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THAPATHALI, KATHMANDU

Project report
On
Cricket Score Sheet

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May, 2024

DECLERATION

We hereby declare that the report of the project entitled "**Cricket Score Sheet**" which is being submitted to the **Department of Electronics and Computer Engineering, IOE, Thapathali Campus**, in the partial fulfillment of the requirements for the completion of the first semester project, is a genuine representation of the work carried out by us. The materials presented in this report have not been previously submitted to any educational institution for any academic purpose. We, Arun Khadka, Prabesh Phuyal, and Sandesh Neupane, are the sole authors of this project, and no external sources other than those listed below have been utilized in the completion of this work.

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Date: May, 2024

CERTIFICATION OF APPROVAL

These undersigned certify that they have thoroughly reviewed and endorsed to the **Department of Electronics and Computer Engineering, IOE, Thapathali Campus,** the project titled "**Cricket Score Sheet**" presented by Arun Khadka, Prabesh Phuyal, and Sandesh Neupane. This submission constitutes fulfillment for the completion of the first semester project. The project was carried out under special supervision and within the time frame prescribed by the syllabus.

We vouch to the dedication, proficiency, and eagerness displayed by the students in their pursuit of knowledge and application within their field of study. Therefore, we advocate for the conferment of fulfillment of the first semester in Electronics , Communication and Information Engineering upon these individuals.

May, 2024

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ACKNOWLEDGEMENT

ABSTRACT

This project proposal aims to develop a Cricket Score Sheet Program in the C programming language. The program will provide a user-friendly interface for recording and managing cricket match scores, player statistics, and match details. It will include features such as inputting runs, wickets, overs bowled, and other relevant match data. The program will be designed to be efficient, accurate, and easy to use, catering to both amateur and professional cricket enthusiasts. By implementing this project, we aim to streamline the process of scoring cricket matches and enhance the overall experience for players, coaches, and fans. *Keywords: automate, analysis, real-time,*

Table of Contents

List of Figures

List of Abbreviations

APP   Application

HTML   Hypertext Markup Language

IDE   Integrated Development Environment

MySQL   My Structure Query Language

PDF   Portable Document Format

RDBMS   Relational Database Management System

1.   INTRODUCTION

1.1   Background

Cricket is a popular sport enjoyed by millions worldwide, with matches played at various levels ranging from local clubs to international competitions. Keeping track of scores, player performances, and match details is essential for analyzing game progress and player statistics. However, manual scoring can be time-consuming and prone to errors. Therefore, developing a Cricket Score Sheet Program in C will address these challenges by providing a reliable and efficient solution for recording and managing cricket match data accurately and effectively.

1.2   Motivation

The motivation behind creating this Cricket Score Sheet Program is to modernize the process of scoring cricket matches. By automating the scoring system through a user friendly software application, we aim to enhance the accuracy, speed, and convenience of recording match data. This program will not only benefit scorers by simplifying their tasks but also provide players, coaches, and fans with real-time access to match statistics for analysis and enjoyment. The motivation stems from a desire to improve the overall cricketing experience and promote the use of technology in sports management.

1.3   Problem Definition

Manual scoring of cricket matches can be a difficult and error-prone process. Scorers may have difficulty keeping up with the fast-paced nature of the game, leading to low accuracy in the recorded data. Additionally, manual scoring can be time-consuming, making it challenging to provide real-time updates to players, coaches, and fans. The lack of a reliable and efficient scoring system can negatively impact the overall enjoyment and analysis of cricket matches. Therefore, there is a need for a Cricket Score Sheet Program that can automate the scoring process, minimize errors, and provide real time updates to all stakeholders.

1.4   Objectives

The main objectives of our project are listed below

- Develop a user-friendly Cricket Score Sheet Program in C to automate the scoring process and accurately record match data.

- Provide real-time access to match statistics for players, coaches, and fans to enhance their cricketing experience and analysis capabilities.

2. LITERATURE REVIEW

The literature review highlights the use of C programming and file handling techniques in existing cricket score management projects. While these projects effectively manage basic match data, they face limitations in handling real-time updates and advanced statistical analysis. Critiques of existing work emphasize the need for more sophisticated scoring systems that can cater to diverse cricketing needs and improve user experience through scalability, advanced features, and performance optimization.

2.1 Methodology and Technology Used

These projects utilize fundamental programming concepts such as file handling, and data structures to manage cricket match data effectively. Techniques like input validation, data storage, and user interface design are commonly implemented to create user-friendly score sheet programs. The technology used revolves around C programming and basic file handling capabilities to store and retrieve match information.

