

DigiTally Digital Score and Stats System for Local Leagues

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Abstract: The increasing demand for accurate, efficient, and transparent scorekeeping in local sports events motivated the development of DigiTally: Digital Score and Stats System for Local Leagues. Traditional manual tally sheets used by local tournament organizers often result in errors, incomplete records, and delays in reporting game outcomes. This study aimed to design and develop a web-based system that automates score recording, streamlines statistics generation, and organizes tournament data for improved accessibility and reliability. Using the Modified Waterfall Model, the system was analyzed, designed, implemented, and evaluated to ensure it met user requirements. The development process involved creating a centralized database structure, designing user-friendly interfaces for scorekeepers and administrators, and implementing core functionalities such as real-time score entry, automated computation of player and team statistics, standings generation, and secure data storage. System testing demonstrated that DigiTally effectively reduces manual workload and minimizes inconsistent or missing records, while ensuring faster and more organized access to tournament information. Overall, the results show that DigiTally enhances the accuracy, efficiency, and organization of local sports scorekeeping, providing a dependable digital alternative to traditional methods and offering opportunities for future improvements through feature expansion and interface refinement.

Keywords: Digital Scorekeeping, Sports Statistics System, Local Leagues, Automated Tally Sheets, Real-Time Scoring, Web-Based System, Tournament Management, System Development, Centralized Database.

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I. INTRODUCTION

Local sports leagues often rely on manual or semi-digital methods for recording scores and player statistics. These methods are time-consuming and susceptible to human error, which can affect the reliability of game records. As digital

solutions become more accessible, there is a growing need for systems that can streamline scorekeeping and statistical tracking. DigiTally was developed to address these challenges by offering a digital platform tailored to the needs of local leagues. This study aims to present the design, development, and evaluation of the DigiTally system.

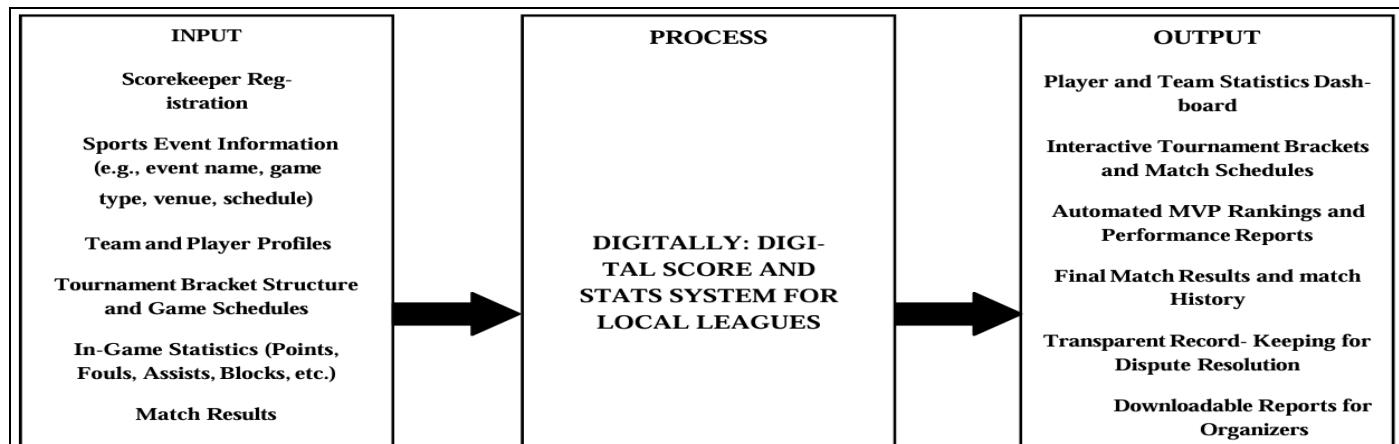


Fig 1 Conceptual Framework of the DigiTally System.

II. RELATED STUDIES

Several studies have explored the use of digital systems in sports management, highlighting improvements in data accuracy and operational efficiency. Existing sports management platforms often focus on professional or large-scale leagues, leaving local leagues with limited options. DigiTally differentiates itself by focusing on simplicity, affordability, and usability for community-based sports organizations.

III. METHODOLOGY

The development of DigiTally followed a systematic software development process that included requirements analysis, system design, implementation, and testing. User requirements were gathered from local league organizers and scorekeepers to ensure relevance and practicality. The system was implemented as a web-based application to allow accessibility across multiple devices. Functional testing was conducted to verify system features, followed by usability testing using the System Usability Scale.

