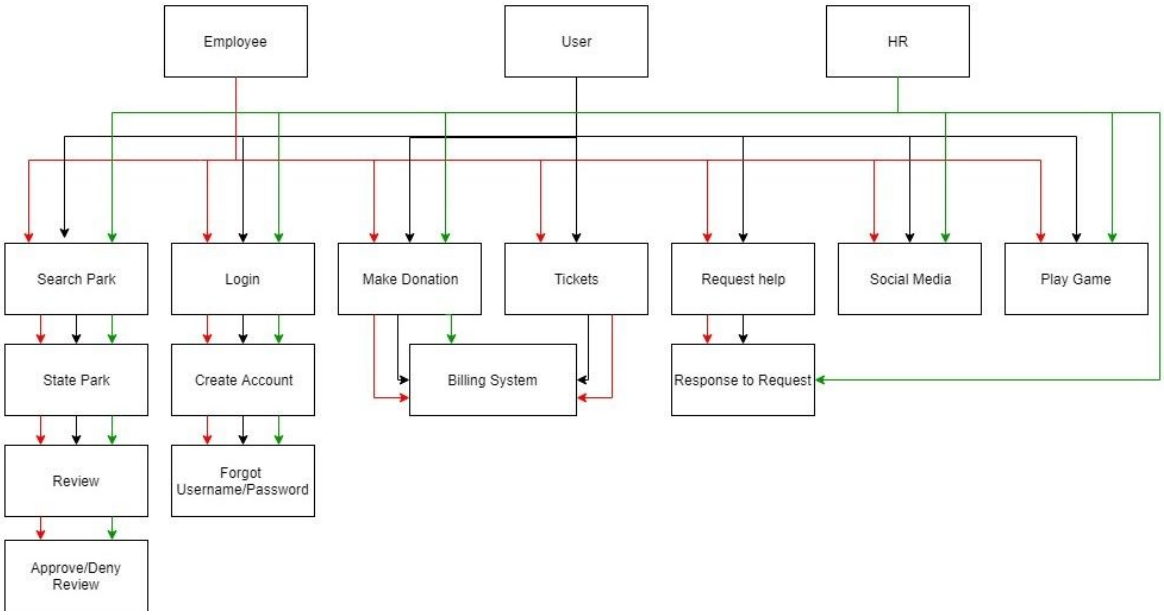
Process Model

Class Diagram:



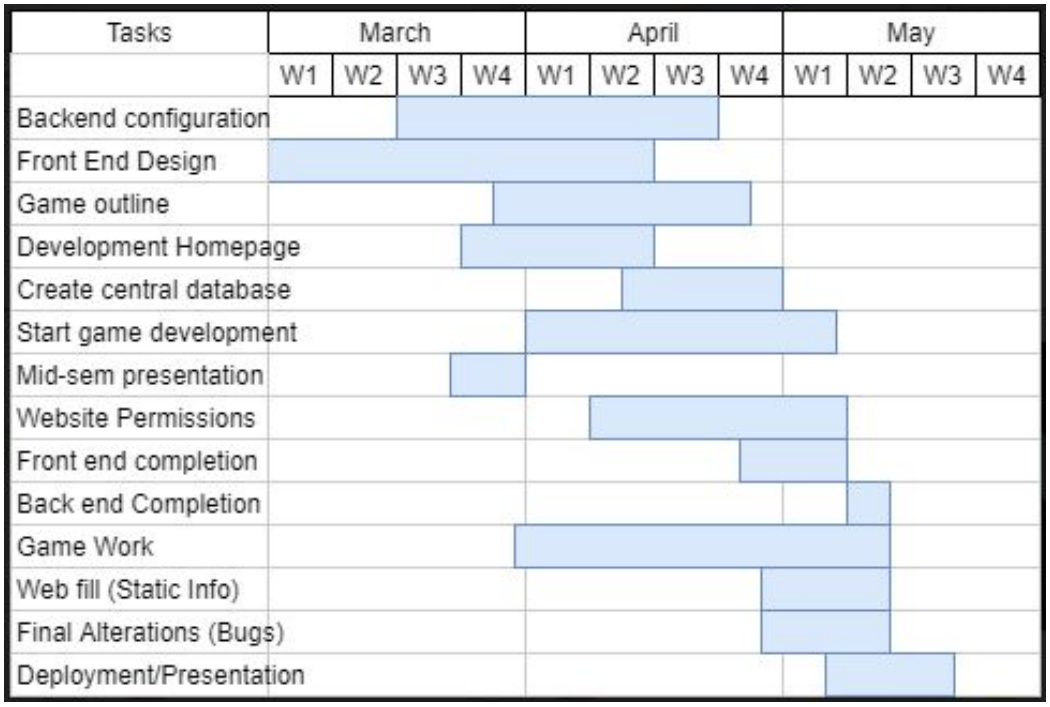
HLA:

High Level Architecture



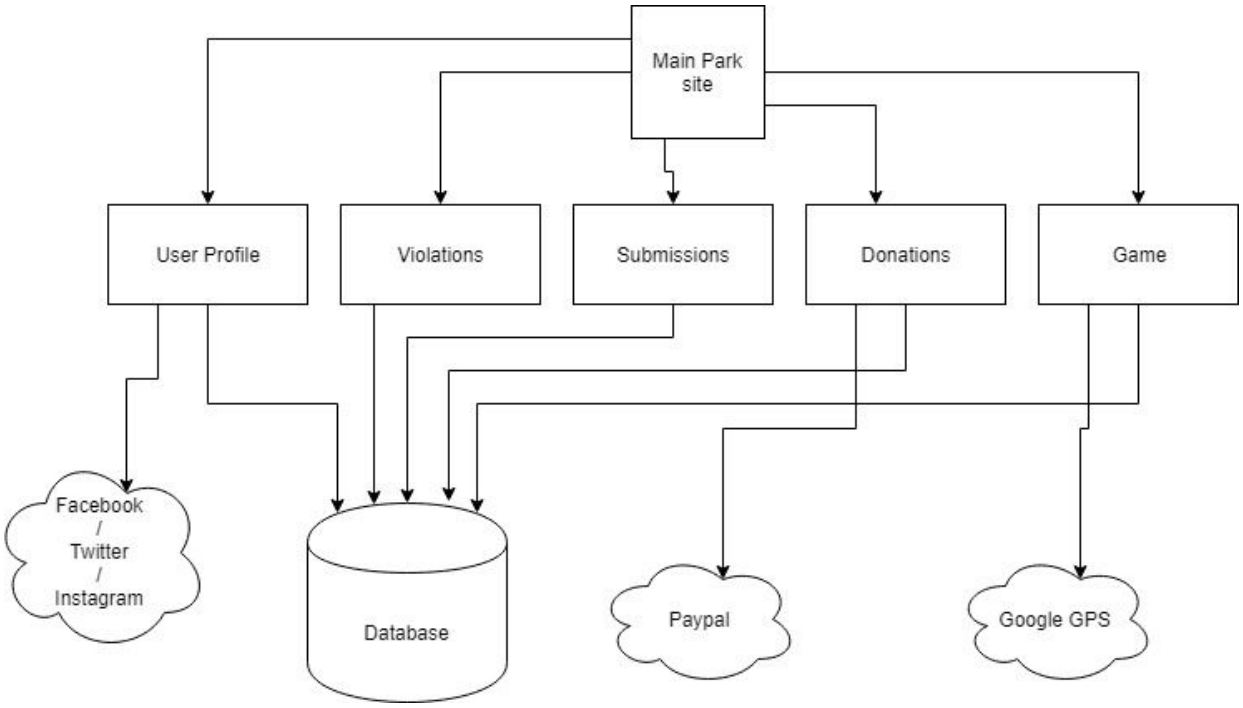
Organizational Structures

Gantt Chart:



