

Burning Stone Village Football Club (BSV FC) Information Management System

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Abstract: *Football club management system is used to manage the information of the teams, matches, and performances of the football club. Currently, some football club still implement the manual record management system to store the records of managers, coach, players, training and match performance, and records of the matches. This football club management system aims to administer and manage the information of Burning Stone Village Football Club (BSV FC) systematically and effectively. The modules in this system include homepage information, personal details, performance, match, and report modules. The system is developed using structural approach and prototype model. PHP and MySQL are the coding languages used in this project. By using this system, the management of the football club's information may be easier and more organized.*

Keywords: *Football Club, Management Information System, Web-Based System*

1. Introduction

Football is one of the most popular team sports and ball games in the world, in terms of players and audience. It was concluded that, "According to data from a poll of 18 markets across the Americas, Europe, the Middle East, and Asia, football constantly ranks first, with at least 40% of responders indicating that they are "interested" or "very interested" in the sport. In 2017, football received 43% of the vote, which corresponded to 736 million individuals across the surveyed markets are interested in football." [1]. In football, 11 players including goalkeeper of 2 teams will be on the field in each game, while several substitutes will be ready in the reserve bench. A football team consists of not only players, but also managers and coaches. Managers play a role in managing players' data and all forms of match schedule, while coaches are responsible in training and devising strategies for players. Every football team must have their own strategy, whether in attacking or defending, to keep their play more organized and efficient. Therefore, information management systems are important for a football club, to facilitate the management and storage of players and team data.

Burning Stone Village Football Club or also known as BSV FC, is a football club located in Kampung Bakar Batu, Johor Bahru, Johor. This football club have been formed from around 2005 to 2006, but it is only registered and officially established as an official football club in 2020. This football

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club committee is still under development because of the outbreak of Covid-19 that happened in 2020 causing the management of the football club to come to a halt and only been continued early 2022. Thus, Burning Stone Village Football Club (BSV FC) still does not have an organized and systematic information management system. All players' information is recorded manually on paper by the club manager. Furthermore, the information that has been recorded only includes the name, age, and position of the BSV FC player. Detailed information such as height, weight, assists, and goals scored by each player has not yet been recorded. Record of the match that has been attended and played by the team is also recorded by the club manager. However, the information recorded is very simple, such as the name of the opposing team, the date, and the result of the match or goals.

The development of Burning Stone Village Football Club (BSV FC) is slower due to the absence of an effective management system. The current method used by the club manager is unsuitable in the long run. It is because the probability of data recorded in the paper or book is lost or damaged is high, if it is not properly stored. The existing method also causes the data recorded by the manager to be very simple and incomplete. Since the manual method used by BSV FC manager requires more time, energy, and efficiency, the manager prefers to record the players' data and matches briefly, to make it easier, and faster. However, this insufficient data is practically useless and cannot help in improving the performance of the players and team. In addition, aspects such as the strengths and weaknesses of the players are also unknown as team performance analysis is not possible through the existing management system.

Hence, Burning Stone Village Football Club (BSV FC) Information Management System is proposed to manage all the important information about this club. The system provides a database for storing data and information related to players, coaches, managers, and matches. This information will make the management and team-improvement processes more efficient. The system will not only be used by the manager, but also the coaches and players. For example, managers can record the player's performance and matches in this system, coaches can formulate appropriate training for players, and players can know their weaknesses and developments over time from this system. Therefore, the proposed system aims to ensure that the club can adopt a more organized and systematic management system, to improve the performance of players and teams.

2. Related Work

2.1 Web Based Information System

Web based information system is a system that stores, processes, and manages data via the internet. "An information system is one that includes data collecting, input, processing, storage, control, and reporting to provide information from which decisions can be made to accomplish desired goals and objectives." [2]. Information systems hold all types of data, including documents, communication histories, review histories, and operational information.

"The Internet is a more effective and useful medium than conventional print media including brochures, pamphlets, newspapers, and other print media. The internet is a network that connects several local networks in a region, city, or even country so that numerous computers can operate together as a network and take advantage of the development of communication technologies (telephone and satellite). One of the internet services that businesses, organizations, and educational institutions frequently use is the web." [3]. Thus, the use of the web as a container of information systems is considered very useful in managing a football club's data.

2.2 Similar Management System

Organizations must keep up with the latest developments in technology to avoid becoming obsolete. As time goes by, the amount of data and information that needs to be stored will increase. A computerized system will be helpful to manage all personal details and important information in the football club. The system should be able to manage the information and offer additional functionality to make admin and manager tasks easier. Some system that are similar are Web-Based Employee Management System for Keymans, Bright Kids Tuition Centre Management Information System, and SMAP Online. These systems provide features like managing staff information, record attendance, course registration and academic performance reporting features. Studying this similar management system is helpful in developing a good football club management system. The special feature of the proposed system compared to the others, is in the performance module. In performance module, the proposed system manages the players training performance where coaches could keep track of each player's rate of performance. This information can be used to customize the training sets for each player. Thus, the proposed system is helpful in improving the skills of players, and the team. **Table 1** shows the comparison between three similar systems with the proposed system which is Burning Stone Village Football Club (BSV FC) Information Management System.

