IEEE QP FA24

Power Tag: Documentation

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Project Resources:

OnShape CAD

GitHub

Figma

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Introduction & Note

I. Purpose

To produce an official project outline documenting project and the process of building said project.

II. Importance

To keep the project on track to meet deadlines that are set.

To allow members to receive a "base" understanding of the workflow and project as a whole.

To ultimately have an increased chance of having a presentable project by the **major deadline: 12/2/24.**

III. Note

It is important to note that this Documentation and Structure is subject to continuous revisions, whether that be minor or major, depending on its trial run's success and outcomes.

IV. Key

Yellow highlight: Important for **EVERYONE**

Purple highlight: Important - **Hardware**

Orange highlight: Important - **Software**

Important Dates to Keep In Mind

~~10/19/2024~~	Project proposals due at 11:59PM
~~10/26/2024~~	Workshop 1 @ Henry Booker Room (2:00 PM - 5:00 PM)
11/03/24	Milestone due at 11:59PM
11/9/2024	Workshop 2 @ Henry Booker Room (2:00 PM - 5:00 PM)
11/23/2024	Workshop 3 @ Henry Booker Room (2:00 PM - 5:00 PM)
12/2/2024	**Final Submissions due at 11:59PM**
12/3/2024	SHOWCASE @ TBA (Time TBA)

Week 4: Ideation

This week is focusing on ideation for our QP Project, which is Power Tag, Solar Powered Power Bank w/ Location Services.

It's extremely important to orient yourself through the video guides I've provided below for your respective role to get a basic understanding of how Power Tag will work.

I. Hardware

A. BASE Circuitry for connecting a Arduino UNO -> GSM

1. www.youtube.com/watch?v=Okh_XXPmce4

B. Guide for Solar-Powered Power Bank Component

1. youtube.com/watch?v=KHkr6qA72cU

II. Software

A. BASE Circuitry for connecting a Arduino UNO -> GSM

1. youtube.com/watch?v=Okh_XXPmce4

B. Blynk HTTPs RESTFUL API Documentation:

1. docs.blynk.io/en/blynk.cloud/device-https-api

C. Guide for connecting Blynk with google maps

1. youtube.com/watch?v=LKDiEHgGRas

D. Google Maps API Documentation:

1. developers.google.com/maps/documentation

Simple Component Explaintations:

Power Bank Component:
Solar Panel -> Battery -> Charger Board w/ Ports = Charging

Location Component:
Power -> GSM -> Blynk Server -> App -> G-Maps = Location

Week 5: CAD & Mobile App Design (Figma)

Location: **DIB Makerspace** (Design & Innovation Building)
Time: **Sunday, 2 hours (4-6pm)**

Notes:
This week is focusing on completing the designs of both the hardware and software portion of this project.

If you have not yet, please look over the video guides from Week 4, as they will be important for this week's session.

I. Hardware

A. Finish CAD on Onshape: Power Tag - CAD
B. Start working on & testing GSM component w/ Blynk
    1. Watch Week 4: Content-A for info

II. Software

A. Design Figma for mobile application: Figma
B. Start working on views for mobile application
C. Start working on & testing GSM component w/ Blynk
    2. Watch Week 4: Content-A for info

Notes for next week:
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Week 6: Hardware Assembly & Mobile App Development

Location: **SME 306** (Structural and Materials Engineering)
Time: **Saturday, 3 hours (2-5pm)**

Notes:

I. Hardware

A. Start assembling hardware components

II. Software

A. Finish up views for mobile application
B. Start implementing Blynk & Google Maps API

Notes for next week:

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