**Title**

clever line + description below

**Why (Motivation)**

Problem/Goal: simple

* the elderly have problems

Importance of Problem: simple

* causes many problems

Why are current solutions insufficient:

* children are away, ect
* elderly don’t like tech
* aims to be more affective through movement and speech

**What (is the research and why is it important)**

What are the things you have done + IMAGE. why?

* bot that moves, asks how they are, reminds to take meds
* bot that sends news, takes pictures at front door, record voice for someone else
* bot that checks in at intervals, takes picture and sends it to children, checks heart rate

What is the aim?

* To create a pet that is useful yet affective.

What is good about this aim?

* Pets and plans are shown to provide benefits.
* put children at ease
* send voice without requiring phone call which may take up children time

**Who (are the authors)**

poster format + one citation (from fyp)

**Story(History of existing research)**

background info:

* amazon echo, roomba. Robots with vision.

shocking statistic about old people:

* suicides by 60+yo hit 35%
* <https://www.straitstimes.com/singapore/number-of-suicides-among-seniors-hits-record-high>

taking care of a plant?

* However, research has shown that taking care of pets alleviates lone/depression
* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5546745/>

**How (Methodology)**

Different possible approaches to problem:

* home system. but pet is more interactive/affective

What did you end up choosing:

* mobile bot

How did you address the issue:

* mbot with additional hardware. It can move around and turn due to motors (fyp)

How the prototype is implemented (flowchart?)

* mbot (see fyp text)

Movement?

* movement done with X algorithm, to be more realistic. Remote or immobile options are also available
* boustrophedon movement algorithm

timeline step by step 🡪 🡪 🡪

movement 🡪 light 🡪 ultrasound sensor 🡪 text to voice 🡪 take photo 🡪 send news

what the bot does step by step 🡪

move🡪ask🡪take photo🡪send text🡪record voice if unknown person 🡪 remote to say no

* bot that moves, asks how they are, reminds to take meds
* bot that sends news, takes pictures at front door, record voice for someone else
* bot that checks in at intervals, takes picture and sends it to children, checks heart rate

Images of equipment + list

connectivity of appliances

System design description (next to each hardware part)

* rpi
* arduino
* speaker //ask for one
* bluetooth module
* sensor
* camera (for detection of you)
* microphone? (or future) //ask for one

**Benefits of Research**

why is this useful (explicit solution to problem)

* creation of mass market personal companion robots that can target the specific problems that the elderly face. These robots will have to be designed to reduce loneliness while improving health and be elderly-friendly in terms of usage as well as affordable.

what new contribution does this provide?

* a pet robot has been tried, but a step towards a mass-market home pet

**Results**

Experimental Results:

* Movement does not get trapped in loop

Measureable quantities (accuracy in detecting person)

* open CV

Graph of results (survey of design?

highlight the important metrics of the results

**Conclusions & Future**

additional features

ways to measure success

survey to determine acceptability (cuteness)

moving forward, what can be done?

**Ideas**

Bot moves right

Each panel

bumps into wall and moves a different direction (small snippet of movement code)

Graph on recognition of faces (it gets better over time)

take picture 🡪 openCV 🡪 send notification of who (X is at the door!)

voice to text? 🡪 state purpose of visit

algorithm to move (to be more pet-like, instead of clearly autonomous)

**Assessment for research poster**

Presentation

Prominently positions title/authors

introduction

hypotheses/propositions

research methods

results

conclusions

* wellorganized
* Narration
* answering of questions is engaging, thorough, adds to presentation

Visual Presentation

Overall visual appeal

not cluttered

colours and patterns enhance readability

font size/variation helps organization, presentation, readability

graphs are engaging and enhance text content and order. narration is not required.

Documentation of Sources

Data from other sources. Cites data from other sources. citation style APA/IEEE