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**SUBMITTED BY PAUL WAWERU WACHIURI TO KENYA METHODIST UNIVERSITY IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE IN BACHELOR OF BUSINESS INFORMATION TECHNOLOGY**

**DATE OF SUBMISSION: NOVEMBER 2019**

**Declaration by the Candidate**

This research project proposal, which is my original work, has not been presented for a Degree in any other University. No part of this research may be reproduced without the prior permission of the author and/or KeMU.

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**Declaration by the Supervisor(s)**

This research project proposal has been submitted for examination with our approval as University Supervisors.

1. Name of 1st Supervisor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

Sign Date

Department (……………………………………………….)

2. Name of 2nd of Supervisor

Sign Date

Department (…………………………………………………..)

**ABSTRACT**

This research proposals elaborates on the implementation of a mobile application for Safari Rally Kenya. It sorts to ease the registration process of all related users, house all information on races and also all related data in a single, accessible database. It sorts to ease communication of important information from the officials to all participants and offer a transparent way of ranking racers after each event in order to facilitate awarding of winners. It also provides the necessarily related forms needed by users in the course of executing any activity.

**Table of Contents**

[**CHAPTER ONE** 1](#_Toc25927089)

[**1.0** **INTRODUCTION** 1](#_Toc25927090)

[**1.2 STATEMENT OF THE PROBLEM** 5](#_Toc25927091)

[**1.3 JUSIFICATION** 5](#_Toc25927092)

[**1.4 OBJECTIVES** 6](#_Toc25927093)

[Main objective 6](#_Toc25927094)

[Specific objectives 6](#_Toc25927095)

[**1.5 SCOPE OF THE STUDY** 6](#_Toc25927096)

[**CHAPTER TWO** 8](#_Toc25927097)

[**2.0 LITERATURE REVIEW** 8](#_Toc25927098)

[**CHAPTER THREE** 10](#_Toc25927099)

[**3.0 METHODOLOGY** 10](#_Toc25927100)

[**3.1 PROBLEM IDENTIFICATION** 10](#_Toc25927101)

[**3.2 FEASIBILITY STUDY** 10](#_Toc25927102)

[**3.2.1Economic feasibility** 10](#_Toc25927104)

[**3.2.2Functional feasibility** 10](#_Toc25927105)

[**3.2.3Technical feasibility** 11](#_Toc25927106)

[**3.2.4 Schedule feasibility** 11](#_Toc25927107)

[**3.3 PROJECT PLANNING AND MANAGEMENT** 11](#_Toc25927108)

[**3.4 ANALYSIS** 11](#_Toc25927109)

[**3.5 DESIGN** 11](#_Toc25927110)

[**3.6 DEVELOPMENT** 11](#_Toc25927111)

[**4.0 PROJECT RESOURCES SCHEDULE AND BUDGET** 12](#_Toc25927112)

[**4.1 Project Resources** 12](#_Toc25927113)

[**4.2 Project Budget** 12](#_Toc25927114)

[**4.3Gantt chart** 14](#_Toc25927115)

[**5.0 REFERENCES** 16](#_Toc25927116)

# **CHAPTER ONE**

# **INTRODUCTION**

**1.1BACKGROUND OF THE STUDY**

The safari rally is one of the rally races held in Kenya and the toughest in the world. It was first held in 1953(from 27 May to 1st June) as the East Africa Coronation Safari to commemorate the coronation of Queen Elizabeth II of England. At the time the motoring fraternity who were mostly white farmers decided to honor her coronation with a long distance event of 5000 km through untamed Africa day and night for five days.

In 1960 it was renamed the East Africa Safari Rally traversing the three East African countries of Kenya, Tanzania and Uganda until 1974 when it was renamed Safari Rally. By 1963 word got around in the rallying world of this tough race and rallying troops started trooping the event but none made it to the finish until 1972 when the finish crew of Hannu/Mikola and Gunnar Palm broke this jinx in a Ford Escort. The following year (1973) the Safari became part of the FIA() World Championship.

The safari created the Kenya National Rally Championship (KNRC), an eight rounds highly competitive event overall sponsored by the Kenya Commercial Bank (KCB) as the title sponsor. Individual driver are independently sponsored by the corporates and family businesses.

