

Initial Project Description

Team No. 12

Team Members:

Deepak Kumar
Fares Elattar
Grant Keebler
M. Atif Siddiqui
Rahul Purswani

Project Name : SoccerTact / TheGame&Analysis

Project Synopsis:

A Data Analysis based web Application that lets you test your soccer tactics through an AI stimulated soccer game.

Project Description:

What makes soccer one of the most popular sports in the world is the infinite possibilities of the way the game could be played. One unexpected movement or mistake could change the game. In this project we will use real-life data to generate simulated data using Generative Adversarial Network (GAN). The real data will be the players ratings from EA sports' Fifa video game for example. The game provides ratings for every aspect of each player for example shooting power, pace, skills etc. The simulated data will be a play by play simulation of all the players movement on the field represented with a colored circle, and the ball will be represented by a 2D ball. We will also display the statistics of the game such as ball possession, shots etc. The ultimate goal of the project is to use these simulations to design tactics or try different lineups and formations to predict which will work the best.

Project Milestones:

First Semester:

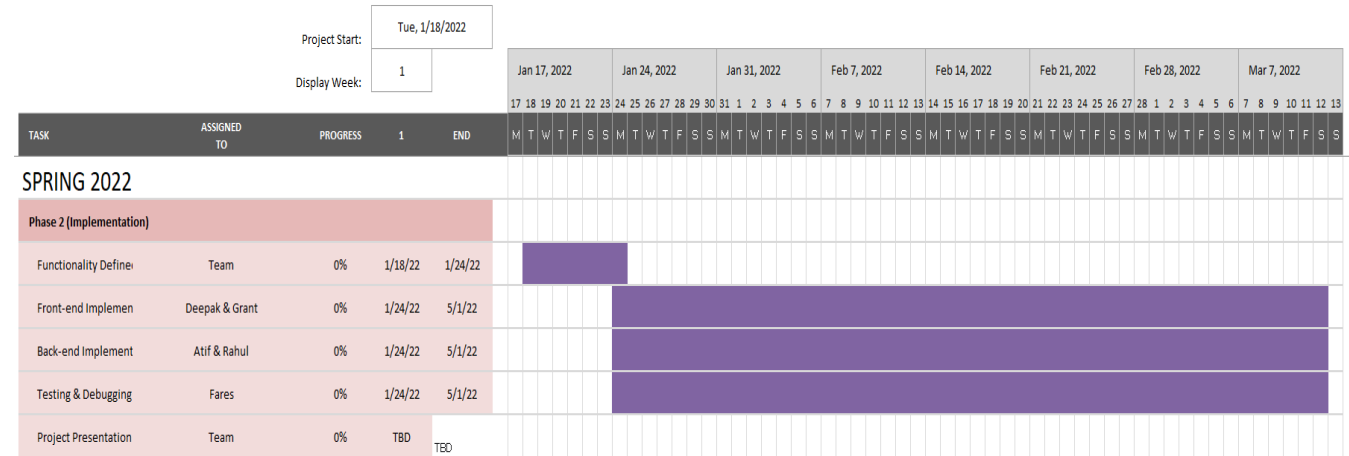
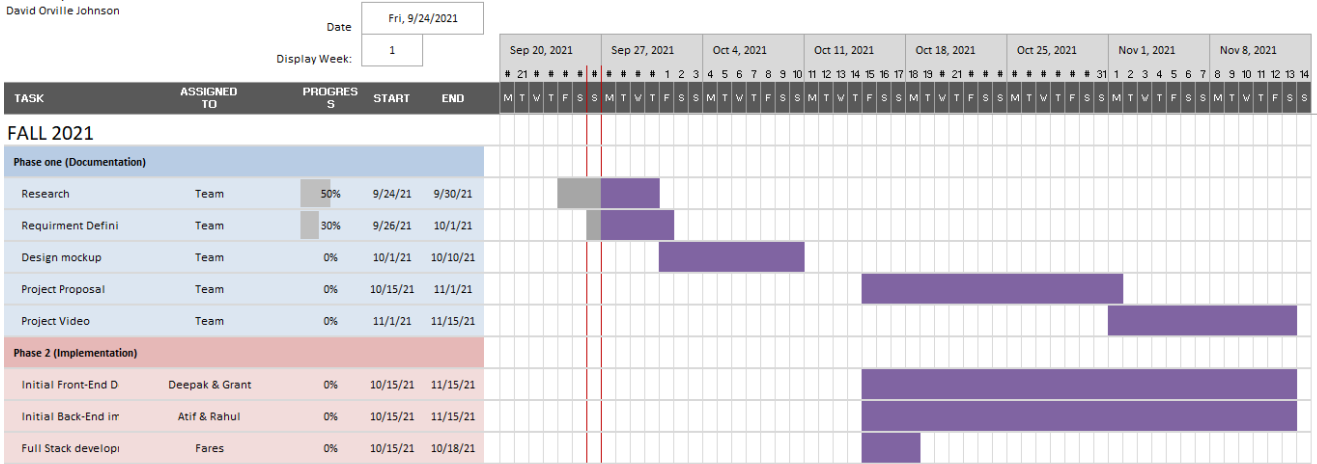
- Project Architecture and Design (Oct 8th)
- Backend and Frontend implementation started (Oct 15th)
- Data Collection (API's implementation and Documentation) (Oct 22nd)
- Project Proposal Video (Nov 1st)
- Basic Backend done (Nov 15th)
- Documentation (Nov 15th)
- Integrating Backend and Frontend (Nov 22nd)

Second Semester:

- Develop frontend to show more data insights (Feb)
- Develop backend to include live data fixture (March)
- Finish User Interface (Late March - Early April)
- Use machine learning to generate insight on data collected (April)
- Finish Up (May)

Gantt Chart

University of Kansas
David Orville Johnson



Work Plan:

- **Backend And Data Science Team - M. Atif Siddiqui and Rahul Purswani**
 - ❖ Creating a database of players records
 - ❖ Backend programming of the simulation
- **Frontend Team- Deepak Kumar and Grant Keebler**
 - ❖ Proposal Video
 - ❖ Design/UI
- **Full Stack Developer**
 - ❖ Floating between backend and the front end

Project Budget:

Item	Description	Date Needed	Cost
AWS Services	AWS services will provide us with a learning model that will generate useful data for the simulation gameplay and to develop skills through their courses.	10/4/2021	\$300
Data API	We are planning to use RapidAPIs or Sportmonks to extract real-time game statistics and use that for training our model.	10/4/2021	\$400 (Averaged priced b/w \$30-\$70)
Website Domain	We are planning to host our project as a website, hence will need a Website Domain. We are looking for a domain from Google Domains and the average cost of a domain is about \$30.	02/15/2022	\$30
Total			\$730