# Software Project Management Plan
# Learning Coaster

Brian Roshal, Mariah Briley, Matt Johnson, Brennan Traube, John O'Neill, Megan McCulley

Last Updated: May 14, 2019

Version 1.0

**Table of Contents**

**1.0 Introduction**

*1.1 Project Overview*
The purpose of this project is to develop a working relationship between the Department of Education, Tek Gaming Company, and the Maryland Board of Education. The goal is to create a game that will intrigue the fifth and sixth grade students to play, and will improve and develop the students' mathematical skills. This game is designed to entertain the students, while allowing them to learn.

*1.2 Project Deliverables*
Requirements - 2/19/19
Use Cases & Sequence Diagrams - 2/19/19
HLA, Class Diagram, Interface Spec - 3/5/19
Repo Setup - 3/5/19
Test Skeleton - 3/26/19
Mid-semester Technical Status Presentation - 3/26/19
Code Review I, II, III
      1 - 4/2/19
      2 - 4/9/19
      3 - 4/16/19
Code Deployment - 4/23/19

*1.3 Reference Material*
In this SPMP we reference all documents/instructions that our client has provided to us. We also reference deliverables and work that has previously been submitted to the client.

*1.4 Definition and Acronyms*
HLA - Higher Level Hierarchy
DOE - Department of Education
MDBOE - Maryland Board of Education

**2.0 Project Organization**

*2.1 Process Model*
This project's development will be done using Wordpress, which is provided by purchasing hosting from Bluehost. Also, the game will be designed in HTML to incorporate the imagery of riding a rollercoaster, while answering mathematical questions.
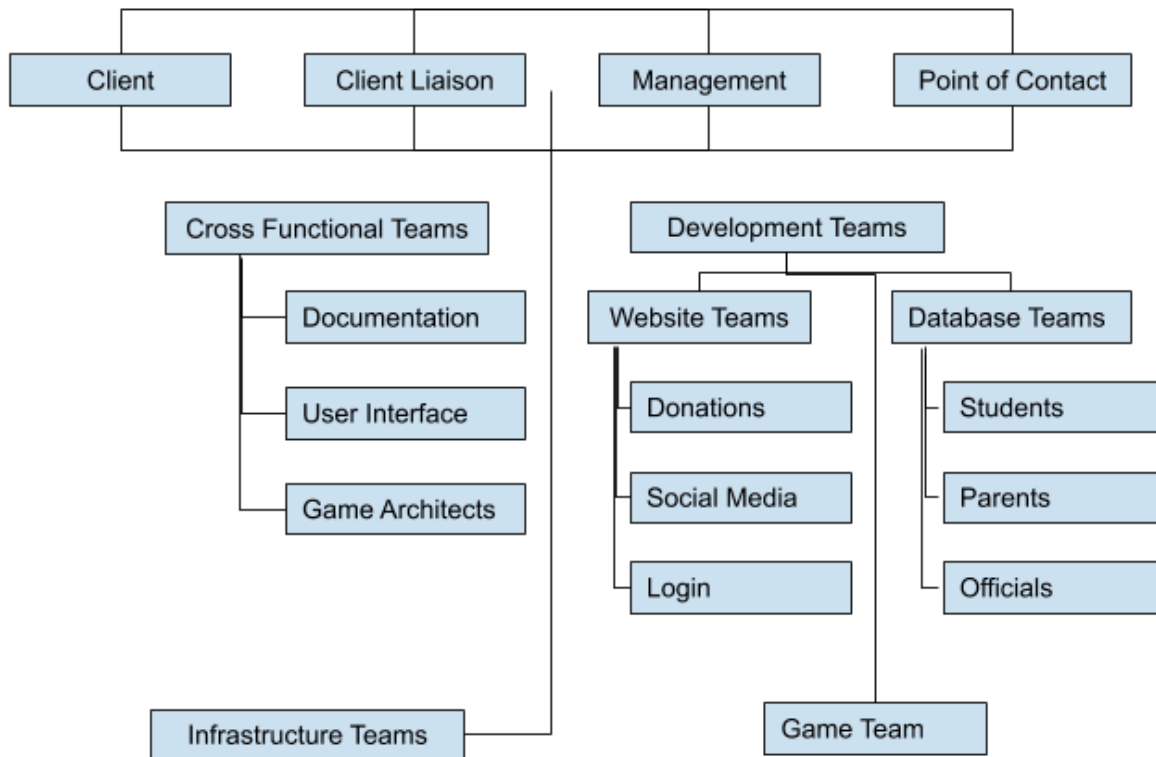
*2.2 Organizational Structure*



Figure 1 - Organizational Structure

*2.3 Organizational Interfaces*
The group will meet on Discord, which is a program that allows for text and voice chat, twice per week, as well as once per week, the group will meet in person at 8:00 PM. The in-person meetings are to discuss any problems, solutions, and setbacks for the project, as well as to continue to work on development of the website and game. All group members have individual roles and help each other with their roles, depending on where each person stands during each meeting, whether in person or over Discord.

*2.4 Project Responsibilities*

| Name | Role |
|------|------|
| John O'Neil | Person of Contact/Website Coder |
| Brian Roshal | Documenter |
| Brennan Traube | Website Coder |
| Mariah Briley | Documenter |
| Megan McCulley | Game Coder |
| Matthew Johnson | Game Integration/Coder |

## 3.0 Managerial Process

*3.1 Management Objectives and Priorities*
The goal of this project was to develop a game and website, that would work with the Department of Education, as well as the Maryland Board of Education, Tek Gaming Solutions, and representatives from the state's amusement parks, which would incorporate an educational game with the state's amusement parks, to allow fifth and sixth grade students to use this game to strengthen their mathematical skills, while also having fun learning these things. This partnership between all entities would result in significant improvement of students' education, while also keeping the students entertained and wanting to continue playing the game.