Sadly the event was dropped by the World Rally Championship in 2002 due to lack of funds and organization. Since 2003, the event has been part of the African Rally Championship. In 2013, the Kenyan government under the regime of the president, Hon. Uhuru Kenyatta promised to reform this glorious event by making it their agenda to see to it that the event is incorporated back into the WRC (World Rally Championship) series. On 27th September2019, this came to pass as the Safari rally was officially readmitted to the FIA championship calendar starting with the 2020 calendar on the 16-19 July.

Currently, this event is sponsored by a number of sponsors, namely:

1. The Government of Kenya.
2. FIA World Rally Championship.
3. Kenya Commercial Bank.
4. Kenya Motorsport Federation (KMSF).
5. FIA African Rally Championship.

After the incorporation of the Safari Rally into the WRC, it is now officially a world class event incorporating six continents including Africa, Europe, North America, South America, Asia, and Australasia.

FIA has a worldwide campaign to reduce the number of crashes on the roads. Under the Safari Rally, this will create an ideal forum to improve road safety in Kenya, reduce crashes and increase awareness of road safety measures.

The organizer of the 2019 WRC Safari Rally project is committed to the protection of the environment and minimizing social, cultural and environmental impacts of all stages of the rally and its associated activities. Through the implementation of its Environmental Management System, the project is committed to ensure full commitment at senior management level and responsibilities for environmental and sustainability objectives as assigned throughout the organization.

**Entry fees**

For a competitor to take part in the event, he/she has to pay the entry fee depending on the options provided. The entry fee with optional advertising proposed by the organizer is Kshs.50, 000 while that without organizers advertisement is Ksh.100, 000.Foreign crews entry is free, excluding compulsory third party insurance. The reconnaissance/survey fee is Ksh.30, 000. Normally there is a maximum number of entrants the common number being 60 cars. The organizing committee reserves the right to refuse the entry of a driver, co-driver or a competitor. When approved to participate, they have to meet the entry package which specifies the vehicle registration number, passes and administration.

**Registration**

Prospective racers have to first fill in a registration form specifying their details (name, address, driving license number, nationality etc. for both the driver and the co-driver) and the car details (registration number, make, year of model, class, cubic capacity, chassis number, engine number etc.) in provided forms. They then have to e-mail the filled forms to the organizer’s e-mail or manually present the forms at the Safari Rally Kenya offices at Moi International Sports Center, Kasarani Thika Road, Nairobi.

**Reccoinnaice**

Before the race begins, the crews are allowed to drive through the stages in normal traffic in a standard production recce car of course to observe the terrain of the main event. For this reason, a recce car needs to be registered and information presented emailed to the Kenya Motor Sports Federation. The details submitted might include: rally name, drivers name, co-drivers name mobile phone numbers, make, registration number, color, number of doors etc.

These registration process usually takes place at the Safari Rally Headquarters at Moi International Sports Center or they can be filled online then e-mailed to the Safari Rally e-mail address.

**Media registration**

The registration process does not only involve competitors. Television broadcasters, commercial photographers, the print media and all media organizations that would like to cover the event in their news have to register and fill in an application form. Their accreditation provides access to media facilities in the Rally HQ and at the service park in Nairobi and at designated areas in special stages.

**Importation of vehicles and spare parts regulations**

Competitors coming from outside Africa need to arrange custom clearance with their relevant “Carnet du Passages”. They are allowed to use any vehicle in Kenya for up to 6 months, provided it’s not brought with the intention of selling it. All the vehicles need to have a valid traffic insurance. Tyres and spare parts can also be imported on the “Carnet du Passage”.

Competitors coming from Africa will have to report to customs on their arrival to Kenya. They have to prepare a list of all the tools and equipment they are bringing along with them.

**Accommodation**

For the sake of all non-citizen or visiting participants and their teams, a list of all hotels and accommodation facilities is provided in the Safari Rally documentations to give them an easy time and nice stay in Kenya. The documentation provides information on the locations of these hotels and their contact details.

**Service Park**

The Safari Rally organizing committee provides servicing parks for the servicing of rally cars. These servicing bays are where repairs are done and more modifications tuned to fit the next events terrain. In their documentations before the event the organizing committee specifies the location of the bay, type of surface and the opening dates and time. They also see to it that the bays are secure to avoid any theft.