Table 1: System's comparison

| System | Web-Based Employee Management System for Keymans | Bright Kids Tuition Centre Management Information System | SMAP Online | Proposed System |
|-------------------------|--|--|-------------|-----------------|
| Registration | √ | √ | √ | √ |
| Personal Details Module | √ | √ | √ | √ |
| Performance Module | X | √ | √ | √ |
| Reports | √ | √ | √ | √ |

Table 2: Phase and activity during system development

| Phase | Activity | Deliverable |
|----------------|--|---|
| Planning | Identify problems, objectives, and scope. | <ul style="list-style-type: none"> ● Proposal ● Gantt Chart |
| Analysis | Collect the requirements. | <ul style="list-style-type: none"> ● System requirement ● DFD ● ERD ● Flowcharts |
| Design | Design system interface and database and choose suitable programming language. | <ul style="list-style-type: none"> ● System architecture ● Database schema and data dictionaries ● User interface of the system. |
| Implementation | Testing the system and fixing any error occur. | <ul style="list-style-type: none"> ● Php programming ● MySQL |

| Phase | Activity | Deliverable |
|--------------|---|---|
| Prototype 1 | Detect the weakness of the system and fix the errors. | <ul style="list-style-type: none"> • Prototype |
| Prototype 2 | Detect the weakness of the system and fix the errors. | <ul style="list-style-type: none"> • Prototype |
| Presentation | Presentation of the system in front of panel. | <ul style="list-style-type: none"> • Final report • Complete system |

3. Methodology/Framework

The prototyping model is used in the project development of Burning Stone Village Football Club (BSV FC) Information Management System. Prototyping model is a software process model that involves developing, testing, and modifying system prototypes repeatedly until desired result is achieved. The prototype method includes several phases which are planning, analysis, design, prototype development and implementation phase as shown in **Table 2**.

3.1 Requirement Gathering and Analysis Phase

The goals and scope of developing the football club management system are determined in the planning phase. The interview takes place at the football field of Kampung Bakar Batu, Johor Bahru, Johor with Mr. Mahadi Bin Ahmat. Results from the interviews and observations were used to analyze the system requirements.

Table 3: Modules of Burning Stone Village Football Club (BSV FC) Information Management System

| Module | Function | User |
|----------------------------|--|-------------------------------|
| 1. Admin module | Manage registration for the system user. | Admin |
| 2. Login module | Manage login for the system user. | Admin, Manager, Coach, Player |
| 3. Information module | Contains the information of the upcoming training and match. | Admin, Manager, Coach, Player |
| 4. Personal details module | Manage personal information of admins, managers, coaches, and players. | Admin, Manager, Coach, Player |

| Module | Function | User |
|-----------------------|--|-------------------------------|
| 5. Performance module | Record the performance of players in matches and training. | Admin, Manager, Coach, Player |
| 6. Match module | Manage match schedule and records of the match. | Admin, Manager, Coach, Player |
| 7. Report module | Generate reports of top scorer, top assists, most yellow cards, most fouls, and most offsides. | Admin, Manager, Coach |

(i) System requirements

Functional requirements are used to identify how the developed system should work and how it should behave specifically when converting input into output. The non-functional requirements specify the standards by which the operating system will be evaluated by the system. **Table 3** shows the modules of the proposed system while **Table 4** and **Table 5** show the non-functional requirements and functional requirements for the proposed system respectively.

Table 4: Non-functional requirements

| No | Requirement | Description |
|----|-------------|--|
| 1 | Operational | The system should have a database to store all the data. |
| 2 | Reliability | The system shall never crash or hang, other than as the result of an operating system error. |
| 3 | Security | The system should be accessed only by authenticated users. |
| 4 | Usability | The system should be user friendly and easy to use. |

Table 5: Functional requirements

| No | Module | Description |
|----|--------------------|---|
| 1 | Admin module | <ul style="list-style-type: none"> The system should allow the admin to register the admin, manager, coach, and player as a user to the system. |
| 2 | Login module | <ul style="list-style-type: none"> The system should allow admin, manager, coach, and player to login into the system using username and password. The system should redirect the users to the homepage once login is successful. |
| 3 | Information module | <ul style="list-style-type: none"> The system should allow the users to view homepage information. The system should allow the admin and manager to manage the homepage information. |

| No | Module | Description |
|----|-------------------------|--|
| 4. | Personal details module | <ul style="list-style-type: none"> • The system should allow admin and manager to view and manage the personal details of manager, coach, and player. • The system should allow coach and player to view and update their personal details. |
| 5 | Performance module | <ul style="list-style-type: none"> • The system should allow admin and manager to view and manage the training performance information. • The system should allow admin and manager to view and manage the match performance information. • The system should allow the coach to view and manage the training performance information. • The system should allow the player to view their training performance information. • The system should allow the coach and player to view the match performance information. |
| 6 | Match module | <ul style="list-style-type: none"> • The system should allow admin and manager to view and manage the match schedule information. • The system should allow coach and player to view the match schedule information. • The system should allow admin, manager, coach, and player to view the match record information. |
| 7 | Report module | <ul style="list-style-type: none"> • The system should allow admin, manager, and coach to view the reports. |

(ii) System analysis

Context diagram is important because it summarizes the central requirements to accept inputs, perform actions and generate output [4]. Data flow diagram (DFD) and entity relationship diagram (ERD) are produced under structured approach analysis. DFD is also known as graphical diagrams that specify, construct, and visualize the model of a system [5]. Entity relationship diagram is one of the main diagrammatic representations of a conceptual data model that reflects users' data requirements in a database system [6]. **Figure 1** shows the context diagram of the proposed system. The context diagram consists of four entities which are admin, manager, coach, and player. **Figure 2** shows the DFD level 0, while **Figure 3** illustrates the ERD.