*3.2 Assumptions, Dependencies, and Constraints*

*3.2.1 Assumptions*
- We have an unlimited budget
- We have until June to get the full website published
- We were able to rely off of other services like bluehost and Wordpress as tools of reference
- We had no restraints on the functionality of the game

*3.2.2 External events*
- Every event that is taking place at amusement parks in Maryland

### 3.2.3 Constraints
- Create an educational game covering mathematics for 5th and 6th graders.
- Incorporate the state of Maryland's amusement parks
- Support verified and anonymous submission for the website
- Online and Mobile Ticketing
- Allowing parents to see childs activity
- Allowing school officials and teachers to view kids activity
- Allow data to be in a centralized location
- Technical and Mid-Status presentation

### 3.2.4 Relative Priority Statement
Our utmost priority is to provide the customer with the most ideal product, however; our goal is to prioritize efficiency and quality for both the customer and our employees. With that being said, we prioritize the functionality over all else. From there budget is the next priority. While scheduling is important to us, we understand that even with the set date of a June launch time, we will still have the summer to work on other issues and further implementation.

### 3.3 Risk Management

### 3.3.1 Contract Risks
There is a risk of the client not being able to afford payment for the project costs. The client will receive deliverables equivalent to the amount that they can afford to pay for.

### 3.3.2 Project Risks
There is a risk of the project being too complicated, too large, or just taking more time than what is allotted by the client. This will be assessed multiple times throughout the entire process, and changes can be made accordingly. Any changes will be discussed with the client before implementation.

### 3.4 Monitoring and Controlling Mechanisms
There will be weekly reports and deliverables done for this project. This ensures that the client is satisfied with the work done so far and will allow our team to see the timeline and remainder of the project more clearly. All members of the group will be responsible for contribution to reports and deliverables.

### 3.5 Staffing Plan
Our staff of six was chosen at the beginning of the project. There was a risk that at any moment a staff member could possibly leave or not contribute. If this were to happen,

the client would be informed immediately of the staffing shortage  and how it could possibly affect the timeline.

## 4.0 Technical Process

*4.1 Methods, Tools, and Techniques*
The website will be designed using Wordpress, provided by Bluehost, which is the hosting company used for this project. The game will be designed in HTML and will incorporate addition, subtraction, and multiplication problems. The repository used for the team will be GitHub, where all teammates will upload their work and can access other teammates work. Also, Google Drive will be used for real time remote collaboration.

*4.2 Software Documentation*
All documents are worked on in Google Docs which allows all group members access and edit each deliverable. Each team member will be required to take notes on and document their part of the project and what they have worked on, in order for final documentation to be as detailed and accurate as possible, which, in turn, should avoid any confusion on what has been done and will assist with answering any questions that the client might have. Once each document is complete the final copy will be submitted on blackboard and saved on the repository. The client will be able to review the items uploaded to the repository in real time, as soon as they are uploaded. This allows the client to be able to test any software or look over any documentation, and request that changes be made as necessary. The entire team will be looking over each submission and upload prior to it being uploaded, in order to discuss whether anything should be changed or added to the part of the project that is about to be submitted or resubmitted.
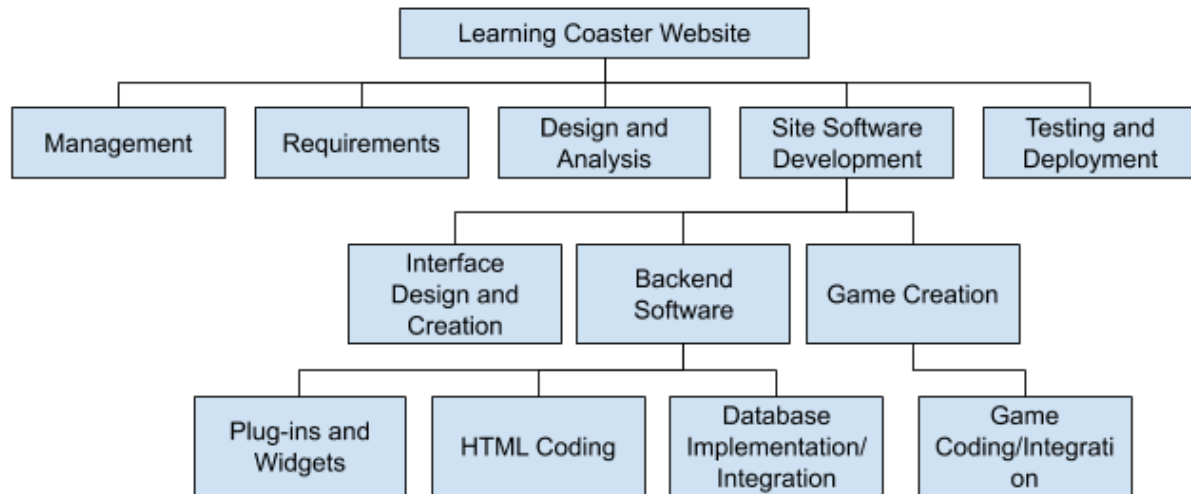
## 5.0 Description of Work Package

*5.1 Work Breakdown Structure (WBS)*

Figure 2 - Work Breakdown Structure (WSB)