



Almouda Alwaawali
 COMP 499
 16/12/2024 to 22/12/2024
 10/07/2025

Sultan Qaboos University
College of Engineering
 Office of Assistant Dean for
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Weekly Report

Week #: ____

Date: _____

Wi-Fi Packet Sniffer Using ESP32 for Wireless Device Detection and Basic Network Monitoring

| | | |
|---|--|--------------|
| Student | Full Name: | ID: |
| | 1. Learn Wi-Fi frame types ■ 2. Set up ESP32 dev env ■ 3. Load sniffer example | |
| Supervisor | Department : <input type="checkbox"/> CAE <input type="checkbox"/> ECE <input type="checkbox"/> MIE <input type="checkbox"/> PCE <input type="checkbox"/> MCE Set up PlatformIO, Created sniffer, Frame capture, Filtering, Channel hopping, README | Mobile: |
| | Full Name: | Email: |
| Supervisor | Captured management frames, Real-time analysis, SSID extraction, Stats tracking | |
| | Training Company & Department: Noisy output, Frame structure, Channel timing | Tel./Mobile: |
| Filtering, Classification, Channel switching | | |
| Tasks Completed (Briefly Describe any tasks that you completed during this week): | | |
| Device tracking, Signal grouping, Anomaly detection, Stats reporting | | |
| • | | |
| • 15-20 hours, ~300 lines, main.cpp, platformio.ini, README.md | | |
| • | | |
| Tasks in Progress (if any): | | |
| ESP32 module, Arduino Framework, Serial Monitor | | |
| • WiFi, esp_wifi, esp_event, esp_log, nvs_flash | | |
| • Dev setup, Frame capture, Filtering, Channel hopping, GitHub repo | | |
| • https://github.com/oulla898/esp-sniffer | | |
| Plan for next week (if different from this week): | | |
| Yes - Real time Wi-Fi packet capture via serial monitor | | |
| • | | |
| • | | |
| • | | |
| Problems/Challenges/Recommendations (if any): | | |
| | | |
| | | |
| | | |
| Supervisor Comments (your feedback is very important for our continuing improvement): | | |
| | | |
| | | |
| | | |

Student:

I have read and understood the whole content of the Students' Training Manual.

Signature:

Supervisor:

I will do my best to guide the student towards achieving all required deliverables.

Signature:

Note: A copy of this report should be faxed to 24413416 or scanned and emailed to your SQU supervisor on a weekly basis. **Originals should be placed in the Appendix of the Final Report.**