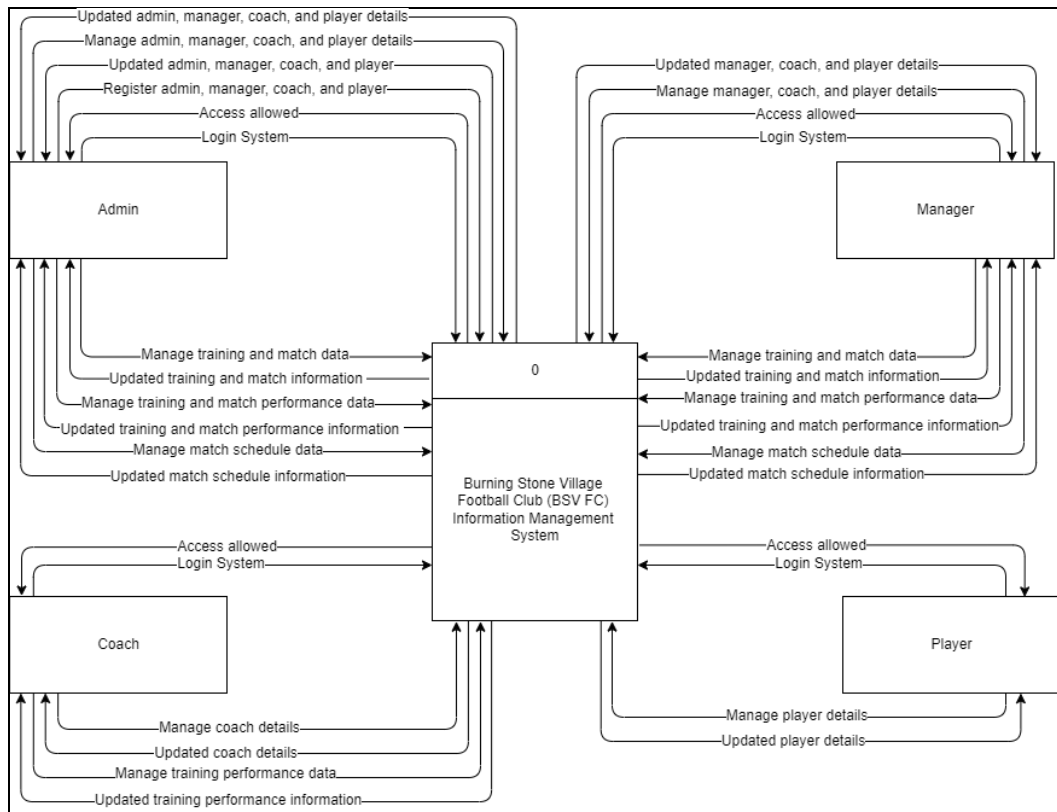


Figure 1: Context diagram

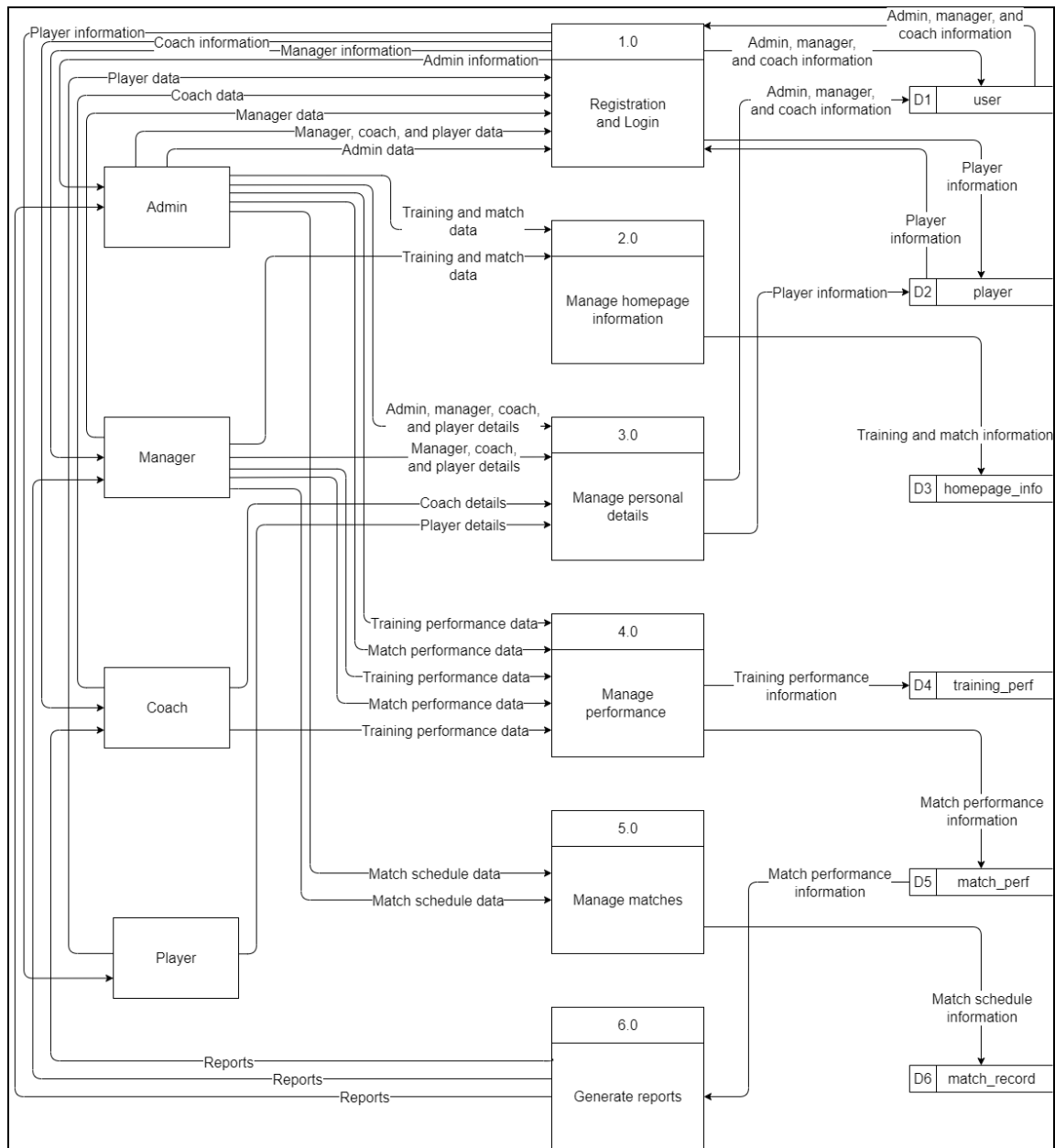


Figure 2: DFD Level 0

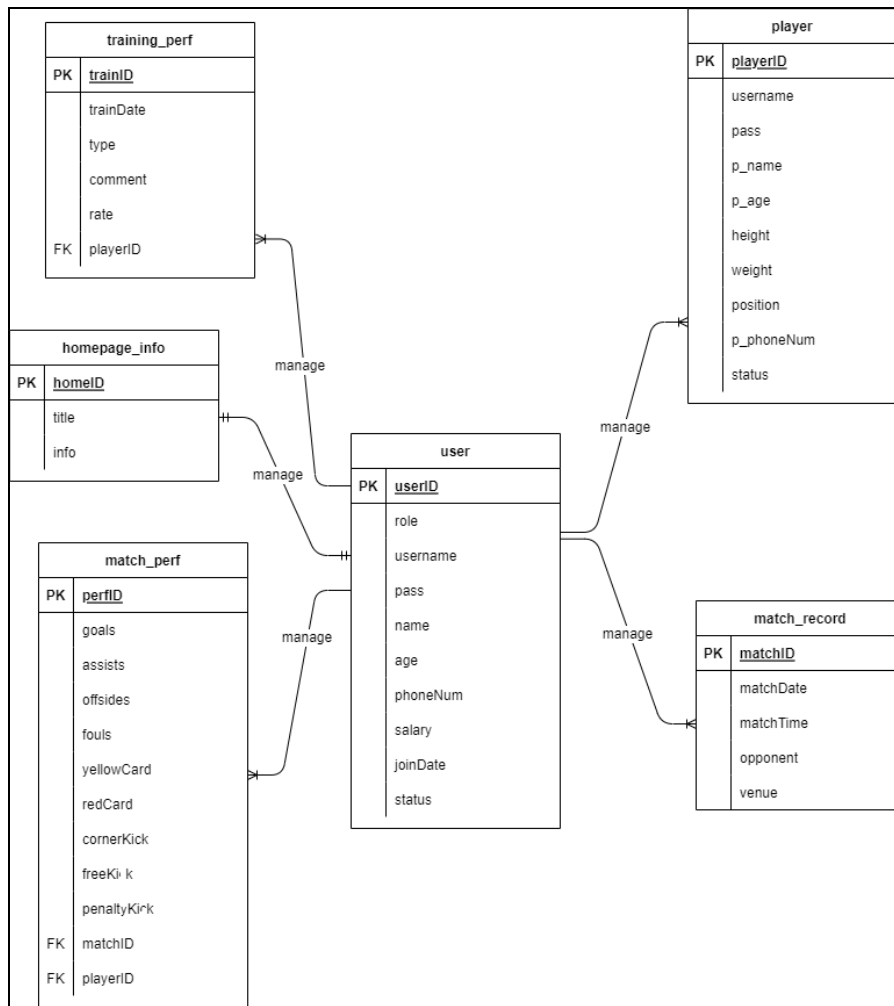


Figure 3: Entity Relationship Diagram

(iii) System architecture

Next, the process in the design phase is design the system architecture, database schema, data dictionaries, and system’s user interface.

