# Project Title: Tokyo Olympics Management Platform

## Project Summary:

The goal of the Tokyo 2021 Olympics Management Platform is to explore the vast dataset with information regarding the 2021 Tokyo Olympics. We plan to analyze data on the Olympics such as information regarding the some 11,000 athletes, 47 disciplines, and 743 participating teams. This project will provide extremely valuable insights into the athletes, sports, and teams of the Tokyo 2021 Olympics, one of the biggest sports events we have ever witnessed. It serves as a catalog for Olympics Administrators, giving them the capability to search for information regarding different athletes & teams, insert new events, update scores, and generate unique insights. Furthermore, this application is built for the intention of an olympics administrator, so throughout this proposal we may use the term “user” interchangeably with “admin”.

## Project Description:

The Tokyo 2021 Olympics was a worldwide event that brought together thousands of athletes from around the world to showcase their skills and compete for the gold medal in various different sports and disciplines. We will use the extensive data set of 356KB provided by Kaggle, which serves as the basis of our project.

This dataset provides information regarding the details of the athletes themselves, information about the coaches and teams, and data on the sports or disciplines that the athletes and teams

participated in. This allows for us to examine various different trends in the Tokyo 2021 Olympics which can not be seen upfront by the human eye.

## Data Source:

The main data source for this project will be the "2021 Tokyo Olympics Data" dataset, which contains information on athletes, coaches, teams, disciplines, medals, and entries by gender. The dataset is a provided dataset which is available at https://www.kaggle.com/datasets/arjunprasadsarkhel/2021-olympics-in-tokyo.
It is organized into five different tables–Athletes, Coaches, EntriesGender, Medals, Teams. Each table provides thousands of entries regarding respective information, but further information regarding the schema can be found on the website. Our queries will utilize a combination of these tables to provide customized output to a user. We will also look to include other data sets which could provide more information regarding the Olympics, time permitting. This would allow for further analysis into the athletes, teams, and sports.

## Project Objectives and Basic Functions:

Some of the basic functions that an admin can perform for this project are searching for specific athletes, teams, or disciplines. They can explore the profiles and statistics that are related to the information that the administrator desires. They can go further in depth regarding the athletes and obtain information regarding the athletes origin and achievements. The admin will also be able to search for different teams and obtain data such as team name, members, and coaches.

Admins will also be able to search across different disciplines and see performance trends. In addition to browsing, admins will be able to add and possibly delete new teams/countries, events,

and athletes. They will be able to update this information if by any chance a mistake was previously made. Furthermore, they may wish to change the outcome or score of a specific event. For the case of any CRUD operations, we plan to implement Triggers, Assertions, and Attribute-Level-Constraints to ensure that valid data is being inserted/updated into our table.

## Creative Component:

For our project, we plan to include two major creative components.

1. An interactive breakdown of the overall competitions, this includes pie charts, rankings of certain athletes/teams, and other visualizations
2. An interactive breakdown of different teams that the Admin chooses. They will be able to visualize, side by side, different teams that participated in the Olympics to compare their performances.
3. Another interactive component we can include if time permits, is comparing the 2021 Tokyo Olympics to the 2016 Rio Olympics which can be found in this dataset, https://www.kaggle.com/datasets/rio2016/olympic-games. This is one of the datasets we mentioned using above. It will allow the user to compare teams and athletes from the past Olympics. This gives better insights into the improvements/changes for teams from the past Olympics.

We believe that these forms of visualizing the data provide admins an interactive and unique experience. Additionally, since the data consists of gender representation, the admin will also be able to examine gender diversity amongst the athletes, teams, and disciplines.

## Usefulness:

We believe that this application will be very useful because the Olympics are one of the biggest worldwide events. It brings people from all around the world together. Our application will provide valuable and comprehensive insights into the Tokyo 2021 Olympics. Admins will be able to search through different players, teams, and sports. This will allow them to explore different trends and statistics that might have not been as apparent previously. The interactive visuals will also prove extremely useful when the admin is looking to examine trends or analyze metrics regarding the Olympics. There are other similar applications out there, but the unique aspect about ours is how you can select all the different entities which allows the admin to visualize whatever they wish. For administrators, it allows them to update, delete, and add information regarding different countries, events, and teams.

## Realness:

The main data source for this project will be the "2021 Tokyo Olympics Data" dataset, which contains information on athletes, coaches, teams, disciplines, medals, and entries by gender. The dataset is a provided dataset which is available at https://www.kaggle.com/datasets/arjunprasadsarkhel/2021-olympics-in-tokyo.

We will also aim to use data from other sources in order to provide more insight into things like historical performances. All the data sets used are valid and provide the user with accurate information which makes the application real and trustworthy.

## Functionality:

The main goal for an admin is to be able to find direct information regarding his/her favorite athletes and teams from this olympics. Additionally, a user (admin) will be able to add/delete

countries/teams, athletes, events, and event results. If a user needs to alter/update the results of an event, he/she will be able to. A few actions the user can take are:

I. Main Components:
    A. Store favorite team/athlete and view information
    B. CRUD operations with teams, athletes, and events
    C. Breakdown information by gender
    D. Create a profile for each team

II. Creative Components:
    A. Overall breakdown of the competition including possible changes a user has made with stylistic visuals
        1. Display a medal table that ranks teams overall, by sport
    B. Breakdown of different teams that the user chooses.
        1. Visualize different teams that participated in the Olympics to compare their performances.

## Work Distribution:

This is a rough outline of how the work will be distributed amongst our team

- Functionality Components
    - CRUD Operations, Rohan Vanjani
    - Storing Favorites, Lucky Konatham
    - Gender Breakdown, Krish Desai
    - Team Profile, Rohan Vanjani, Lucky Konatham
- Creative Components

    - Overall Breakdown, Rohan Vanjani & Lucky Konatham
    - Team vs Team Visualization, Krish Desai & Lucky Konatham
- Backend Implementation (connecting frontend to DB)
    - Krish Desai
- Frontend Implementation and UI
    - Rohan Vanjani, Lucky Konatham

## UI Mockup:

Here is a sample mock of the UI portion of our application. This is simply a rough design created using Figma and is subject to change for the final application.


## Conclusion:

In conclusion, our project and application will allow a user to delve deep into the 2021 Tokyo Olympics. They will have the opportunity to search through the entire games period and gather information on anything of their choice ranging from data on the players, teams, and coaches to the disciplines and sports themselves. The user can even analyze trends amongst gender representation and could see visuals that help them explore trends and patterns in the Tokyo 2021 Olympics.