Modelling Team

Stage 1:

Build a low-fidelity prototype

Brainstorm

**Milestone 4 Interview Prep**

\*\* 4 minute presentation and 6 minutes for questions and feedback

What the proposed design looks like:

* Low-fidelity demonstrates the approximate location of everything
* Final prototype will include the entire wired system inside the belt for comfortability of the patient

how/where is the design worn:

* Around the waist as a belt
* This is the most effective location because the sway of the hips is an indicator of walking speed/acceleration and changes in angle (based on hip movement above/below a certain baseline)
* When brainstorming locations of the orientation sensor, it didn’t make sense to wear it on the shoe as it ran the risk of being damaged (ie. rain, slush snow, etc)

How and what way is the design expected to be used:

* Doctors who suspect patients to be predisposed to alzheimer’s disease (from hereditary, environmental etc. factors) can use this belt to monitor gait patterns in the patient and be alerted when patterns vary from a baseline
* If the acceleration of the walking and the angle of the hips fall outside a certain percentage of the baseline, the doctor will be notified and may investigate further to potentially diagnose early onset

Preliminary plan for verifying correctness: (coding)

Questions we want to ask?

* Is it feasible?
* Do you see any errors in our design?
* Is a simplistic or creative housing preferred (clip on a belt)
* For CADing the housing for the sensor, is there a file online that we can use to base our measurements and model off of? There seemed to be a breadboard, t-cobbler etc. but we didn’t see anything for our specific orientation sensor

Feedback

* Would this be more useful in a doctor’s office?
* Problems with this is that you have to recalibrate, so stored user pattern would help
* Note whether alzhimers is present in ur family as you would be tested more often
* Differs between dementia
* Would need to prove device works for all forms of dementia and compared to baseline
* Look into user-interaction (preference method)
* Look at how data was collected to compare out method (to look at settings)
* Old people walk differently, the gait can differ depending on arthritis,
* Need to investigate if the cause of changes in pattern are specifically from alzheimer’s causes