City Pride School
Pradhikaran, Nigdi-411044

Class: XII (Science) Subject: Informatics Practices (065)

Date:

Project Synopsis

Title of the project:

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Front End:tkinter,pillow

Back End:pandas,numpy,matplotlib,mysql-connector-python,pyinstaller,datetime,threading

Hardware and Software Requirements:python(optional), Windows 7+/ linux/bash

Open Source Software being used:tkinter,pyinstaller

Introduction of the project:

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The Tournament Analyser is a Python-based desktop application created to simplify the management and analysis of sports tournaments. It allows users to add, update, and delete details related to teams, players, matches, and tournaments. The system is built to handle data efficiently while also providing clear insights into team and player performances. By combining database management, data analysis, and graphical visualization, the application offers a complete solution for tracking tournament progress.

Objectives:
The main objectives of this project are:

1. To provide a user-friendly interface for managing tournament data such as teams, players, and match details.
2. To maintain a structured database using MySQL for storing all related information.
3. To automate the generation of leaderboards and performance statistics using Python.
4. To offer useful visualizations that help users understand the progress and outcomes of tournaments clearly.
5. Using multithreading for smoother gui.

Analysis:
The application performs various types of analysis based on the match and player data entered by the user. It calculates the points table for teams, keeping track of wins, losses, and draws. It also identifies team performance trends and evaluates individual player statistics, such as top scorers or MVPs. The analysis is handled using the Pandas library, which makes data manipulation efficient and reliable.

Visualization:
To make the data more understandable and interactive, the project includes several types of visual representations. Bar graphs are used to show the number of wins per team, while pie charts highlight the contribution of each player to their team's performance. Line graphs illustrate the match results over the course of the tournament, and tables display the current standings in a clear format. All visualizations are generated using the Matplotlib library and integrated into the application interface.