THE UNIVERSITY OF DAR ES SALAAM

COLLEGE OF INFORMATION AND COMMUNICATION TECHNOLOGIES (COICT).

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PRACTICAL TRAINING REPORT (PT 1)

TITLE: ESTABLISHMENT AND DEVELOPMENT OF AGRICULTURAL E-COMMERCE IN TANZANIA.

COMPANY'S NAME: BUNI INNOVATION HUB, COSTECH.

STUDENT'S NAME: LEMASANI, BRIAN FILBERT

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DEGREE PROGRAMME: BSc BUSINESS INFORMATION TECHNOLOGY

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SUPERVISOR: LILIAN NKOYI

DECLARATION

I, LEMASANI, BRIAN FILBERT with registration number 2021-04-04736, taking BSc in Business information Technology University of Dar es salaam, College of Information and Communication Technologies (CoICT), declare that this report is the original work done by me with the knowledge obtained during practical training at BUNI INNOVATION HUB, COSTECH DAR ES SALAAM

TABLE OF CONTENT

List of figures

ABSTRACT.

This report by Brian F Lemasani is submitted as a requirement for the completion of the Practical Training 1 course of the University of Dar es Salaam. The practical training began on the 18th August 2021 up to the 9th September 2021 at BUNI INNOVATION HUB.

This report has two major sections. The first part is about the BUNI INNOVATION HUB and it includes details such as the management staff and the task performed by each staff member. The second part of the report is about a web application solution developed to solve the problem market accessibility of agricultural crops and products, the web application is an E-Commerce solution

ACKNOWLEDGEMENT.

First and far most, I would like to give my gratitude to the Almighty GOD for giving me the opportunity to get the practical at BUNI INNOVATION HUB and being with me all the time during the entire time in my practical training.

I would also pass my precious gratitude and acknowledge to the management who in one way or another have contributed much in the success of my practical training at BUNI INNOVATION HUB. The management of the BUNIHUB did not just do their job to train so as to just accomplish it, they received me with joy and love and provided me with required resources for the practical training.

Lastly, I would pass my special thanks my trainers at BUNI INNOVATION HUB for their time and love during my practical training. This includes;

      Madam Adela salum, Head Hub trainer

CHAPTER ONE:

COMPANY OR ORGANIZATION PROFILE.

1.0 INTRODUCTION OF THE COMPANY

Tanzania Commission for Science and Technology (COSTECH) is the parastatal organization under the Ministry of Education, Science and Technology with the responsibility of coordinating and promoting research and technological development activities in the country.

1.1 HISTORICAL BACKGROUND OF BUNI INNOVATION HUB

BUNI INNOVATION HUB was initiated as a project between Finland and Tanzania to check how to improve the Tanzanian's innovation to compare with Finland, especially in employment. Started as TANZAICT in 2011 since then BUNI is born till now with 5th generation in now.

BUNI INNOVATION HUB is under COSTECH focused on coordinating and supporting the innovation ecosystem in Tanzania as part of COSTECH mandate to promote and coordinate science, technology and innovation in Tanzania.

BUNI INNOVATION HUB coordinates and supports the Innovation Ecosystem through various activities including Building capacity to Hub Managers (New and Existing), Mentoring Innovation Spaces, Support establishment of Innovation Spaces in Higher Learning Institutions, Research and Development Institutions (R&D) and Local Government Agencies, Connect and act as Intermediary between Innovation Spaces and government, support Innovation ecosystem in Tanzania.

BUNI INNOVATION HUB works with partners and beneficiaries to make sure their role is impact-full and delivers according to needs from the enablers of the Innovation Ecosystem.

1.3 VISION, MISSION AND ACTIVITIES OF THE COMPANY

1.3.1 VISION OF THE COMPANY

Vision of the organization provides reasons why the organization exists. BUNI INNOVATION HUB aspires to promote innovation among Tanzanian youths.

1.3.2 MISSION OF THE COMPANY

The mission statement depicts the purpose of the existence of the organization. The mission statement of BUNI INNOVATION HUB addresses the issue of mentoring programs and community empowerment. And also, providing working space to start-up and freelance individuals.

1.4 ACTIVITIES OF THE COMPANY

BUNI INNOVATION HUB mainly conducts four kinds of activities.

    i.   BUNI INTERNSHIP PROGRAMME

   ii.   BUNI MENTORSHIP PROGRAMME

  iii.   BUNI COMMUNITY PROGRAMME

  iv.   BUNI MINI FABRICATION LABORATORY

BUNI INTERNSHIP PROGRAMME

In this program, interns (University students) use BUNI INNOVATION HUB space to work on various projects and ideas.

BUNI MENTORSHIP PROGRAMME

Mentored startups/ Individuals with ideas or products that are looking to transform their ideas or products to early-stage businesses.

BUNI COMMUNITY PROGRAMME (BCP)

The Buni hub conducts several community outreach activities aiming at nurturing innovations and technology entrepreneurship to Tanzanian youths. The BCP allows individuals interested to add value to the program to register to BUNI INNOVATION HUB as Buni Champions.

BUNI MINI FABRICATION LABORATORY

It is dedicated to individuals who are using this laboratory to work on their different maker-tropics projects and ideas.

Figure 1BUNI HUB logo

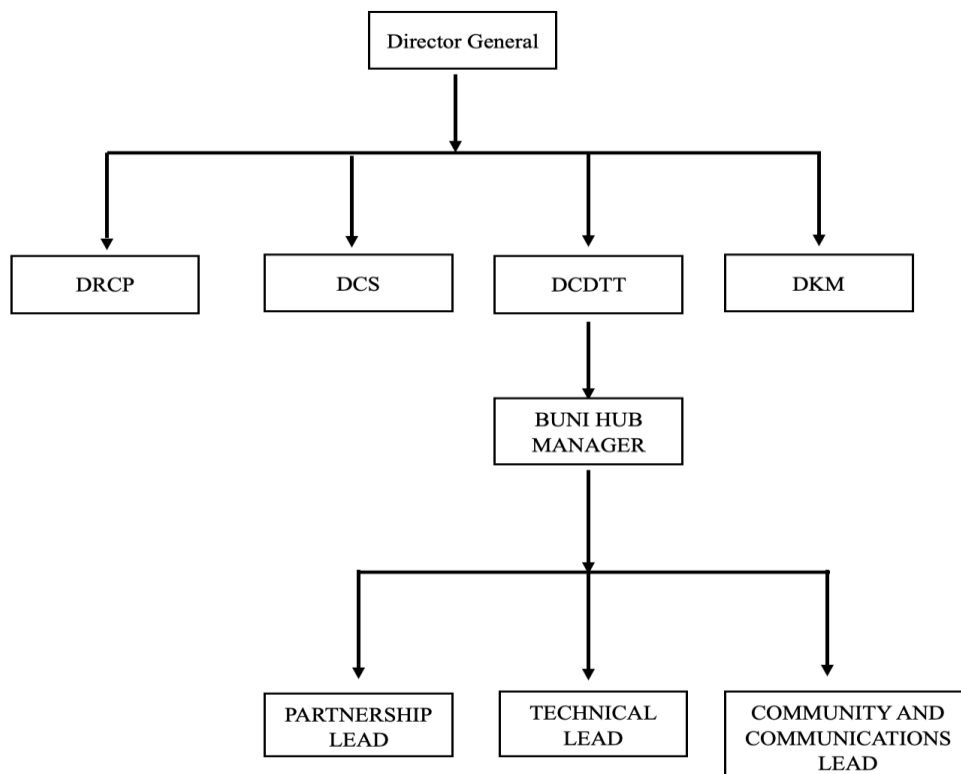## 1.5 BUNI INNOVATION HUB STRUCTURE

Figure 2: BUNI HUB MANAGEMENT

1.6. JOB DESCRIPTION OF SKILLED WORKERS

- Director
  The director is the final decision makers and provides funds to projects and startups, he or she oversees all activities in COSTECH
- Hub manager
  Hub manager oversees activities that are under the BUNI INNNOVATION HUB
- Program lead
  Conducts and leads youth and members of the hub in different activities in a specific program in the hub.

1.7 SAFETY REGULATIONS AND GENERAL WELFARE

Generally, BUNI INNOVATION HUB is a safe place to work in because it is located at COSTECH building which is guarded by a professional security team 24 hours a day, whenever someone had to enter inside has to sign at the main gate. Health precautions were strongly recommended for the COVID-19 pandemic which involved provision of sanitizers at every door at BUNI INNOVATION HUB.

Also, at BUNI INNOVATION HUB there is a free good Wi-Fi Internet connection that can be used for innovation activities as well as for research and learning. The Hub is equipped with cutting edge furniture for innovators to innovate in a pleasing and great environment.

1.8 TRAINING AND RECRUIMENT POLICY

BUNI INNOVATION HUB receives anyone with the willing to have innovative solution towards solving problems in Tanzanian context. Youth are given more priority at the hub, so as

to implement the current government policy of reducing unemployment rate in the country by making youth to self-employ themselves.

CHAPTER 2: MAIN TASK

2.0 Introduction

This chapter includes a detail activities that took place during the practical training session at BUNI INNOVATION HUB, together with lessons learned during when accomplishing the tasks provided by the trainee.

2.1 Placement in the Organization

During the practical training at BUNI INNOVATION HUB, I was placed on the BUNI TALENT POOL PROGRAM. During my time at BUNI I was working in collaboration with group members and our trainer.

2.2 WORK PERFORMED

At BUNI INNOVATION HUB, groups were formed by our internship trainer, and project were distributed to each group based on the following industrial sector in Tanzania;
1.Health
2. Agriculture
3. Energy
4. Waste
Based on the mentioned industrial sector, in groups we had to come up with a innovative solution that solves a problem on the industrial sector chosen, the innovative solution should be business oriented.
In my group we had chosen the Agricultural sector.

2.2.1 PROBLEM

The group had selected the Agricultural sector, and the key focus was on the market accessibility of the agricultural products, that is farmers face a difficulty to sell the goods to the market consumers (Agri-based businesses), also the Agri-based business face difficulty to get to buy the agricultural goods in bulk and of good quality.

Using the technique of 5 why root cause, the agricultural market accessibility was carefully analyzed;

1st why: why is the market not easily accessible? Because poor connection between farmers and Agri-based businesses.

2nd why: why is there poor connection? Because there isn't any digital platform that connects buyers and sellers of the agricultural crops in the market.

Through a short survey that was conducted by the group to some of the owners and worker in the Agri-based businesses, all the 10 sample of the businesses in Dar es salaam agreed to the existing problem, through the questionnaire that was passed to them.

Thus, the problem was "The hardship faced by Agri-based businesses on accessibility of agricultural crops"

2.2.2 A PROPOSED SOLUTION.

Based on the data collected on the questionnaire, establishment of an Agriculture E-commerce platform, where Agri-based businesses could easily purchase the agricultural products with a click of a button on the web application that was created by the group.

The web application was named M-SOKO implying mobile market of the agricultural products. M-SOKO solves the problem of market accessibility of the agricultural products, thus making the market to also be transparent during trading.

2.2.3 THE M-SOKO WEB APPLICATION

M-SOKO web application user interface and user experience was carefully designed using Adobe XD software.
As well as, the logo for branding of the service provided by the web application was created.
The M symbolizes "mobile phone" and SOKO implies for the market of the agricultural products
The M placed inside of a shopping bag.

Figure 3: M-SOKO LOGO

The M-SOKO web application consists of;

1. landing home page

2. About us page

3. product carrousel

4. checkout page

5. contact page

6. login page

1. The landing home page.

When the user of the M-SOKO enters the website, this is the welcoming page to the web application. In this page, the user gets to know in summary what does the M-SOKO offer to its client, also in this page the user can shop for the desired agricultural products, most purchased crops are on this page ready to be purchased by the user.
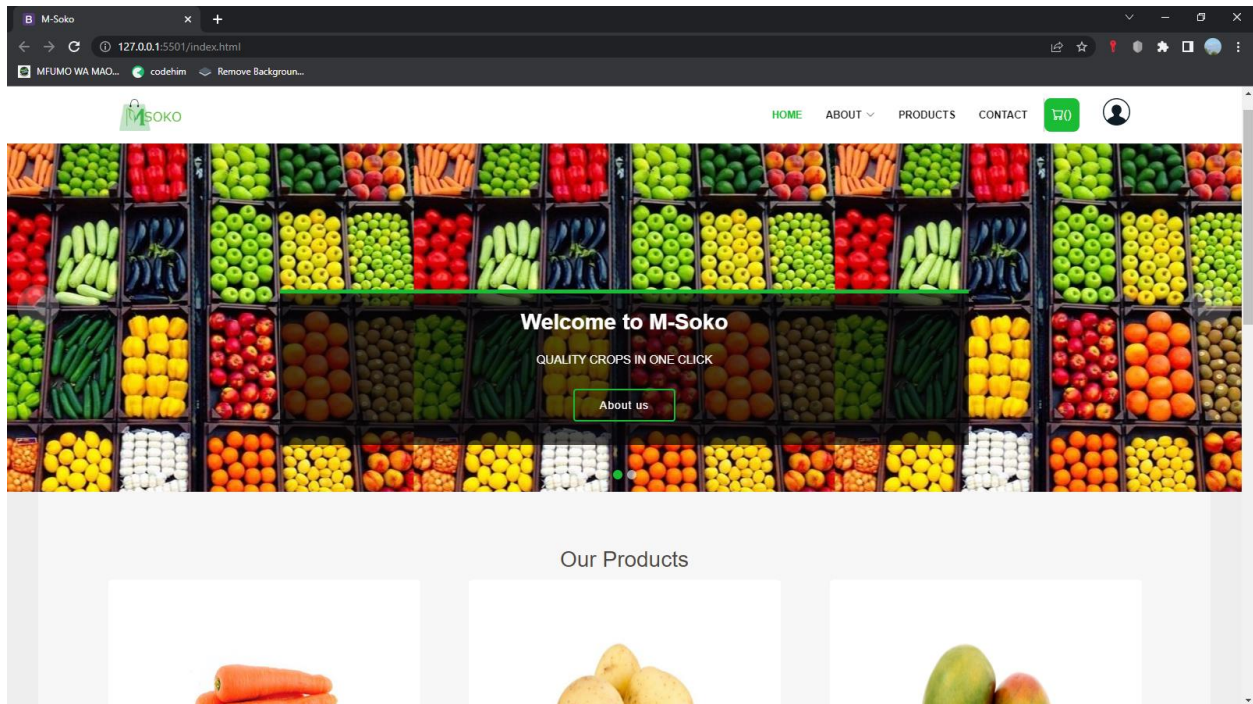

Figure 4: M-SOKO landing home page

2. About us page.

This page contains more information about the M-SOKO as a company that offers its services to its clients.
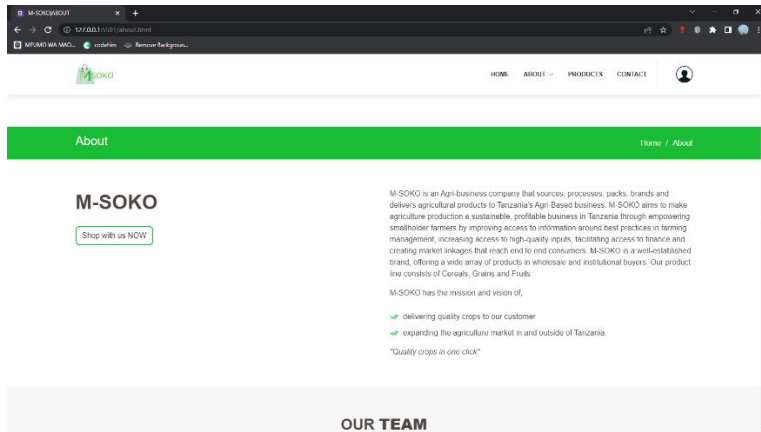
Figure 5: About us page

3. product carrousel page

This page contains a list of the products that are being sold through the M-SOKO web application, the products cards, contain a picture of the product, name of the card, price of the product and the add to cart button in each product card.
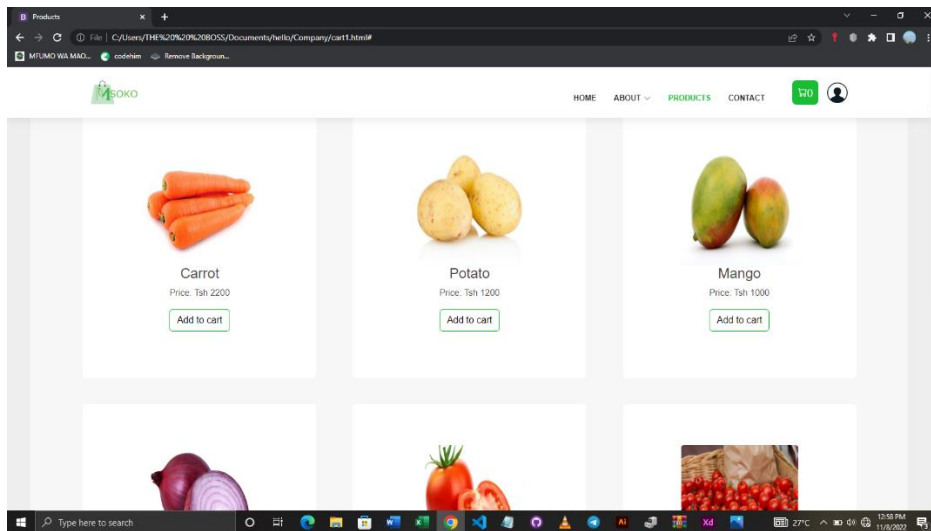

Figure 6: Product carrousel page

4. check out page.

This page contained the list of products that were added to the cart after the user has added a particular product to the digital cart, it show the number of products and the total sum of money that will cost to purchase the selected crops in the cart.

5. contact page

The page contained the contact information of the M-SOKO management for the user to call, message or email. It also shows the location of the office.

6. login page.

In this page, the user can create an account and sign in to get more services from the M-SOKO.
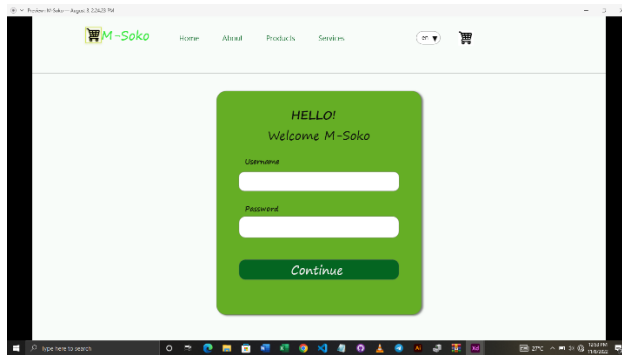

Figure 7: login page.

2.3 JUSTIFICATION OF A PROPOSED SOLUTION.

The proposed solution was to have a web-based application that will help Agri-based businesses to purchase agricultural products in bulky.

The application was implemented using HTML, CSS and JAVASCRIPT since they are all well known for the fact are used for web-based application.

A questionnaire was passed to number of potential clients (Agri-based businesses) to check if they agree to the existence of M-SOKO. All of the potential clients agreed to it.
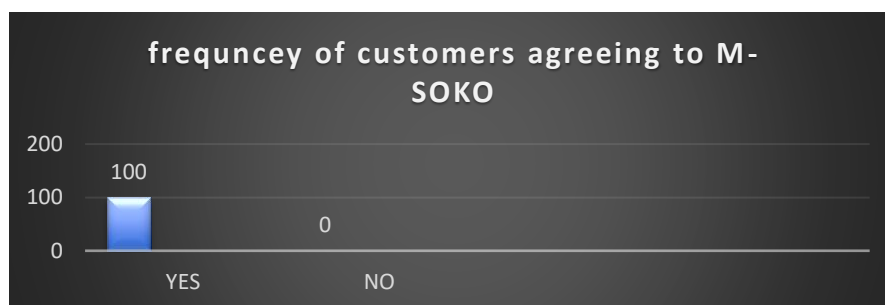
2.7. CHALLENGES FACED DURING THE PRACTICAL TRAINING.

During the practical training there were some challenges that were faced which are as follows;

1.Minimal time, the practical training session was of a restricted time makes it harder to fully develop the web application as it was fully desired by the group.

2. inadequate technical skills; some of the group members had inadequate skills to develop the web application.

CHAPTER 3: CONCLUSION.

3.1. CONCLUSION

In my practical training, I did not just acquire technical skills in coding and development of web application and coming up with innovative solution to problems in Tanzanian context, but I also I got to learn to work in teams to accomplish a task together as team, and other work ethics that are necessary needed by most companies like reporting in time at work.

3.2 RECOMMENDATIONS

The practical training session should be increased cause when I was in my practical training I failed to finish the innovative solution of the agricultural e-commerce, the research done was still inadequate to make better features, like searching algorithms which I had no knowledge about.

I personally recommend that there should be seminars before practical training that student that are first timers going to these practical training, I faced hard time in writing this report.

3.3 REFERENCES.

https://www.bunihub.or.tz

https://www.costech.or.tz