The relational schema for database tables is listed as follows:

- i. user (userID, role, username, pass, name, age, phoneNum, salary, joinDate, status)
- ii. player (playerID, username, pass, p_name, p_age, height, weight, position, p_phoneNum, status)
- iii. homepage_info (homeID, title, info)
- iv. training_perf (trainID, trainDate, type, comment, rate, playerID)
- v. match_perf (perfID, goals, assists, offsides, fouls, yellowCard, redCard, cornerKick, freeKick, penaltyKick, matchID, playerID)
- vi. match_record (matchID, matchDate, matchTime, opponent, venue)

User interface (UI) is a component that facilitates user interaction with a product or service’s interface [7]. User interface (UI) is designed to help in visualizing the system before proceeding with the coding the system. Figure 4 until Figure 9 illustrates the interface of the proposed system.



Figure 4: Interface of personal details

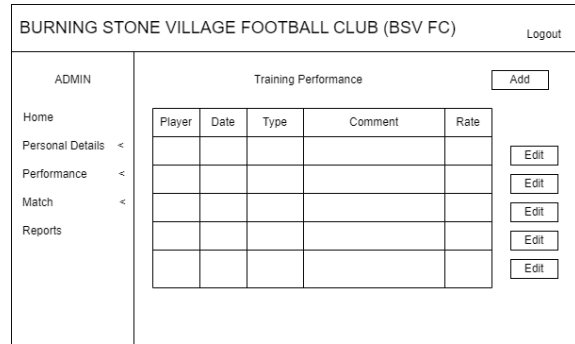


Figure 5: Interface of training performance



Figure 6: Interface of match performance



Figure 7: Interface of match schedule

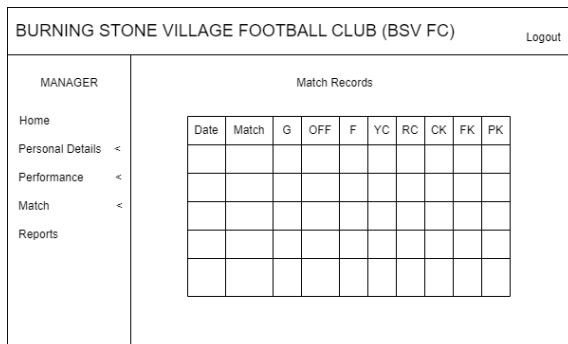


Figure 8: Interface of match record

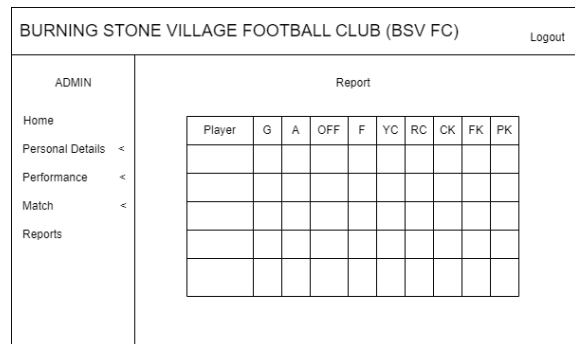


Figure 9: Interface of the reports

4. Results and Discussion

Results of the system implementation process and the system testing of Burning Stone Village Football Club (BSV FC) Information Management System are documented in this section.

4.1 System Implementation

System implementation involves all processes including the source code of the system development.

4.1.1 Login Module

Figure 10 and **Figure 11** show the code segment and the user interface for logging into the system. Only users with valid login credentials can access the system.

```
if(isset($_POST['login']))
{
    $username=$_POST['username'];
    $pass=$_POST['pass'];
    $sql ="SELECT userID FROM user WHERE role='admin'
    AND username=:username AND pass=:pass";
    $query=$dbh->prepare($sql);
    $query->bindParam(':username', $username, PDO::PARAM_STR);
    $query->bindParam(':pass', $pass, PDO::PARAM_STR);
    $query->execute();
    $results=$query->fetchAll(PDO::FETCH_OBJ);
```

Figure 10: Login source code

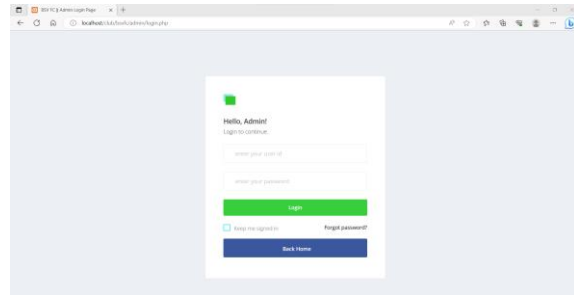


Figure 11: Login interface

4.1.2 Admin Module

Figure 12 and **Figure 13** show the source code and user interface for registering user account. This function is only accessible by admin.

```
if (strlen($_SESSION['bsvaid'])==0) {
    header('location:logout.php');
} else{
    if(isset($_POST['submit']))
    {
        $role=$_POST['role'];
        $name=$_POST['name'];
        $pass=$_POST['pass'];
        $sql="INSERT into user(role,username,pass) VALUES(:role,:name,:pass)";
        $query=$dbh->prepare($sql);
        $query->bindParam(':role', $role, PDO::PARAM_STR);
        $query->bindParam(':name', $name, PDO::PARAM_STR);
        $query->bindParam(':pass', $pass, PDO::PARAM_STR);
        $query->execute();
        $lastInsertId=$dbh->lastInsertId();
        if ($lastInsertId) {
            echo "<script>alert('New manager has been added.')