2.2 Drawbacks and Limitation

One common drawback of existing cricket score management projects is their potential limitations in handling real-time updates and advanced statistical analysis. These projects may lack scalability when dealing with large datasets or complex match scenarios, leading to potential performance issues. Additionally, the simplicity of some projects may restrict their ability to cater to diverse cricketing needs, such as in-depth match analysis or dynamic data visualization.

2.3 Criticism of Existing Work

While existing cricket score management projects serve the purpose of basic scorekeeping, they often fall short in providing comprehensive solutions for advanced match analysis and real-time data management. The lack of scalability, limited feature set, and potential performance constraints highlight areas where these projects can be criticized. To address these shortcomings, there is a need for more robust scoring

systems that can handle complex match scenarios efficiently and provide a seamless user experience for all stakeholders involved in cricket matches.

3.   PROPOSED SYSTEM ARCHITECTURE

The proposed system architecture for the cricket score sheet project is designed to be robust, scalable, and efficient, meeting the demands of recording, processing, and presenting cricket match scores effectively.

3.1   Block Diagram or System Architecture

Cricket score sheet program is made of following layers:

- **User Interface**: This is the layer that interacts directly with the users. It could be a web-based interface, a desktop application, or a mobile app where users can input data, view scores, and interact with the system.

- **Logic Layer**: Here lies the logic of the application. It handles requests from the user interface, create interactions between different components, processes data, applies rules, and implements algorithms relevant to cricket scoring. It's responsible for validating input, calculating scores, updating player statistics, etc.

- **Data Access Layer**: This layer is responsible for interacting with the underlying data storage, whether it's a database system (like MySQL) or files. It handles CRUD operations (Create, Read, Update, Delete) and ensures data integrity.

- **Database/File Storage**: This is where the actual data resides. It could be a relational database management system (RDBMS), or simply files stored in a file system. It stores information about matches, players, teams, scores, and any other relevant data.
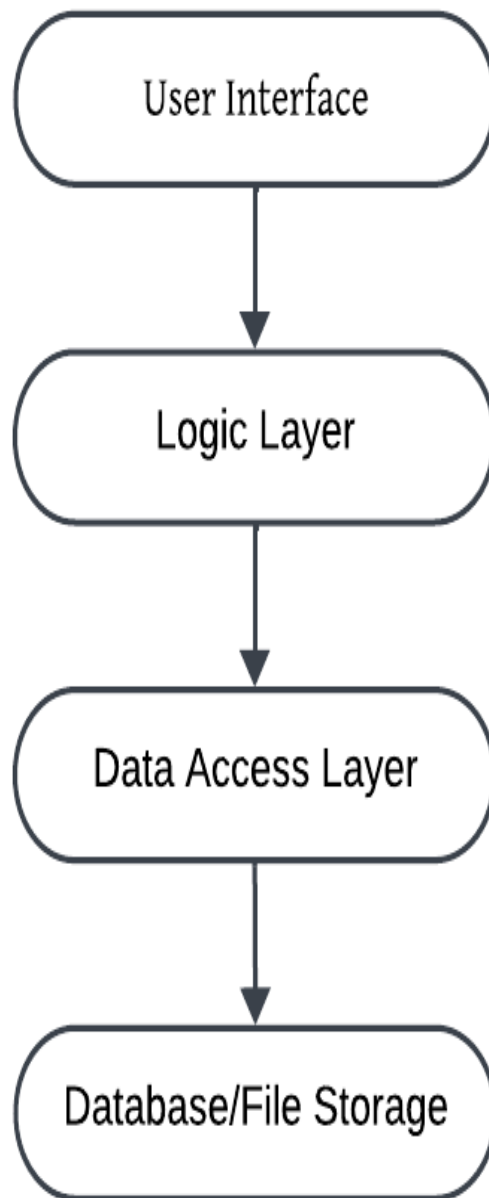
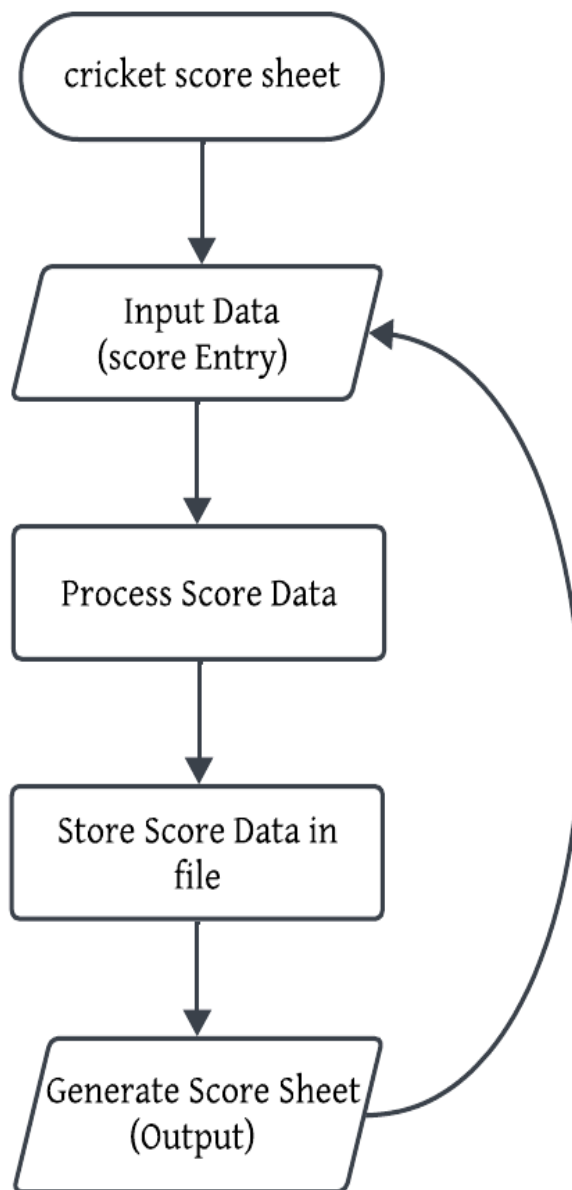Fig 3.1 System Architecture Diagram

3.2 Data Flow Diagram

Fig 3.2 Data Flow Diagram

In this diagram:

- Input Data (Score Entry): This is where data (scores) are entered into the system. This could be done manually by a user or possibly through automated means (e.g., integrating with a scoring device).

- Process Score Data: This module processes the input data. It might involve validating the input, calculating statistics, updating player/team records, etc.

- Store Score Data (Database/File): After processing, the data is stored for future reference. This could be in a database system or simply in a file.

- Generate Score Sheet (Output): Finally, the system generates the cricket score sheet based on the processed data. This could be in various formats such as digital (PDF, HTML) or printed.

3.3   Tools and Environment

To build a cricket score sheet project, various tools and environments can be utilized depending on the project's requirements Here's a brief overview:

1. **Programming Language**: The choice of programming language depends on factors such as developer expertise, project complexity, and performance requirements. In this case, C could be used due to its efficiency and suitability for systems programming.

2. **Integrated Development Environment (IDE)**: IDEs like Visual Studio Code can provide a comprehensive development environment with features like code editing, debugging, version control integration, and plugin support.

3. **Collaboration Tools**: Communication and collaboration tools such as Slack, Microsoft Teams, or Discord can facilitate effective communication among

team members, allowing for real-time discussions, file sharing, and project updates.

4. **Documentation**: Writing clear and concise documentation is crucial for understanding the project's architecture, design decisions, and usage instructions. Tools like Markdown, Doxygen, or Sphinx can be used for generating documentation from code comments or dedicated documentation files.

4.   METHODOLOGY

The various methodologies that were used in gathering data and analysis which are relevant to the research includes different header files, structures, and file handling

4.1   File Handling

Utilizing file handling techniques allows for the storage and retrieval of match data, player statistics, and other relevant information. Files are used to store data persistently, enabling the program to access and update match details as needed

4.2   Function

Functions play a crucial role in breaking down the program into manageable and reusable blocks of code. Different functions are created to handle specific tasks such as input validation, data processing, score calculation, and output display. This modular approach enhances code readability, maintainability, and reusability.

4.3   Structures

Structures are utilized to define custom data types that encapsulate related data fields. In the context of the Cricket Score Sheet Program, structures can represent entities like players, matches, innings, or teams. Organizing related data into structures simplifies data management and manipulation within the program.

4.4   Control Flow

Control flow mechanisms like loops and conditional statements are implemented to manage the program's execution flow. Loops iterate through player data or match details, while conditional statements control decision-making based on specific conditions, enhancing the program's flexibility and functionality.

4.5   Header Files

In the development of the Cricket Score Sheet Program in C, header files play a crucial role in organizing and managing the program's structure and functionality.

