

UV Sense

Week 1 Individual Project Report

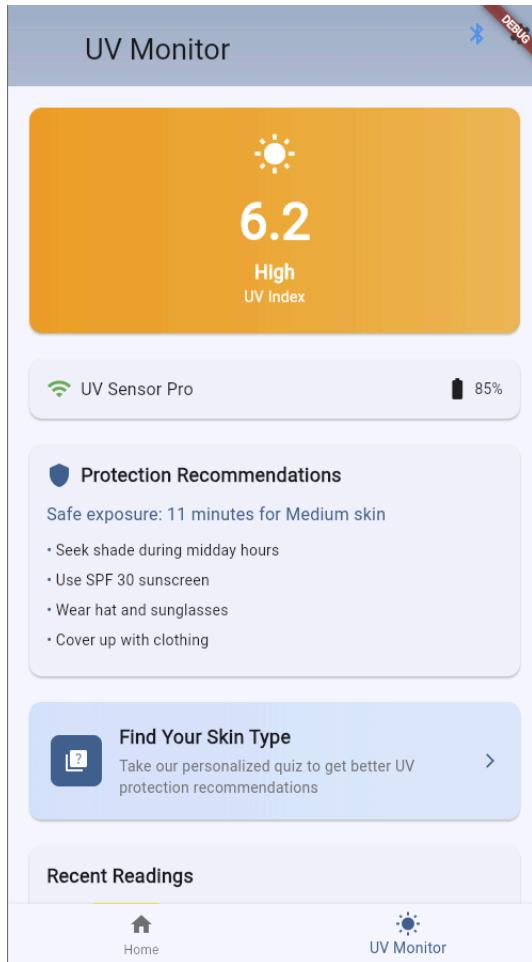
Personalized UV Monitoring & Protection

Cross-Platform Development - ASE456

1. Sprint 1 Demo

- Show working features from Sprint 1
- Screen capture of your application demo

UV Monitor



Recent Readings

The image shows a smartphone screen displaying the "UV Monitor" application. The top status bar indicates "UV Monitor" and "DEBUG". Below the status bar, there is a yellow header bar with the text "UV Index". The main content area includes the following sections:

- UV Sensor Pro**: Shows a signal icon and "85%" battery level.
- Protection Recommendations**:
 - Safe exposure: 11 minutes for Medium skin
 - Seek shade during midday hours
 - Use SPF 30 sunscreen
 - Wear hat and sunglasses
 - Cover up with clothing
- Find Your Skin Type**: A button with a question mark icon and the text "Take our personalized quiz to get better UV protection recommendations".
- Recent Readings**: A table showing five entries:

Reading	UV Level	Time
4.2	Moderate	21:33
4.7	Moderate	21:18
5.2	High	21:03
5.7	High	20:48
6.2	High	20:33
- Home** and **UV Monitor** navigation icons at the bottom.

Find your skin type for personalized advice

×

DEBUG

1/

Which skin type are you?

You are on your way to get personalized recommendations based on your skin type and UV index so you can have the best skin ever.

Find my skin type

Questions

x

DEBUQ

5/100

**Do you have freckles on
unexposed areas? (e.g.
covered)**

Many

Several

Few

Incidental

None

Quiz results

X

Your Results

DEBUG



Fair

Usually burns, tans minimally

Personalized Recommendations

- Fair skin requires 10 minutes safe sun exposure
- Use sunscreen with SPF 50+
- Seek shade during peak hours (10 AM - 4 PM)
- Wear protective clothing and wide-brimmed hat
- Reapply sunscreen every 2 hours
- Wear UV-blocking sunglasses

Apply to UV Monitor

Retake Quiz

2. Sprint 1 Retrospective

- Project metrics: LoC, # of features, # of requirements, and burndown rate
- What Went Wrong/Well with Analysis & Improvement Plan

- Total individual Lines of Code (LoC): **1547**
- Number of individual features completed: **2**
- Number of individual requirements completed: **10**
- Individual burndown rate (%): **50**

What Went Wrong (Individual Level):

- BLE connection was harder than expected
- Hardware integration delayed - only mock device connections implemented
- Database persistence not yet implemented (using global variables temporarily)

What Went Well (Individual Level):

- Good mock up of UV screen with professional UI/UX
- Included Fitzpatrick Skin quiz to get to know users sensitivity to UV
- Successfully implemented complete quiz flow with 11 questions
- Created comprehensive recommendation engine based on skin type and UV index
- Built reusable data models and mock data infrastructure

Analysis & Improvement Plan (Individual Level):

- Research flutter and BLE more - need flutter_blue_plus package
- Implement actual database (SQLite) instead of global state
- Focus on hardware integration for Sprint 2
- Add historical data visualization charts

3. Sprint 2 Goals

- What will you accomplish in Sprint 2
- Project metrics: # of features and # of requirements
- Updated timeline and milestones

Individual Sprint 2 Goals:

- Implement actual BLE connectivity to ESP32 UV sensor hardware
- Add local database persistence (SQLite or Hive) for storing quiz results and UV readings
- Implement historical data visualization with charts (fl_chart package)
- Add background service for auto-logging UV readings
- Complete full hardware integration testing

Individual Sprint 2 Metrics:

- Number of individual features planned: 2__
- Number of individual requirements planned: 7__

Updated Individual Timeline:

- Week 1: Order/setup ESP32 hardware if not done, implement SQLite database for persistent storage
- Week 2: Implement flutter_blue_plus for BLE connectivity, test ESP32 sensor readings
- Week 3: Complete BLE data transmission, implement fl_chart for historical visualization
- Week 4: Add background service for auto-logging, final integration testing and bug fixes

Key Individual Dates and Milestones:

- Individual presentation: During Sprint 2 (TBD)
- Individual milestones:
 - Database implementation: End of Week 1
 - BLE connectivity working: End of Week 2
 - Charts and visualization: End of Week 3
 - Full integration complete: End of Week 4