COLLEGE OF COMPUTING AND INFORMATION SCIENCES

DEPARTMENT OF NETWORKS

BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING (YEAR 2) RECESS TERM 2 (BSE 2301) SOFTWARE REQUIREMENT SPECIFICATION FOR: FIFA18 COMPLETE PLAYER DATASET PROJECT

GROUP 15

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SOFTWARE REQUIREMENTS SPECIFICATION

FOR

FIFA18 COMPLETE PLAYER DATASET ANALYSIS PROJECT

Prepared by: GROUP 15

Organization: FIFA 18

Created on: 26TH /06/2018

Version 1.0

1. INTRODUCTION

This section gives a scope description and overview of everything included in this SRS document.

1.1 Purpose

The purpose of this document is to present a detailed description of the FIFA 18 Data Analysis System. It will explain the purpose and features of the FIFA 18 Data Analysis System, the interfaces, what it will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of FIFA 18 Data Analysis System.

1.2 Document Conventions.

When writing this System Requirements Specification for the FIFA 18 Data Analysis System different conventions were followed.

A Times New Roman Font was used. Main headings were given a font size of 14, and bold faced and the normal text was given a font size of 12.

1.3 Intended Audience and reading suggestions.

This document is intended for the managers, systems administrators and the analysts to initiate an open discussion to look into the FIFA 18 Data Analysis System. This document will guide them into making correct decisions in coming up with the dream team.

1.3.1 Overall Descriptions

Section	Description
Overall Description	This section mainly gives information about the overall description of FIFA 18 Data Analysis system such as its perspective, user classes and characteristics, its main functions, operating environment and many more others.
External Interface Requirements	Describes all the interfaces of the FIFA 18 Data Analysis System such as the hardware interfaces, software interfaces, communication interfaces and the user interfaces.
System Features	This section highlights the functional requirements.
References	This section describes a list of references on which this document is based.
Glossary	This describes briefly all the general terms used in this software requirements specification.

1.4 Product Scopes

Manager: The manager is going to use the analysis report from the system administrator to find flaws in the FIFA 18 Data Analysis System and forward it to the top level administrators for decision making on how to improve it.

Systems Administrator: The systems administrator is mainly meant to make the analysis report to be used by the manager and also to maintain the proposed system once it is in operation.

System Scope: The results of this analysis is going to provide a report on how the system users and the operators should interact with the FIFA 18 Data Analysis System.

1.5 References

[1] IEEE Software Engineering Standards Committee, "IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications", October 20, 1998.

[2] . IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998

2. OVERALL DESCRIPTION

2.1 Product perspective

The FIFA 18 Data Analysis system will be a desktop based system, it uses a CSV file containing data from the FIFA 18 complete player dataset to fetch and display results such as the graphs, analyzed data, charts and others.
All the graphical representations are displayed on a user interface of this system installed on a local computer.
The product (the system) is not a replacement of any existing system but it uses the data from the FIFA 18 complete player dataset to provide full analysis of the data.

