



**COLLEGE OF COMPUTING AND INFORMATION SCIENCES**  
**DEPARTMENT OF NETWORKS**  
**BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING(YEAR 2)**  
**RECESS TERM 2 (BSE 2301)**  
**FINAL PROJECT REPORT For:**  
**FIFA WORLD RANKING SYSTEM**  
**GROUP 19**  
**PROJECT MEMBERS**

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**PROJECT LEADER**  
**WAIRAGALA ERIC PETER**  
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**SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIRMENTS FOR THE**  
**SOFTWARE ENGINEERING RECESS PROJECT BSE 2301**  
**25<sup>TH</sup> JULY, 2018**

FIFA WORLD RANKING SYSTEM	Version: 1.0
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## **1. Introduction**

The FIFA WORLD RANKING SYSTEM is a new and an open source system that runs on the Internet which will be mainly accessed by the sport analyst, football fans and the national teams who might want to know their FIFA rankings.

The system is built using R language in R studio used mostly for analysis of data and also Shiny package for designing interfaces. The system shall be viewed from every device for example phones, tablets, computers etc.

### **1.1. Purpose of this document**

This document describes the FIFA WORLD RANKING SYSTEM ,how it was developed, what we did, the intended audience and description of the work experience gained from this project

### **1.2. Intended Audience**

The intended audiences of this project includes sport analyst, football fans and the national team .

### **1.3. Scope**

The FIFA ranking system project is aimed to show visualizations of “FIFA” world rankings of the national teams from August 1993 to April 2018 particularly viewing world best teams, National team performance and the best teams in the different confederations for example UEFA, CAF, CONCACAF, OFC, AFC, CONMEBOL. Therefore it is compatible with majority of browsers to provide user friendly interfaces for the viewers all around the world.

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## 1.4. Definitions and acronyms

### 1.4.1. Definitions

Keyword	Definitions
Visualization	Process of presenting data in forms of graphs, bar plots, histograms and line graphs
FIFA	Is the governing body of all the football associations and its responsible for the world rankings
Packages	These are R libraries that contain abstract methods used generate and manipulate data in R

### 1.4.2. Acronyms and abbreviations

Acronym or abbreviation	Definitions
FIFA	Federation of International Football Association
FWRS	FIFA WORLD RANKING SYSTEM
UEFA	This is the football association of European countries.
CAF	This is the football association of the African countries.
CONCACAF	This is the football association of the North American countries.
OFC	This is the football association of the Oceania countries.
AFC	This is the football association of the Asian countries.
CONMEBOL	This is the football association of the south America countries.

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## 1.5. References

- [1] B Gary, J Harry Systems analysis and design Ninth Edition. Course Technology, Cengage learning, USA, 2012.
- [2] J Hunaizu, Y. Zejian and S Li, Salient Object Detection: A Discriminative Regional Feature Integration Approach.,2011.
- [3] A. Borgi, M.M. Cheng, Salient Object detection: A survey. In CVPR, 2017.

## 2. Background and Objectives

The viewers had to be updated about the frequently changing rankings of the different teams and countries made by FIFA which would led to memorizing in order to be on track or some could get lost while others would take records which they could not make use due to the many changes which would have occurred.

But with the FIFA world ranking system the viewers will be able to determine the best teams in the world from August 1993 to April 2018. Also they will be able to predict the countries position in the next rankings through the different visualizations.

## 3. Organization

### 3.1. Project Manager

Wairagala Eric Peter is the Manager of the group.

### 3.2. Project Group

Name	Responsibility
Wairagala Eric Peter	Project manager, Analysis, Implementation, Designing, testing, Documentation,integration
Dhikusooka Joshua	Implementation, Documentation, Analysis, Designing, integration,testing
Bateesa Saul Tobius	Implementation, Documentation, Designing, analysis,testing, integration
Nakanyike Mariam Nsubuga	Implementation, Analysis,Documentation, designing, testing

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### **3.3. Customer**

Sport analysts, football fans and national teams.

### **3.4. Others**

Noah Kange is the supervisor of the group.

## **4. Milestones.**

ID	Milestone Description	Finished week	Remarks
1	Project description and Plan	18/06/2018 - 22/06/2018	Good
2	Requirements Definition	25/06/2018 - 30/06/2018	Excellent
3	Project Design	02/07/2018 - 06/07/2018	Excellent
4	Project Implementation	10/07/2018 - 17/07/2018	Good
5	Final Presentation and delivery	23/07/2018 - 30/07/2018	Good

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## 5. Project Results

### 5.1. Requirements

#### 5.1.1. Requirement Compliance Matrix

Id	Requirement Description	completed
FWRS-1	User Requirements	Yes
FWRS-1.1	The user should be able to view best team according to confederations.	Yes
FWRS-1.2	User should be able to view country rankings	Yes
FWRS-1.3	The user should be able to view rank score in points for the different countries	Yes
FWRS-1.4	User should be able to view the number of times a country has participated in the international tournaments.	Yes
FWRS-1.5	The user should be able to view the number of times a team is ranked at top by FIFA.	Yes
FWRS-1.6	User should be able to view performance of different teams according to years from 1993 to 2018	Yes
FWRS -2	Project leader Requirements.	Yes
FWRS-2.1	Project leader should be able to manage project group.	Yes
FWRS-2.2	Project leader should be able to monitor individual work.	Yes
FWRS-2.3	Project leader should be able to report at the end of the week after finalizing the week plan.	Yes
FWRS -3	Project member should be able to submit week report.	Yes

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*Completed:*

*Yes (completely implemented)*

*No (not implemented at all)*

*Partially (partially implemented, more description under Remarks subsection)*

*Unknown (completion status not known)*

*Dropped (requirement was dropped during the course of the project)*

### **5.1.2. Requirements Compliance Summary**

Total number of requirements	12
Number of requirements implemented	12
Requirements partially fulfilled	0
Requirements not fulfilled	0
Requirements dropped	0

### **5.1.3. Work Products and Deliverables**

To	Output	Planned week	Late +/-	Delivered week
Noah Kange	Project Description & Plan	Week 1	No	Week 1
Noah Kange	Software requirement description	Week 2	No	Week 2
Noah Kange	Software design document	Week 3	No	Week 3
Noah Kange	Project status presentation	Week 4	No	Week 4
Noah Kange	Final presentation	Week 5	No	Week 5



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## 6. Project Experiences

### 6.1. Positive Experiences

The main experience we learn from this Project is to work in group. We also learn about new software like R studio, R language and how to use git version control .

### 6.2. Improvement Possibilities

We have experienced that will git version control we can make the project more successful and its easier, faster to track each group member.

## 7. Metrics

### 7.1. Milestone Metrics

Completed as planned or earlier	Total	Timelines
12	12	Achieved

### 7.2. Effort Metrics

Activity	Actual Effort	Planned Effort	Deviation (%)
Documentation	75	100	-25
Requirement Analysis	85	100	-15
designing	80	100	20
Implementation	93	100	-7
Integration	100	90	11.1
Testing	100	70	42.86
Total	533	560	26.96

Effort estimation accuracy (%) ( $100 * (1 - \text{abs}(\text{Actual} - \text{Planned}) / \text{Actual})$ )	94.93 %
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