**Feedback**

For anyone interested in participating in the event or wants to enquire of the events in the Safari Rally calendar, they can visit their offices or contact them through the following media:

*Moi International Sports Centre, Kasarani Thika Road, Nairobi, Kenya.*

*Telephone: + (254) 710 692 777 / 710 694 441 Email: info@safarirally.co.ke*

*Website: www.safarirally.co.ke*

*Twitter:@WRC Safari Rally Project*

News and information can be supplied, free of charge, before, during and after the event to journalists and publications who are unable to attend the event or don’t qualify for accreditation.

# **1.2 STATEMENT OF THE PROBLEM**

The registration processes, accreditation of registered participant, convey of important news, road safety measures, event routes, standings and regulations, information on available accommodation facilities, payment of all related charges and receiving of feedback on enquired matters would be very easy and convenient if one was to access a single application with all these features.

Currently these services can be attained if one has internet access and accesses a couple of websites; of course related to the sponsors, or manually visiting the Safari Rally Kenya offices at Moi International Sports Center, Kasarani Thika Road, Nairobi.

The gap in the service provision process by Safari Rally Kenya is that they currently don’t have a mobile application through which all users can accesses offered services.

The solution to the inconveniences created by this dilemma would be the creation of a mobile application housing all the services for easier and more convenient executions.

# **1.3 JUSIFICATION**

In this age and generation, even the small kids have a mobile phone or even if they don’t every household has at least one. To make this venture even more convenient these phone are mostly smart phones meaning they would support a mobile based application. Furthermore, we carry this phones around easily because of their portability. It would even be more reasonable to create a Safari Rally mobile application where one can get every information concerning this prestigious event. The organizers would even have an easy time conveying important information concerning the regulations, safety precaution, calendar of events and news concerning the rally. This will all be available to the users at the touch of their fingertips. It would then be easier for the media houses and sport bloggers to obtain information of all developments. A whole new business opportunity would present itself. So this won’t be just an app but it would present new opportunities such as motor vehicle spare parts distribution since it directly involves the end market.

# **1.4 OBJECTIVES**

## Main objective

* To create a mobile application for Safari Rally Kenya.

## Specific objectives

* To create a database module for storage of information.
* To create an administration module for the approval and rejection of services.
* To create user module for all participants.
* To create a module that will generate reports.

# **1.5 SCOPE OF THE STUDY**

**Database module:** it will facilitate storage of information in a structured format for easy retrieval.

**Administration module:** It will enable the administrating committee approve registration forms as well as communicate important news directly to the users.

**Competitor’s module:** It will provide competitors with an interface where they can sign in and create an account as competitors as well as log in and out when they want to access the services of the application.

**Sponsors module:** facilitates the registration process of sponsoring teams; either sponsoring the event or competitors.

**Spectator’s module:** it enables registration of prospective spectators of the rally events through which they get safety measures guide lines and other news.

**Media module:** It will enable the registration of media personnel and commercial photographers in order to get passes to spectator- restricted areas such as service bays.

**Events module:** this module houses all order of events for ease of communication by the officials to all participants.

**Fixtures module:** it provides a platform for the awarding of points gained by each competing team and their ranking on the competition table.

**Schedule module:** facilitates the scheduling of events and all fueling and stopping points in the racing route.

**Awards module:** this module facilitates the awarding process for those competing teams to eligible for awards due to their performance.

**Reporting module:** this module provides information on related payments made by competitors and all information of all activities carried out for easy approval of participation in races.

**Servicing module:** provides a means for competitors to seek repairment services incase their vehicles breakdown in the course of racing.

**Search module:** This provides the users with an easy mechanism to access the applications services as well as other documentations without necessarily scrolling through every page.

**Feedback module:** This module allows the application users to air their concerns about the services offered by the administration as well as ask for clarifications on unclear matters or reports.

**Payment module:** For the sake of registration and payment of entry fees which will be done online this module will keep a record of all transactions made.

**Help module:** It provides the users with aid on the use of the application as well as availing the functionalities of the application and those of the associated organization as well as answering their questions.

