CAPILL: Compliance Aid Promoting Independent Living Long-term

Lyons, Ronan (School: Lanesboro Community College)

Many people struggle to access their medication, especially those with reduced hand mobility caused by conditions such as arthritis, rheumatism or Parkinson's Disease. In my project, I have investigated the problems faced by people with reduced hand mobility and designed a device and supporting app to facilitate ease of access and improved medication management for this underserved cohort. I have used an iterative design process for my project. I identified issues in each design and used these shortcomings to inform subsequent optimisations, all with the needs of the end user in mind. Once I was satisfied with my prototype, I ran questionnaires and demonstration sessions to get real world feedback from prospective end users. I used their feedback on the device and app to further refine my project. My device now includes a fingerprint scanner that ensures that only the patient may access their medication, not a child or other family member. A timer feature with auditory and visual alarms ensures that they access medication at the correct time. The app alarm and alert features allow family members and carers to monitor and help the patient to ensure that they do not miss doses of medication. The simplified modular design allows the device to be adapted to the patient's changing needs and allows the device to be easily refilled whether by family, carers or a pharmacist. My project has the clear capability to help people with reduced hand mobility to access their medication in an easier and safer way than more traditional designs. It also helps them to remain independent but not isolated through the use of my supporting app. My project benefits the patient and those who care for the patients allowing for greater safety, records and ease of mind.

Awards Won:

Broadcom Foundation: The Broadcom Coding with Commitment Award