

First Presentation

Bangor Health Clinic Group

Swansea University

November 22, 2021

Initial Meeting with Client

- Thursday 18th November.
- Clarified and expanded project brief.
- Discussed potential budget.
- Identified 2 possible paths for final implementation.
- Discussed possible stretch targets.

The Two Options

- A wearable device
- A non-wearable device

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Wearable Device

- A watch will detect when the patient is moving and should
- A second device on the walking aid not detect movement, a calming voice (family member) will remind the patient to use their walking aid. Downsides include needing to keep 2 devices charged, and patients/users disliking wearable devices. Upsides include allowing for the largest feature set.

The Two Options

Non-Wearable Device

- A likely a pressure pad that detects when the patient is no longer sitting/lying on the pad. Should the second device on the walking aid not detect movement within a time
- A period of pressure not being detected on the pad, a calming voice (family member) will remind the patient to use their walking aid. Downsides include not being as portable, and likely confined to one location at once. Upsides include only needed to charge one device, ease of implementation and ease of integration into users lives.

Hardware Choices

- Arduino.
- TinyPICO devices using ESP32 chips (18mm × 32mm).
- Accelerometers for wearables, pressure pads for non-wearables.
- 3D Printed prototypes.

Next Steps

- Meet with client again to finalise user requirements.
- Begin developing milestone 1 document.
- Procure hardware needed to develop the project using available funding.