Organizational Interface

Interface Diagram:



Project Responsibilities

	A	B	C	D	E	F	G	H
1								
2	Tasks	Chris Good	David Guare	Adam Lynch	Matt Muldoon	Chan Staples	Lily Thongdygnalat	Seth Vinson
3	Backend Configuration							
4	Front End Design							
5	Game Outline & Development							
6	Development Homepage							
7	Create Central Database							
8	Website Permissions							
9	Final Presentation							
10								
11								
12								

3: Managerial Process

Management Objectives and Priorities

Our group's management objectives are to complete the website in an efficient and timely manner and to work effectively as a team, splitting up the work and sharing ideas and solving problems. We plan on including each requirement listed in our requirements document in the website and proceeding chronologically with the website development and implementation requirements. Schedule-wise, we plan on completing our tasks on time and well-before the deadline to allow double-checks of the work and that the group continues to follow proper continuous integration. For our budget, we plan on not spending any money, but if there are expenses involved in completing a task, our group will evenly split the cost.

Assumptions, Dependencies and Constraints

Our project is dependent on a consistent class schedule where we can meet as a group, talk with the "client", and continue to work on the website. Also, our project is dependent on each group member contributing something to the project. If a group member were to leave or refuse to help, our project tasks and schedule becomes jeopardized. Our project is also dependent on deadlines set by the client, work must be completed effectively and on time.

The constraints on our project include time constraints, security constraints, and licensing constraints. The time constraint is the deadlines set in place by the client. The security constraints include setting up HTTPS, encrypting our login database, and preventing unauthorized access to the server and our external databases. The licensing constraints include making sure our templates are public, not using copyrighted images, and not plagiarizing content from other websites.

Risk Management

There are several risk factors to consider for the project. One in particular is licensing risk. In order to avoid making this mistake, our group will ensure that every outside source and product involved with the project is properly cited and used appropriately. Another risk factor is losing or overwriting data within the project. This risk will be mitigated by our group following proper configuration management and continuous integration, previous versions will be saved and current versions merged without a loss of data.

4: Technical Process

Methods, Tool Techniques

Video Game

Tools:

- Unity Game Engine
    - Used for creating level designs and other assets
    - Used to download free assets for the visuals of the game through the Unity Asset Store
- Microsoft Visual Studio
    - Used to edit C# scripts for use in the Unity Editor
    - Used to edit HTML/CSS for Website designs
- Android Studio
    - Used in the background by Unity to create the APK for the game to be run on an Android device
- Gradle
    - Used in the background by Unity as a wrapper for the game's content.
- Maya/Blender
    - Creates custom 3D-modeling software
- GitHub
    - Our repo hosting service
- Git
    - The actual repo software
    - Holds all files for game

Methods:

- Testing
    - Game will be tested in Unity and on mobile devices
        - Unity has its own automated testing software built in to IDE
        - Mobile devices used will be Androids
            - Samsung Galaxy Note 8 (API 24)
        - Will include stress testing since some assets are very large and power intensive and phone hardware can vary
    - Possible research into unit testing with C# in visual studio for various scripts operating in the background of the application
- Agile development
    - We have begun breaking game into smaller tasks
    - Created task board on GitHub
    - NationalParksGo repository has multiple branches
        - Individual branches are built off of Development
        - Development will be merged with master once we get our first successful build

    - Tasks include creating art assets, scenes, and writing scripts
    - Documentation should be done for every commit containing changes to the NationalParksGoMainGame project
        - This documentation can just be done in the commit message if it is not too long
        - Bigger commits should be documented in a page on GitHub
- Documentation
    - Should be done when research into a particular asset/script is finished and the creator/tester knows exactly what is going on
    - Added to GitHub so it is easily found
    - Should describe what was changed and what is dependent on each other

Documentation

Our group plans on documenting everything involved in the project on Github. Separate parts of the project will have their own individual branches where group members can commit their part of the project or merge with the current commits.

5: Description of Work Packages

WBS