```

Figure 12: Registration source code

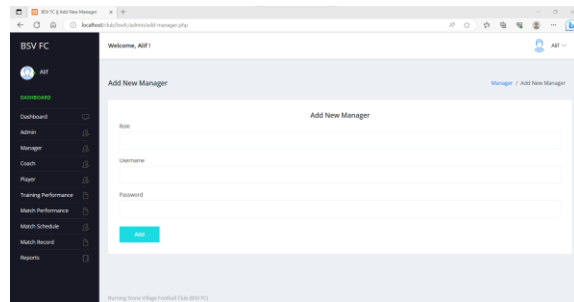


Figure 13: Registration interface

4.1.3 Information Module

Figure 14 and **Figure 15** show the source code and interface of the homepage. Admin and manager have the access to add and edit information in this module.

```
$ret = "SELECT homeID FROM homepage_info";
$query1 = $dbh -> prepare($ret);
$query1->execute();
$results1=$query1->fetchAll(PDO::FETCH_OBJ);
$total_rows=$query1->rowCount();
$total_pages = ceil($total_rows / $no_of_records_per_page);
$sql="SELECT * from homepage_info LIMIT $offset, $no_of_records_per_page";
$query = $dbh -> prepare($sql);
$query->execute();
$results=$query->fetchAll(PDO::FETCH_OBJ);
```

Figure 14: Homepage source code

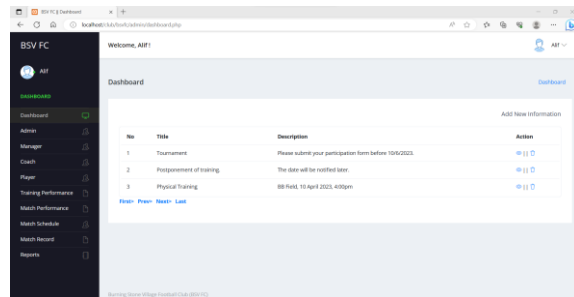


Figure 15: Homepage interface

4.1.4 Personal Details Module

Figure 16 and **Figure 17** show the source code of personal details and its interface in the system. Admin and manager will have access to edit the personal details of other users, while coach and player can only edit their own personal details.

```
$sql="SELECT * from player LIMIT $offset, $no_of_records_per_page";
$query = $dbh -> prepare($sql);
$query->execute();
$results=$query->fetchAll(PDO::FETCH_OBJ);
```

Figure 16: Player details source code

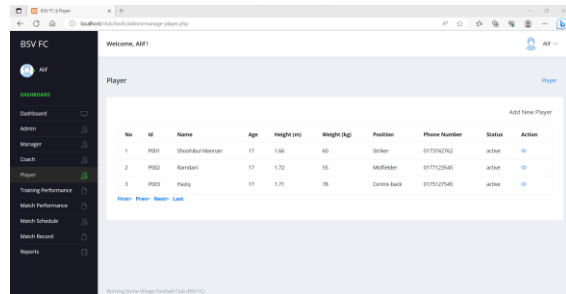


Figure 17: Player details interface

4.1.5 Performance Module

Figure 18 and **Figure 19** show the source code and interface of training performance. Admin has the access to add and edit new training performance, while manager and coach only have the access to edit the training performance.

```
$ret = "SELECT trainID FROM training_perf";
$search = $_POST['search'];
$query1 = $dbh -> prepare($ret);
$query1->execute();
$results1=$query1->fetchAll(PDO::FETCH_OBJ);
$total_rows=$query1->rowCount();
$total_pages = ceil($total_rows / $no_of_records_per_page);
$sql="SELECT * FROM training_perf WHERE playerID LIKE '%$search%' ORDER BY trainDate DESC LIMIT $offset, $no_of_records_per_page";
$query = $dbh -> prepare($sql);
$query->execute();
$results=$query->fetchAll(PDO::FETCH_OBJ);
```

Figure 18: Training performance source code

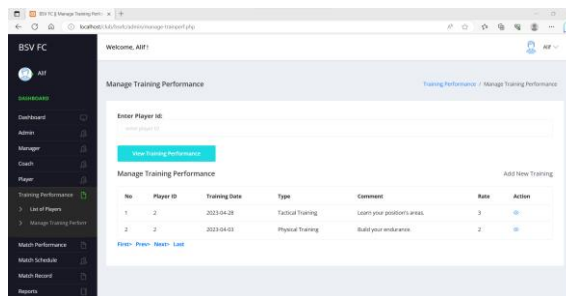


Figure 19: Training performance interface

4.1.6 Match Module

Figure 20 and **Figure 21** show the source code of the match schedule, and its interface in the system. Admin has the access to add new match schedules and edit the schedule, while manager only has the access to edit the schedule. Coach and player can view the match schedule in their own interface.

```
$ret = "SELECT matchID FROM match_record";
$query1 = $dbh -> prepare($ret);
$query1->execute();
$results1=$query1->fetchAll(PDO::FETCH_OBJ);
$total_rows=$query1->rowCount();
$total_pages = ceil($total_rows / $no_of_records_per_page);
$sql="SELECT * from match_record LIMIT $offset, $no_of_records_per_page";
$query = $dbh -> prepare($sql);
$query->execute();
$results=$query->fetchAll(PDO::FETCH_OBJ);
```