2.2 Product function

To analyze which club has the best rated players

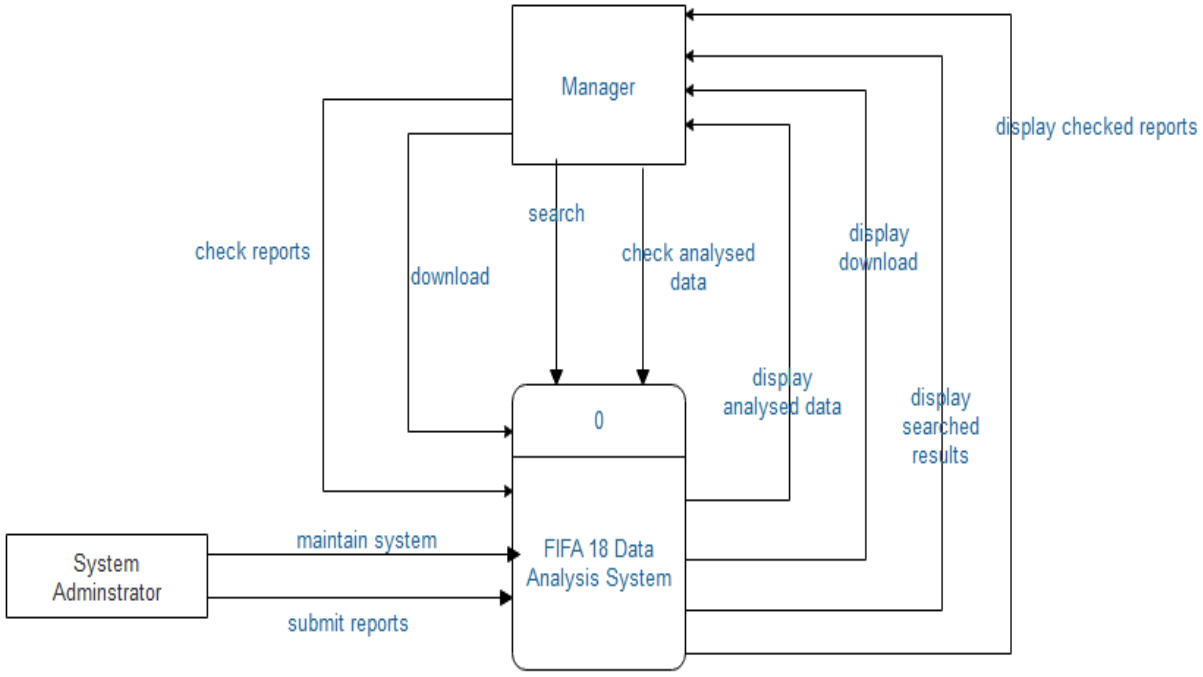
To determine the average rate for each player.

To analyze and determine how each player contributes to the success of winning of a match.

To analyze out the performance of each club

To determine the best player among a set of players.

2.2.1 Provided below is a top level diagram of the FIFA 18 Data Analysis System.



Top level diagram of FIFA 18 Data Analysis System.