Some key header files commonly used in this project are: stdio.h, conio.h

5. SCOPE AND APPLICATIONS

The scope of a program will be to automate the process of scoring cricket matches by allowing users to input and record the respective details of players, such as their names, the number of balls played, the number of runs hit, and their batting and bowling status. It will also calculate the total balls played and total score hit by the batting team, as well as the total overs bowled by the bowling team. The program will display the final score sheet with all the necessary details of each individual player and show the status of the game.

The program will be applicable in many scenarios. It will help in reducing the time involved in entering scores manually on paper and minimize human errors while entering scores. The Cricket Score Sheet Program will be useful for cricket enthusiasts, coaches, and players to keep track of match statistics and analyze player performances.

6.   TIME ESTIMATION

Fig 6.1 Time Estimation Gantt Chart
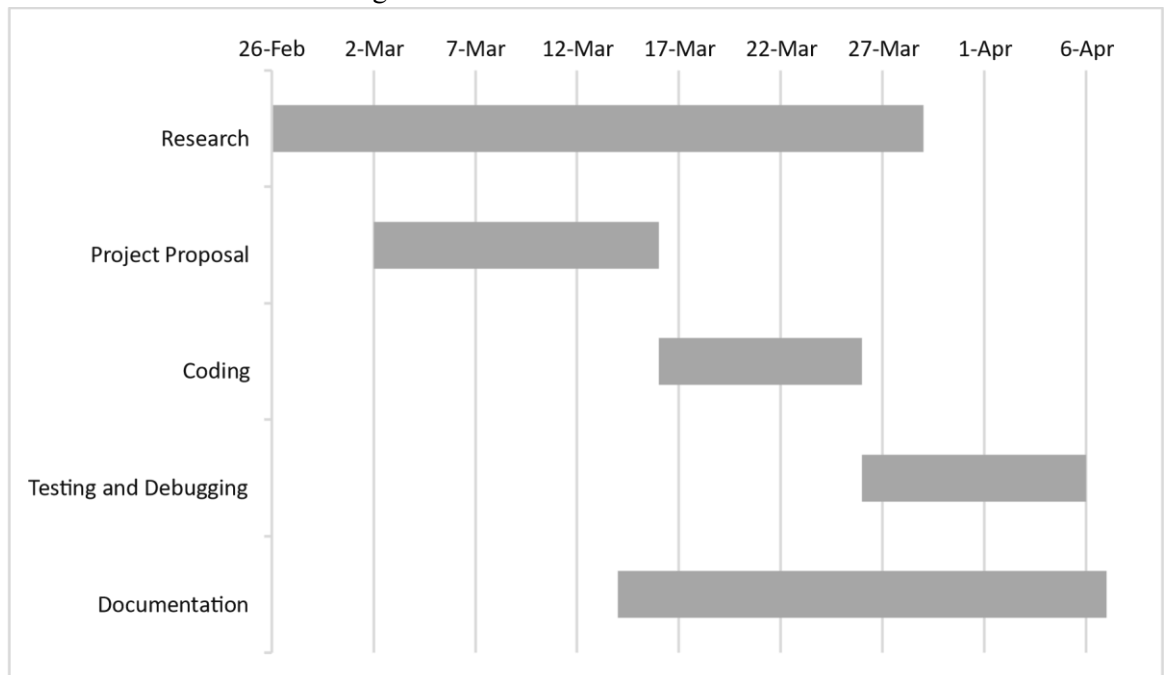
7. FEASIBILITY ANALYSIS

The main objective of the feasibility analysis is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system.

These are the aspects of feasibility analysis:

a) **Technical Feasibility**

The Cricket Score Sheet project is technically feasible, as it utilizes file handling in C to store and manipulate data such as runs, wickets, overs, and extras. The project also includes functions for printing output in a specific format, reading and writing data to files, and opening and creating new score sheets. The code is straightforward and easy to understand, making it suitable for beginners learning C programming.

b) **Operational Feasibility**

The Cricket Score Sheet project is operationally feasible, as it provides a user-friendly interface for entering and recording player details, calculating total balls played and overs bowled, and displaying the final score sheet. The project is compatible with different hardware used in mobile devices and personal computers, making it accessible for users in various environments.

c) **Economic Feasibility**

The economic feasibility of the project depends on the resources and time required for development. As a mini project, it can be completed within a reasonable time frame and with minimal resources, making it a cost-effective solution for managing cricket scores.

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