# **CHAPTER TWO**

# **2.0 LITERATURE REVIEW**

In an article by Waweru Titus (2019) of the Standard, readmission of the Safari Rally back into the WRC calendar means Kenya will be holding the 14 rounds event from July, 2020. This comes as great news which means that Safari Rally is not just a local event but it’s now internationally recognized, attracting more competitors and a wide fun base around the world. This is the only African Rally championship integrated in the WRC meaning Kenya is the rally hub of Africa.

The Rallying event is not just a matter of competitions. In one of the documentations in the Safari Rally Kenya website, the event is determined to promote environmental conservation. This they do by using environmental friendly products. Where possible, competitors are advised to procure environmental friendly services and materials, locally sourced and if possible reusable. On the same note, the organizing committee advocates for a reduction in waste production and reduced fuel, energy and water consumption where possible. More so, participants are urged to minimize their impact on noise, air quality, biodiversity and cultural heritage, where possible.

The publicity of rally races is something that has been observed and noted for centuries now. In an article by David Simpson(Simpson, 2001), the Marlboro rally of 1990s received a big audience especially comprising of the youth. This provided a marketing strategy for the Marlboro tobacco cigarettes wrecking the health sector on tobacco usage. The event received such coverage around the world creating a marketing forum for the Mitsubishi cars. In this same manner, the Safari Rally one of the biggest marketing strategies to have been adopted by the Kenya Commercial Bank.The bank is one of the top sponsors of this event and in doing so it takes its marketing strategies to the hearts of rally funs making its more enticing to current customers and potential customers. This forum also creates a marketing stage for other local companies such as Menengai, Pwani oil, just to name a few who sponsor local rally events.

According to PM Mwangi (2009), sports behavior has been perceived by some sociologist to have a strong inclination to commercial production industry. It has been viewed as a great entertainment for cash. Sports promote huge consumption in equipment, facilities, clothes etc. the reintegration of Safari Rally to the World Rally Championship provides a wide market base for Kenyan products and services. During such an event, consumption of products and services is expected to be on the rise. Hotels and accommodation facilities are expected to overflow with customers. The food industry is no exception as the market will have expanded. Basically speaking, the economy is expected to shoot up due to the event.

Safety of the racers and other road users is a priority that needs no compromise whatsoever. This is the reason a rally car production process is a little bit different from the normal car production. The SAE journals provide a great over view of this process. They pretty much cover safety mechanisms, impact, and injury response and tolerance on multiple scale, with the objective of developing restraint, vehicles and infrastructure environments that are safer for the occupant, rider and passersby. Safari Rally is rated as one of the toughest rally races in the world. For this reason, the suspension system, wheelbase, axle tuning, comfort of the vehicle, durability and handling of the vehicle are some of the key factors that need to be highly considered.

The natural environment of racing events can harbor multiple challenges. This case was recently encountered in the 2019 WRC finale. In an article written by David Evans (2019), the event was cancelled after concerns about the rapidly spreading fires closing in on the event’s Coffs Harbor base. Initially the race had commenced but cases of growing anger among the participants forced the FIA officials and WRC promoters to call off the race. This saw Hyundai Motorsport take the manufacturers’ championship for the first time.

In an article by Risto(Rasku, Turco, & Turco, 2017), Sport Business School (SBC) Finland has conducted over 30 different research projects during the WRC Neste Rally Finland event. The main aim of these research activities was to collect in-depth information on customer satisfaction of spectators and participating teams. The study was also aimed on determining the economic impact of the event on the host city, brand perceptions and personal value structures of the team members, spectators, volunteers and staff members, the expectations and satisfaction of the event partners and sponsors and the views of non-spectators and locals. All data collected has been stored in databases that can be used by ERP (enterprise Resource Planning) systems and also CRM (Customer Relationship Management) systems.

The centralization of all information concerning all the races in the Safari rally calendar can also be put in a database. A history of all crashes during the race can then be used by experts to determine the causes and identify areas where they are prevalent. This will be a good way to advice drivers on the black points on their racing routes and activities which may be fatal in order to ensure road safety for all road users.

# **CHAPTER THREE**

# **3.0 METHODOLOGY**

In the development process of this system I will follow the System Development Life Cycle(SDLC) approach and use the waterfall methodology which comprises of:

* Problem identification
* Feasibility study
* Project planning and management
* Analysis
* Design
* Development
* Implementation and maintenance

# **3.1 PROBLEM IDENTIFICATION**

Safari Rally Kenya is yet to come up with a mobile application thus I will have to develop one which is difficult and time consuming.

# **3.2 FEASIBILITY STUDY**

This process is bound to determine the technicality, applicability, performance and timely delivery of the system and comprises of:

## **3.2.1Economic feasibility**

This study is done to determine the cost associated with the development of the mobile application and the financial benefit of it implementation.

## **3.2.2Functional feasibility**

This study was done to determine how applicable the system is. It was sort to determine if it meets the user requirements.

## **3.2.3Technical feasibility**

The study on the input, output, processes and procedures of the system determined the system to be viable and the necessary for the development.

## **3.2.4 Schedule feasibility**

The timeline for the development of this system to its completion will be 3 months hence its schedule feasibility is achievable.

# **3.3 PROJECT PLANNING AND MANAGEMENT**

This phase involved the management of people, resources and time to ensure the system development process runs as scheduled. It also ensures the project is executed without any excessive cost and meets the user requirements. I used a Gantt chart to tabulate the schedule the process.

# **3.4 ANALYSIS**

This phase is critical as it determines what will be done and how it will be done. It involves determining both the user and system requirements of the system, gathering of data and facts and the documentation of both the user and system requirements.

User requirements for this application include online registration, payment of entry fees, posting and viewing of important news and standings, uploading and downloading the various forms for users.

System requirements include 4GB RAM, (500MB for IDE+ 1.5GB for android SDK).

# **3.5 DESIGN**

An Entity-relationship diagrams will be used to show relationships of the various entity sets in the database.

A flow chart will be used as the design tool to represent flow of data of a process or the system when explaining the various outputs and inputs in the system.

# **3.6 DEVELOPMENT**

This will involve coding, testing and debugging of the program i.e.

**Coding**- using a programming language to integrate the various components of the system i.e. JAVA in android studio for android development, PHP to connect the database in MYSQ.

**Testing** – this will done to evaluate the system toensure the various components of the application work as expected.

**Debugging** - this will be done to resolve the various design problems in the system.

# **4.0 PROJECT RESOURCES SCHEDULE AND BUDGET**

# **4.1 Project Resources**

The project will require;

* A PC with windows 10 operating system installed.
* Microsoft word for documentation.
* Microsoft PowerPoint for creating presentation slides
* IDE for android development (android studio)
* XAMPP for database development.
* MySQL for database management.
* Phone to display output
* A browser application e.g. chrome to access MySQL

# **4.2 Project Budget**

|  |  |
| --- | --- |
|  | |
| ***REQUIREMENTS*** | ***PRICE (Ksh)*** |
| **Documentation** | 700 |
| **Printing** | 200 |
| **Binding** | 300 |
| **2 CDs** | 200 |
| **miscellaneous** | 500 |
| **Total** | 1900 |

# **4.3Gantt chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Phase** | **Period** | **September** | | | | **October** | | | | **November** | | | | **December** | | | | **January** | | | | **February** | | | | **March** | | | | **April** | | | |
| **Milestone** | 1st  week | 2nd  week | 3rd  week | **4th**  **week** | **1st**  **week** | **2nd**  **week** | **3rd**  **week** | **4th**  **week** | **1st**  **week** | **2nd**  **week** | **3rd**  **week** | **4th**  **week** | **1st**  **week** | **2nd**  **week** | **3rd**  **week** | **4th week** | **1st**  **week** | **2nd**  **week** | **3rd**  **week** | **4th**  **week** | **1st**  **week** | **2nd**  **week** | **3rd**  **week** | **4th**  **week** | **1st**  **week** | **2nd**  **week** | **3rd**  **week** | **4th**  **week** | 1st  week | 2nd  week | 3rd  week | 4th  week |
| Problem  Identification | Problem identification |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Feasibility study | Technical, economical & functional |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Analysis | System & user requirements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Design | ERD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Interface |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Database |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Development | Coding |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Testing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Debugging |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Implementation | Consultation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Documentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Presentation | Proposal |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Project |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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wrc official website

Safari Rally Kenya website

thestandardmedia.co.ke

14