2.3 User Classes and Characteristics

User class 1-System administrator

Uploads the data files

Checks whether there are errors with the data

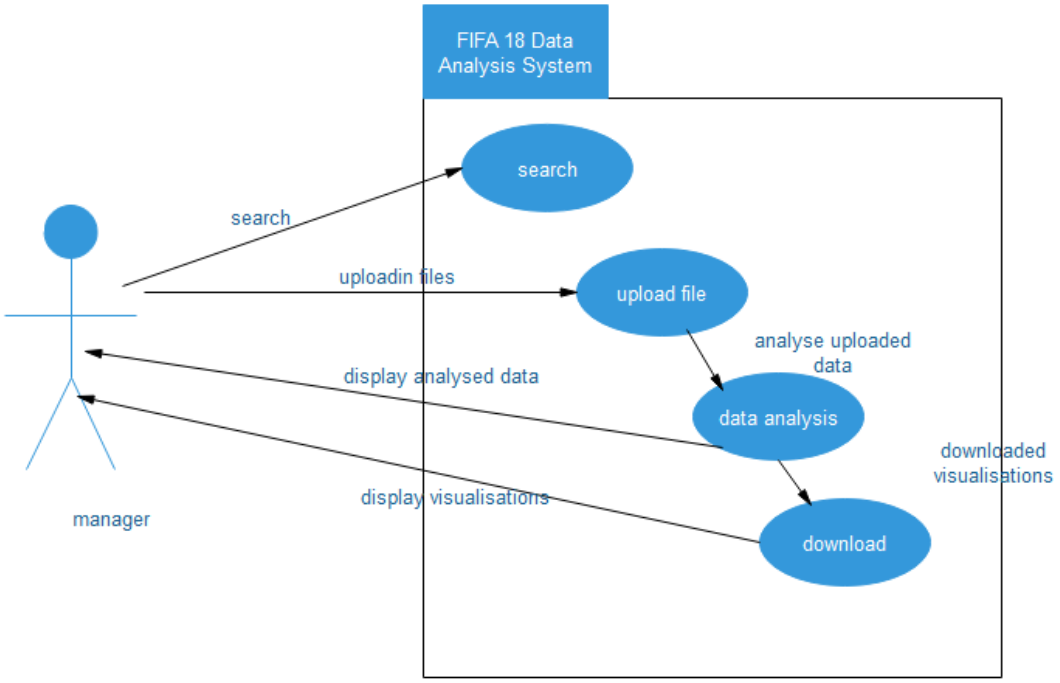
Maintains the system

User class 1- Project Manager

Uploads the data files

Checks the analyzed data

Presents analyzed data to the top executives for decision making



Use case diagram of FIFA 18 Data Analysis System.

2.4 Operating Environment

FIFA 18 Data Analysis system will require internet of the organization for it to operate. The system is expected to operate on every hardware of a computer.
It can also operate on all windows versions, Ubuntu, PlayStation 3, PlayStation 4, Xbox 360, Xbox One and Nintendo Switch.

2.5 Design and Implementation Constraints

Programming standards: The administrators will be responsible for maintaining the system.
Poor funding of the project.

2.6 User Documentation

User documentations such as the project scope so far have been given.
The users of this system shall refer to these documents for any further information about the FIFA 18 Data Analysis System. The system is under development stage and requires a complete

implemented prototype to explain the user documentation. Once the prototype is designed and implemented online manuals, user manuals shall be provided.

2.7 Assumptions and Dependencies

Assumptions

Effort: The project will need fulltime commitment, hard work, research and team work.

Schedule: The system will take 4 to 6 weeks including implementation.

Resources: The project will be done by 4 members each with a computer connected to internet working for at least 4-7 hours every day.

Budget: The project may cost a minimum of 3 million Uganda Shillings for all the events and tasks.

Software: The existing software will be used such as R studio.

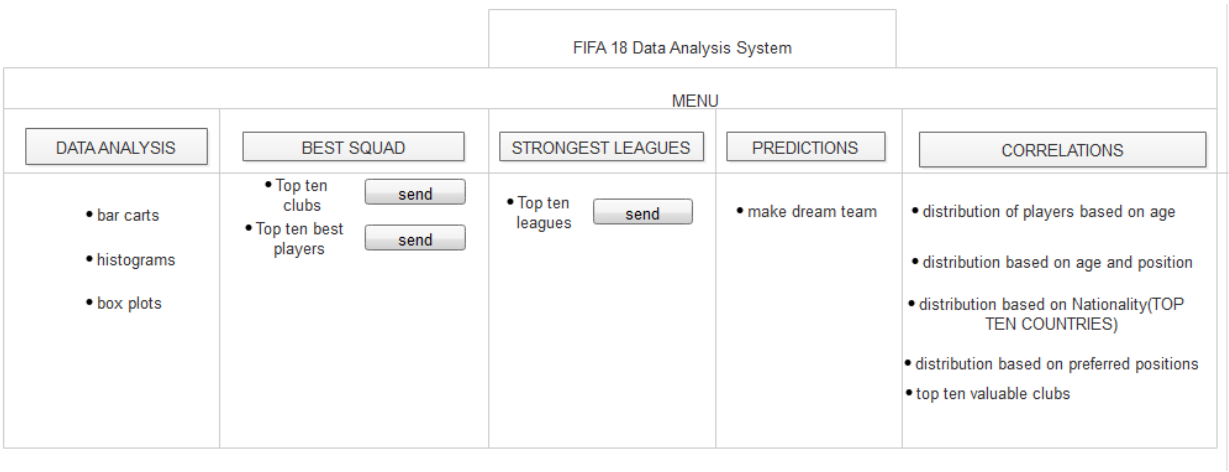
Dependencies

The system will depend on a CSV file which contains all the data that will be used to display the charts and graphs showing analyzed data.
Existing software will be used such as R studio.

3. EXTERNAL INTERFACE REQUIREMENTS

3.1 User Interfaces

There will be designed interfaces to show the carried out analysis. Below is a sample of the main interface which is still under development in R Studio.