Figure 20: Match schedule source code

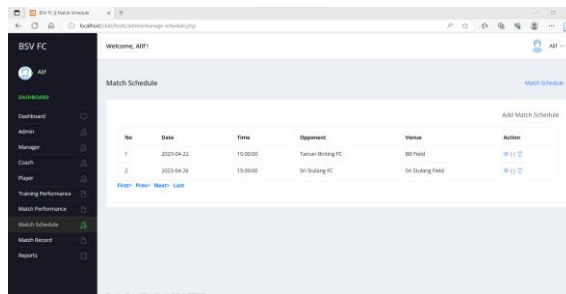


Figure 21: Match schedule interface

4.1.7 Report Module

Figure 22 shows the source code of the report, and Figure 23 shows interface report in the system. This report is automatically generated from the match performance of the players.

```

$ret = "SELECT perfID FROM match_perf";
$search = $_POST['search'];
$query1 = $dbh -> prepare($ret);
$query1->execute();
$results1=$query1->fetchAll(PDO::FETCH_OBJ);
$total_rows=$query1->rowCount();
$total_pages = ceil($total_rows / $no_of_records_per_page);
$sql="SELECT player.playerID, player.p_name, sum(goals) as goals,
sum(assists) as assists, sum(offsidess) as offsidess,
sum(fouls) as fouls, sum(yellowCard) as yellowCard,
sum(redCard) as redCard, sum(freeKick) as freeKick,
sum(penaltyKick) as penaltyKick FROM player
INNER JOIN match_perf ON player.playerID=match_perf.playerID
GROUP BY playerID LIMIT $offset, $no_of_records_per_page";
$query = $dbh -> prepare($sql);
$query->execute();
$results=$query->fetchAll(PDO::FETCH_OBJ);
    
```

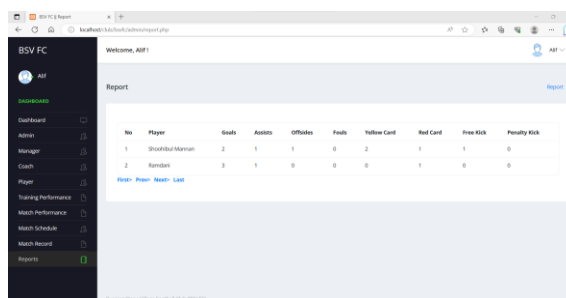


Figure 22: Report source code

Figure 23: Report interface

4.2 Testing

User testing is conducted as part of this system testing. The system testing is performed to ensure that the developed system is fully functional, operates smoothly, and meets the requirements set during the system development. Users conducted several tests in the login procedure, as shown in Table 6.

Table 6: Test case for login module

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|--|---|-----------|
| 1 | To check whether admin can login into the system. | The admin should be able to login into the system. | The admin has successfully logged into the system. | Pass |
| 2 | To check whether manager can login into the system. | The manager should be able to login into the system. | The manager has successfully logged into the system. | Pass |
| 3 | To check whether coach can login into the system. | The coach should be able to login into the system. | The coach has successfully logged into the system. | Pass |
| 4 | To check whether player can login into the system. | The player should be able to login into the system. | The player has successfully logged into the system. | Pass |
| 5 | To check whether the system will forbid login if incorrect credentials is entered. | The system should be able to restrict login when incorrect credentials is entered. | The system restricted the login when there is incorrect, or no credentials entered. | Pass |

Table 7 shows the test case for Admin module. There are total of 2 test cases for this module. The purpose of this test is to verify whether the admin can register a new user account in the system.

Table 7: Test case for admin module

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|---|--|-----------|
| 1 | To check whether admin can register new admin, manager, coach, and player into the system. | The admin should be able to register new admin, manager, coach, and player into the system. | The admin has successfully registered the account for new admin, manager, coach, and player. | Pass |

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|--|---|-----------|
| 2 | To check whether system could forbid login if role entered is wrong. | The system should be able to restrict the registration of admin, manager, and coach in the system. | The system restricted the registration of new account when incorrect role has been entered. | Pass |

Table 8 shows the test case for the Information module. There are total of 4 test cases for this module, and it shows that all the four (4) tests had passed the test.

Table 8: Test case for information module

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|---|---|-----------|
| 1 | To check whether admin, manager, coach, and player can view the homepage and navigate through it easily. | The admin, manager, coach, and player should be able to view the homepage, and navigate easily. | The admin, manager, coach, and player has successfully viewed the homepage information. | Pass |
| 2 | To check whether admin and manager can insert new homepage information in the system | The admin and manager should be able to insert new homepage information in the system. | The admin and manager have successfully insert new homepage information in the system. | Pass |
| 3 | To check whether the system allowed the admin and manager to update the homepage information. | The system should be able to allow the admin and manager to update the homepage information. | The system allowed the admin and manager to update the homepage information. | Pass |
| 4 | To check whether admin and manager can delete the homepage information in the system. | Admin and manager should be able to delete the homepage information in the system. | Admin and manager have successfully deleted the homepage information in the system. | Pass |

Table 9 shows the test case for Personal Details module. This module consists of 8 test cases. The purpose of this test is to verify whether admin and manager can edit the personal details of the other users, while coach and player can edit and update their own personal details.