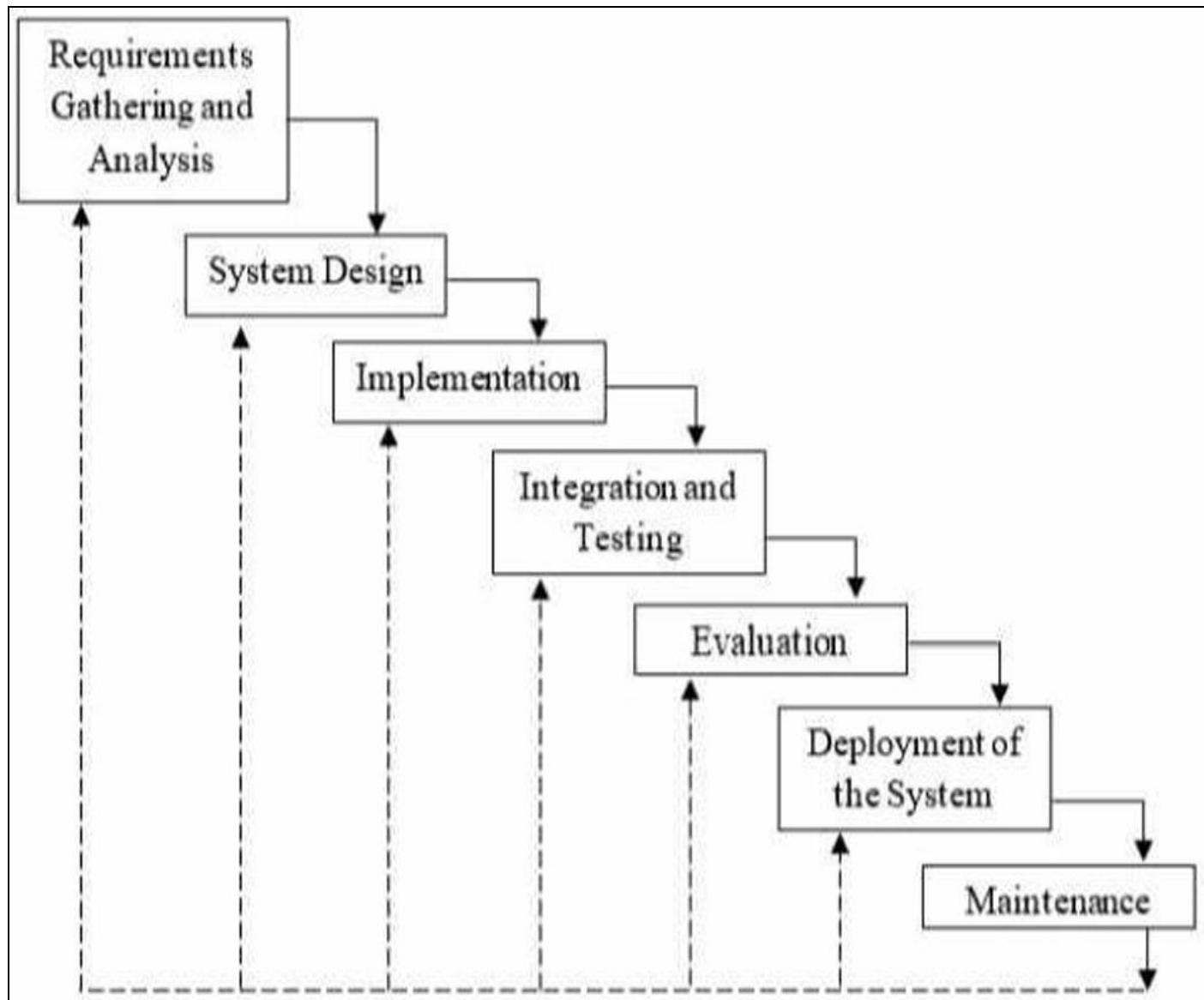


Fig 2 Modified Waterfall Model for System Development.

IV. RESULT AND DISCUSSION

Functional testing results showed that the system successfully performed core features such as score recording, player statistics tracking, and report generation. Usability

evaluation using the System Usability Scale yielded favorable results, indicating that users found the system easy to learn and operate. Feedback from participants emphasized the system's clarity and usefulness during live games.

Table 1 System Usability Scale (SUS) Evaluation Scores.

| Task Item # | DigiTally: Digital Score and Stats System | Participants | | | | |
|--------------------|---|---------------------|-----------|-----------|-----------|-----------|
| | | P1 | P2 | P3 | P4 | P5 |
| 1 | I think that I would like to use this system frequently. | 3 | 3 | 3 | 3 | 3 |
| 2 | I found the system unnecessarily complex. | 2 | 2 | 1 | 2 | 1 |
| 3 | I thought the system was easy to use. | 2 | 3 | 2 | 3 | 3 |
| 4 | I think that I would need the support of a technical person to use this system. | 1 | 2 | 2 | 2 | 3 |
| 5 | I found the various functions in this system well integrated. | 3 | 3 | 3 | 3 | 3 |
| 6 | I thought there was too much inconsistency in this system. | 3 | 3 | 2 | 3 | 2 |
| 7 | I would imagine that most people would learn to use this system very quickly. | 2 | 3 | 3 | 3 | 3 |
| 8 | I found the system very cumbersome to use. | 3 | 3 | 3 | 3 | 3 |
| 9 | I felt very confident using the system. | 3 | 3 | 3 | 3 | 3 |
| 10 | I needed to learn a lot of things before I could get going with this system. | 3 | 2 | 3 | 2 | 2 |
| | Total Scores | 25 | 27 | 25 | 27 | 26 |
| | Multiply by 2.5 | 62.5 | 67.5 | 62.5 | 67.5 | 65 |
| | Finals SUS | 65 | | | | |

Table 1 presents the results of the System Usability Scale (SUS) evaluation conducted among the system users. The obtained scores indicate that DigiTally achieved a high level of usability, suggesting that users found the system easy to understand, navigate, and operate during actual game scenarios. These results imply that the system interface and functionality are suitable for local league environments, supporting efficient scorekeeping and statistical management.

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