User Interface

3.2 Hardware Interfaces

This system will not require any special hardware designed in advance. The minimum requirement is a computer system with at least 2 GB of RAM, 500 GB of storage space.

3.3 Software Interfaces

This System requires special packages like the shiny and dashboard packages which will all be downloaded to help in the designing of the user interfaces.

R studio will be used to edit and compile the source code. For Browser support, R-Studio contains a special browser to display the content.

3.4 Communication Interfaces

The FIFA 18 Data Analysis System shall use the HTTP protocol for communication over the localhost since no internet connection shall be required.

4. SYSTEM FEATURES

4.1 Data visualization

4.1.1 Description and Priority

This is a collection of various visualization techniques that shall be used to analyze FIFA 18 dataset. Such visualization techniques include bar graphs, scatter plots, histograms, boxplots they will be used to display the patterns that exist in the dataset.

4.1.2 Stimulus or Response Sequences

Stimulus: The user uploads a comma separated value file to be analyzed.

Response: A confirmation message is displayed showing successful upload.

Stimulus: The user has to click on a button depending on the visualization technique they want to use.

Response: A visualization diagram such as a bar graph, scatter plot and so on shall be displayed depending on the choice made by the user.

4.1.3 Functional Requirements

Browser support on every machine running this system

R Studio and R (version 3.4 and above) installed on every machine

CSV file containing the data to be analyzed.

4.2 The Predict Feature

4.2.1 Description and Priority

This feature will help give a future prediction of what will happen in the future such as, the player who is most likely to score more goals and the best player in the league.

This is a high priority feature because it will help in coming up with the dream team.

4.2.2 Stimulus or Response Sequences

Stimulus: The user clicks on top ten players

Response: A table (uses data from the uploaded CSV file) is displayed on the dashboard.

Stimulus: The user then will be able to see the best rated players from different clubs

Response: A bar graph is then displayed which shows different players ratings and in turn we will be able to come up with a dream team.

4.2.3 Functional Requirements

Browser support on every machine running this system

R Studio and R (version 3.4 and above) installed on a computer system running this system.

CSV file containing the data to be analyzed.

4.3 The search feature

4.3.1 Description and Priority

This feature shall allow users of the FIFA 18 Data Analysis System to search for certain players, teams depending on what they need.

This is a high priority feature because during analysis users might want to know what is going on with the players and in this case they have to search through the uploaded CSV file.

4.3.2 Stimulus or Response Sequences

Stimulus: The user types a keyword in the search box.

Response: A list of search results are displayed to the user.

4.3.3 Functional Requirements

Browser support on every machine running this system

R Studio and R (version 3.4 and above) installed on a computer system running this system.

CSV file containing the data to be analyzed.

5. OTHER NON FUNCTIONAL REQUIREMENTS

5.1 Performance Requirements

The FIFA 18 Data Analysis System shall not be hosted and has to be run from a local web server (Apache web server) on a local computer system.

It will also take an initial load time depending on the capabilities of the computer system and the size of the file.

5.2 Safety Requirements

To prevent failure of the software, the user should make sure that the file to be uploaded is a CSV file.

5.3 Security Requirements

FIFA 18 Data Analysis System will only be disclosed to the FIFA 18 executives who are responsible for decision making in the organization.

5.4 Software Quality Attributes

Reusability

The system will be rebuilt and enhanced to meet the new needs of the user. Therefore newer versions of the systems will be released based on the demands of users.

Usability

The system has a good graphical interface which is easy to handle, use and navigate even for people with little knowledge about complex systems.

6. OTHER REQUIREMENTS

6.1 Portability.

The system shall be useable on any modern PC running any current, supported version of Windows, Mac OS or Linux.

Appendix A Glossary

Definitions and Abbreviations

Protocol	Rules governing some the FIFA 18 Data Analysis System
FIFA	Federation Internationale de Football Association.
HTTP	Hypertext Transfer Protocol
CSV	Comma Separated Values

Appendix B To Be Determined List

Presently there are no remaining to be determined list All TBDs have been tracked to their closure.