Table 9: Test case for personal details module

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|--|---|-----------|
| 1 | To check whether the system allow the admin to view the personal details of admin, manager, coach, and player. | The system should be able to display the personal details of admin, manager, coach, and player, for the admin. | Admin can view the personal details of admin, manager, coach, and player. | Pass |
| 2 | To check whether the system allow the manager to view the personal details of manager, coach, and player. | The system should be able to display the personal details of manager, coach, and player, for the manager. | Manager can view the personal details of manager, coach, and player. | Pass |
| 3 | To check whether the system allowed the coach to view their own personal details. | The system should be able to allow the coach to view their own personal details. | Coach can view their own personal details. | Pass |

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|---|---|--|-----------|
| 4 | To check whether the system allowed the player to view their own personal details. | The system should be able to allow the player to view their own personal details. | Player can view their own personal details. | Pass |
| 5 | To check whether admin can update the personal details of admin, manager, coach, and player, in the system. | Admin should be able to update the personal details of admin, manager, coach, and player. | Admin can edit and update the personal details of admin, manager, coach, and player. | Pass |
| 6 | To check whether manager can update the personal details of manager, coach, and player, in the system. | Manager should be able to update the personal details of manager, coach, and player. | Manager can edit and update the personal details of manager, coach, and player. | Pass |
| 7 | To check whether the coach can update their own personal details in the system. | Coach should be able to update their own personal details in the system. | Coach can edit and update their own personal details. | Pass |
| 8 | To check whether the player can update their own personal details in the system. | Player should be able to update their own personal details in the system. | Player can edit and update their own personal details. | Pass |

Table 10 shows the test case for Performance module. There are two sections in this module which are training performance, and match performance. This module consists of 8 test cases.

Table 10: Test case for performance module

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|--|---|-----------|
| 1 | To check whether the system will display the training performance based on player id entered by the admin, manager, and coach. | The system should be able to display the training performance based on player id entered by admin, manager, and coach. | Admin, manager, and coach can view the training performance of the specific player. | Pass |
| 2 | To check whether the system allow the player to view their own training performance. | The system should be able to allow the player to view their own training performance. | Player can view their own training performance. | Pass |
| 3 | To check whether admin can insert new training performance. | Admin should be able to insert new training performance. | Admin can insert new training performance in the system. | Pass |
| 4 | To check whether admin, manager, and coach can update the training performance of each player. | Admin, manager, and coach should be able to update the training performance. | Admin, manager, and coach can edit and update the training performance. | Pass |
| 5 | To check whether the system will display the match performance based on match id entered by the | The system should be able to display the match performance based on match id entered by | Admin, manager, and coach can view the match performance of the players. | Pass |

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|---|--|--|-----------|
| | admin, manager, and coach. | admin, manager, and coach. | | |
| 6 | To check whether the system allow the player to view their own match performance. | The system should be able to allow the player to view their own match performance. | Player can view their own match performance. | Pass |
| 7 | To check whether admin can insert new match performance. | Admin should be able to insert new match performance. | Admin can insert new match performance in the system. | Pass |
| 8 | To check whether admin and manager can update the match performance. | Admin and manager should be able to update the match performance. | Admin and manager can edit and update the match performance. | Pass |

Table 11 shows the test case for Match module. There are two sections in this module which are match schedule and match record. This module consists of 5 test cases.

Table 11: Test case for match module

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|--|--|-----------|
| 1 | To check whether the system will display the match schedule. | The system should be able to display the match schedule. | Admin, manager, coach, and player can view the match schedule. | Pass |
| 2 | To check whether admin can insert new match schedule. | Admin should be able to insert new match schedule. | Admin can insert new match schedule into the system. | Pass |
| 3 | To check whether admin and manager can update the match schedule. | Admin and manager should be able to update the match schedule. | Admin and manager can edit and update the match schedule. | Pass |
| 4 | To check whether admin and manager can delete the match schedule. | Admin and manager should be able to delete the match schedule. | Admin and manager can delete the match schedule. | Pass |
| 5 | To check whether the system will allow the admin, manager, coach, and player to view the match record. | The system should be able to allow the admin, manager, coach, and player to view the match record. | The system allowed admin, manager, coach, and player to view the match record. | Pass |

Table 12 shows the test case for Report module. This module only consists of 1 test case, at it shows that it had passed the test. From this report, players with top performance can be seen.

Table 12: Test case for report module

| No | Test Case | Expected Result | Actual Result | Pass/Fail |
|----|--|---|---|-----------|
| 1 | To check whether the system can generate report of players consisting of their total of goals, assists, offsides, fouls, yellow card, red card, free kick, and penalty kick. | The system should be able to generate report of players consisting of their total of goals, assists, offsides, fouls, yellow card, red card, free kick, and penalty kick. | The system can generate report of players consisting of their total of goals, assists, offsides, fouls, yellow card, red card, free kick, and penalty kick. | Pass |

5. Conclusion

In conclusion, this system is designed and developed for the management system of Burning Stone Village Football Club (BSV FC). Several modules are suggested and designed, after observing and analyzing the issues in the management system of this football club. There are four types of users which are admin, manager, coach, and player. The system can improve the management system of this club. Admin and manager could manage and store important information effectively, while coach and player can keep update of the training and match performances.

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