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PERSONAL DETAILS:

Date of Birth	**17th October 1997**
Nationality	Kenyan
Profession	Geospatial and Remote Sensing Engineer
Marital status	Single
Age	20
Website	www.gracey.me
Github	https://github.com/Grace-Amondi

EDUCATION

2016 – Up to date	**Jomo Kenyatta University of Agriculture and Tecnology(JKUAT),** Pursuing Bachelor of Science in Geospatial Information Science, Jomo Kenyatta University of Agriculture and technology.Qualified in Earth imagery at work and Do-It-Yourself (ESRI).
2015-2011	**Ngara Girls High School**, KCSE mean grade **A-** 77points.
2010-2000	**Buruburu 1 Primary School**, Attained a Mean score of **360** marks for the KCPE National Examination.

CAREER OBJECTIVE

My career objective is to provide quality and improved geospatial skills and content gement with a high degree of professionalism in a rapidly changing environment. My greatest endeavour is to continue to remain relevant and valuable in the GIS profession.

ACHIEVEMENTS

- Successfully completed MOOC courses in Earth Imagery and Do it yourself Esri online courses.
- Acquired skills in web mapping including the creation of story maps.
- Created a story map every week among them being Kenya's Big Five, Standard Gauge Railway, Jomo Kenyatta University of Agriculture and Technology, among others.
- Acquired skills in python, django, HTML with Css and Java script as well as C programming language.
- Well skilled in creation of Geo Apps.
- Knowledge of how to use Arcgis online and Arcgis pro.
- Attended HIGDA BOOTCAMP and aquired great skills in health systems.

SKILLS

Developer skills in :

DATABASE	Mongo db, Postgres, Sql
LANGUAGES	Python, C
WEB	GIS Web mapping, Web Design(HTML,CSS,Java Script)
FRAMEWORKS	Django
OS	Linux, Windows
HEALTH SYSTEMS	DHIS, KMHFL,

Also have developer skills in Rest Api , Node JS ,Knock Out JS,ARCGIS online,ARCGIS Pro

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LANGUAGES

English (Fluent), Kiswahili (Basic)

HOBBIES

Reading & travelling.

REFEREES

Prof Muliaro Wafula PhD,FCCS,FCSK
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JOMO KENYATTA UNIVERSITY

OF

AGRICULTURE AND TECHNOLOGY

ICT CENTRE OF EXCELLENCE AND OPEN DATA-iCEOD

March, 22 2018
REF:JKU/2/123/95

TO WHOM IT MAY CONCERN,

Dear Sir/Madam,

RE: REFEREE LETTER FOR GRACE AMONDI ENTITLED "INTEGRATED WEB/MOBILE WIFI HOT-SPOT FINDER APPLICATION"

Ms Grace Amondi is an undergraduate student in GIS working under my supervision. She is Working on **"INTEGRATED WEB/MOBILE WIFI HOT-SPOT FINDER APPLICATION" innovation.**

Her out put would be of great benefit to the kenyan public at large.

I strongly support.

Sincerely,

Prof Muliaro Wafula PhD, FCCS, FCSK
DIRECTOR – iCEOD

INTEGRATED WEB/MOBILE WIFI HOT-SPOT FINDER APPLICATION

Inroduction

Wi-Fi is the name of a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. A common misconception is that the term Wi-Fi is short for "wireless fidelity," however this is not the case. Wi-Fi is simply a trademarked phrase that means IEEE 802.11x.

A **Wi-Fi hot-spo**t is a wireless access point that provides Internet access to network devices in public locations such as downtown centers, cafes, airports, and hotels. Businesses and schools are increasingly using Wi-Fi hot-spots for their internal (intranet) networks.
The most basic way to find open Wi-Fi hot-spots around you is to browse nearby networks from your phone or laptop. This will display a list of the hot-spots within a tiny distance.

Definition of the problem

A hot-spot will always contain an identity which is the name displayed to the user. This technology is not very helpful if you consider the following cases.

1. If you want to find hot-spots that are a **further distance** away from you. Then the ordinary hot-spots finder wouldn't be of use.
2. If you want to know the **exact location** of the hot-spots then this would be a drawback.
3. If you want to **find your way** to the so-called hot-spot.
4. The need to know about the **traffic** at a certain spot – how many people are using a certain hot-spots. This would finally deem this Wi-Fi feature more of a burden than a blessing.

The Innovation

This is where **Ace**, a proposed Integrated Web and Mobile Hot-spot Finder application, comes into play. Ace will use **Global Position System Geospatial Technology** in order to determine the precise coordinate location of the user as well as the Wi-Fi hot-spot.
Imagine an application that would solve all this hustle.
An application that:

- ✔ **Spatially visualizes** real time information about hot-spots on a map.
- ✔ The **most suitable routes** to follow get to those spots from current location(including distance and direction).
- ✔ The **amount of human traffic** in each hot-spot.

- ✔ Whether the location is **accessible**, that is,closed or open .
- ✔ The **exact location** of the hot-spot.
- ✔ An application that will let you **share location** of Wi-Fi hot-spots as well as leave **reviews and rating**s about these hot-spots.

This would **save you time and even money** as a user would be at the right place at the right time. The added benefit of reviews and ratings from other users of the **Ace** help you find the right hot-spot.
While there are several precautions you'll want to take before using a public Wi-Fi connection, if you absolutely need to, this proposed application can save you from having to drive/walk around looking for a good connection.

Methodology of development

Field surveys will be conducted in order to locate as many Wi-Fi hot-spots as possible. Tools such as GPS Essentials will be used to collect images as well as accurate coordinates(latitude, longitude) of those hot-spots.

React Native,a framework for building native apps using React, will be used in the development of both Android and IOS application. On the web development side the software requirements used will be **M**ongoDB, **E**xpress, **A**ngular, **N**odejs (MEAN stack).

Proposed design of application

Ace will be divided into two components, a mobile application and a web application. Both of these components will be synchronous with each other hence any update made on the web application will automatically be reflected on the mobile application. Both components will be accessible to the target audience mentioned. The users will have no permission to add or remove a hot-spot. This will solely be the role of the administrator.

Target users

The target audience for the proposed system will be students and lecturers as well as visitors. This group of people need the application the most and will reap the largest reward.

The user will be required to create an account within their first login if they value their privacy or continue as a guest and interact with the application’s functionality right away. The application will then go ahead to display a list of Wi-Fi hot-spots spatially arranged from the nearest to the farthest from the user. The user will have the ability to view each hot-spot’s detail and a road map of how to get to it.

Benefits of the proposed application

Ace will play a key role in benefiting the users by:

1. **Spatially visualizes** real time information about hot-spots on a map.
2. Displaying the **most suitable routes** to follow get to those spots from current location(including distance and direction) hence save time.
3. Notifying theuser on the **amount of human traffic** in each hot-spot.
4. Informing the user if the location is **accessible**, that is,closed or open thereby ensuring the user is at the right place at the right time.
5. Giving the **exact location** of the hot-spot.
6. Will let the user **share location** of Wi-Fi hot-spots as well as leave **reviews and ratings** about these hot-spots.

Budget

Project Stages		Percentage of Overall Budget	Cost Breakdown (Ksh)
Planning & Documentation	Development	12.5%	Ksh50,000
Development		15%	Ksh60,000
Testing and deployment		20%	Ksh80,000
Scope Changes		10%	Ksh40,000
Application Management		10%	Ksh40,000
Server and hosting		2.5%	Ksh10,000
First Phase Marketing	Marketing	30%	Ksh120,000
TOTAL		100%	Ksh400,000

References

User location | Web Fundamentals | Google Developers

https://developers.google.com/web/fundamentals/native-hardware/user-location/

Wi-Fi Hot-spots meaning

https://www.webopedia.com/TERM/W/Wi_Fi.html

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AFRICA-ai-JAPAN PROJECT OFFICE, JKUAT
P. O Box 62000-00200
Nairobi, Kenya

Dear Sir/Madam,

RE: APPLICATION FOR AFRICA-ai- JAPAN PROJECT INNOVATION RESEARCH GRANT (2018/2019)

I take this opportunity to submit my application for the above mentioned innovation research funding. I am working under supervision by Prof.Muliaro Wafula, Director, ICT Centre of Excellence & Open Data(ICEOD).

I am an student, pursuing Bsc Geospatial Information Science here at Jomo Kenyatta University of Agriculture and Technology, department of GEGIS.

I am applying for a mobile/web application innovation, under the iODAV center as indicated in the call for applications poster. The application idea is on developing a web/mobile application that will aid in finding nearby Wi-Fi hot-spot from current user location. The application concept has been presented in an Hackathon organized by JKUAT ICT Center for Excellence and Open Data and emerged one of the winning ideas. Therefore, if considered for the research fund, this will enable full development and deployment of the application.

Please find a complete concept paper and details of the research attached in a section of this document.

I will be ready to pitch the idea and any further clarification if called upon.

Looking forward to your response.

Thanks in Advance