UNIVERSITY OF DAR ES SALAAM

COLLEGE OF INFORMATION AND COMMUNICATION TECHNOLOGIES (CoICT).

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING.

ES 499: FINAL YEAR PROJECT

PROGRESS REPORT

PROJECT TITTLE:	SECURED WIRELESS USB FLASH DRIVE.
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PROGRAM:	BSc. IN ELECTRONICS ENGINEERING
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SUBMISSION DATE:	17th, April 2023

PROGRESS REPORT

PAST

QN: What has been done?

NON-WIRELESS USB FLASH DRIVE

Action:

1. Mass storage USB controller was changed to sm3276 whereas its manufacturer is Silicon Motion

Observation

1. No community was found hence hard to trouble shoot and debug
2. High risk since lack of guidance from manufacturer
3. Manufacturer had seized production and does not provide support

WIRELESS USB FLASH DRIVE

The following is the trend of events towards the project;

Action:(Week 1)

After device selection was performed, ESP32S3N16R8 development module was ordered online for 35ksh only as the main part of the wireless usb flash drive.

Drawback:

1. Takes time for delivery.

Action taken:

1. simulations on wokwi,

Observation on the experience using wokwi,

Advantages	Disadvantages	Limitations
1.So easy to program and use. 2. It has had a large library hence it is easy to troubleshoot and debug a problem	1.No Wi-Fi interactivity 2. No Nand memory device was available. 3. Requires internet access always.	1. Due to limited interactions, I couldn't observe my progress

Week 2

Action taken:

1. To lower the requirements so as the program can support on esp8266 for server requirements until esp32s3 is arrived.
2. To change working environment from c to c++
3. To change the working platform from Espressif IDF to Arduino due to presence of support and community.

Observation while using ESP8266

1. Program crashing due to small RAM

Action taken

1. To wait for ESP32S3 since ESP32 has had same problem as ESP8266(4 days left to end the holiday).

PRESENT

Qn: What am I doing?

After receiving the ESP32S3(1st week after holiday)

Action	Status	Limitations
1. Creating web Server UI/UX	Done testing and running	UI/UX is still not good
2. Captive portal for configurations	Done tested and running	Causes instability to the web server.
3. Creating and testing USB Mass storage server	Done testing and running With USB 2.0	Speed is still not optimized
4. Testing smb library	Done tested	Library is too large, and needs optimization.
5. Nand Interfacing	Done with Arduino uno	Requires too much pins.

Current action:

1. Troubleshooting the NAND Connection to the ESP32S3
2. Interfacing with USB Mass Storage Server

FUTURE

Qn: What is to be done?

Actions:

1. To concatenate the above parts (that is Webserver, USB Mass Storage Server and SMB server).
2. To create and design stand alone system in pcb
3. To design 3D encasing