Research Plan

ENGINEERING TYPE/COMPUTER SCIENCE PROJECTS

NAME: _Sopumelela Sandekela_
PROVISIONAL PROJECT TOPIC: Medical emergency and Medical consultation through USSD application
PROVISIONAL EXPO CATEGORY: Computer Science & Software Development (COM)_

Introduction

Literature review:

I am doing a research on creating a USSD application. USSD – unstructured supplementary service data. It sounds a bit complicated, there are two key things to understand. First, when you dial a number that starts with * and ends with #, you are using USSD (Hanouch, 2015). The purpose of this USSD application is to benefit people who are seeking for medical emergency or even consultation about their medical records and appointments through the USSD application.

I am doing this research importantly to the communities in rural areas. The reason why I chose the USSD application is because of its accessibility, all the user needs to have is a feature phone and access to a 2G network. Other advantages of using USSD application is that the user does not need internet data or a smart phone.

Need or Problem Defined:

The problem I'm addressing to is the lack of communication between the hospital/medical centre and the people in need of medical attention or in need of arranging appointments and medical records. My target users are community to members of rural areas, reason is they are the people I feel as if they need most of medical attention according to the standard of living since I am familiar. More of a benefit that it needs no Interest data nor airtime for use.

Research question(s):

- Will this application work at the rural areas?
- How many people will be able to use this application?
- How fast and efficient this application would be?

Aim:

My aim is to make the application easy for understandable navigation and efficient for faster feedback. I want to find out if this application can really do what it is developed for which is bridging the communication gap between the hospital/health centre and the people in need.

Engineering Goals or Design Goals or Algorithms:

After all the programming, building the USSD application and the testing using the service code simulator, what I want to achieve is for the public to able to use the USSD Application but first there is a fee to pay for the publication of this USSD Application.

Method

Materials: List the materials and equipment you will use.

- Africa's talking (API platform builder)
- Git (Software)
- Visual Studio Code (Code editor)
- Infinity Free (Service for hosting)
- Basic understanding in PHP scripting language

Procedure:

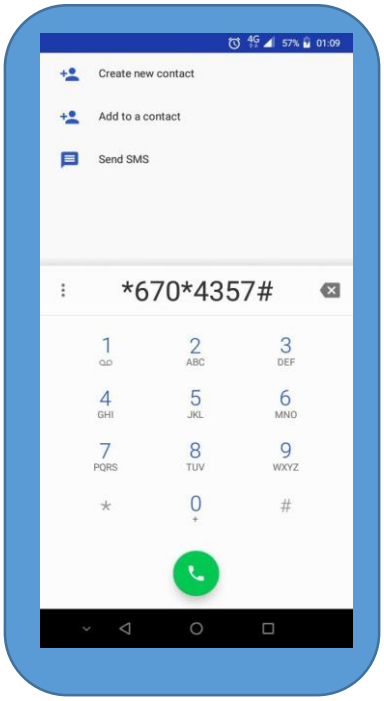
Step2:

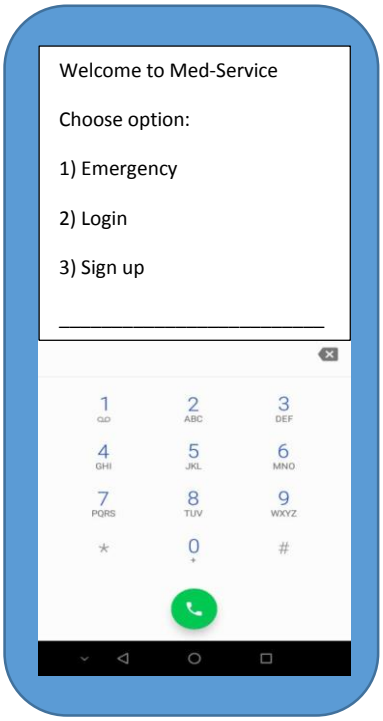
1. Git (open source distributed version control system) will be downloaded and installed.
2. An account at Infinity Free will be signed up for.
3. Visual studio code will be downloaded and installed.
4. A folder will be created on the laptop or computer storage.
5. Visual studio code will be opened and navigated to the path of the created folder.
6. *Filename*.php file will be created.
7. PHP tags will be opened.
8. PHP commands will be coded and errors will be checked.
9. logged into Infinity Free account.
10. On Infinity Free go to file manager.
11. On Infinity Free index file with the code will be deployed on the repository so that it can be accessible using a web link.
12. After index file being deployed go to Africa's talking On Africa's talking under sandbox new channel is pick a shared service code (*384#) then channel with (04677104) or any channel available then past the URL of the directory were the index file was pushed.
13. After that you will go to launch simulator enter your number then you go to "contacts" where you enter the service code you chose and the channel as an USSD as (*384*04677104#) dial the USSD Code the it should work.

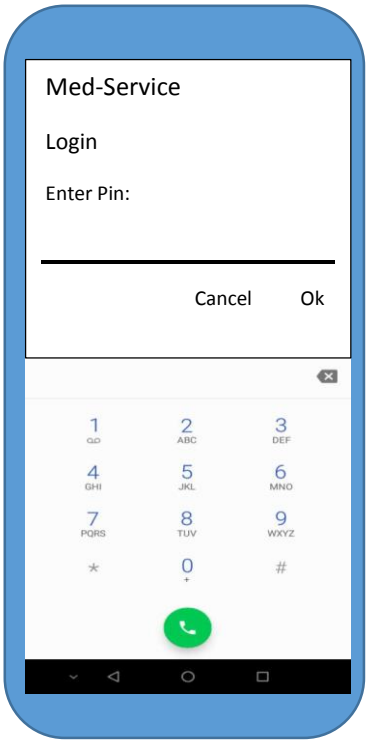
Data analysis:

For testing Africa's talking will be used the service code will be copied from the service code table the past on the launched simulator to will be able to access the back end and run the code instructed. For now the speed of response will be taken from the simulated device.

Preliminary Designs:







Time Frames

- Research on community problems [07/05/2022]
- Interview at least three people young 12-19 years, old 19- 45 year and an elder 56-78 years [07/05/2022]
- Introduction – Engineering Goals [16/05/2022]
- Method – Data Analysis [15/05/2022]-[18/05/2022]
- Preliminary design – Reference [19/05/2022]

References

Derrick, R. 2016. Creating USSD Applications [online], 19 July. Available from: https://hackernoon.com/creating-ussd-applications-69e7d69111158 [Accessed: 16 May 2022]

Teacher's/Mentor's comments and suggestions:

Teacher's/Mentor's name, signature and date: