7/3/2023

Joe, Hannah, Nukes, Bex

What does it do:

* Service robot
* Meet and greet - multiple languages
* Takes you to the items you want

What do we need to make this happen:

Ideas:

* Bluetooth receivers
* Pre-determined map
* Encoders
* Positioning system

Scope:

* What does the robot do
* What can we make it do
* What we can make it do will need to be proof of concept that the large scale is possible

The Scope/goal of this project is to design and develop a service robot that can be used as a proof of concept for large scale implementation of the X robot.

X = Team name

Context:

* Background - staffing shortages
* Systems pre-existing but specific to companies
* Make a service robot that can be used in all stores

Aim:

* To develop and improve a service robot to aid with staffing shortages in retail stores in New Zealand.

Deliverables:

* Navigate the layout of a store - Single layer
* Interact with a variety of people
* Interact effectively - Clear communication + Useful
* Cost effective
* Produce a functioning prototype for a interactive navigating service robot in single level retail stores.
* Store navigation flexibility. Evaluation of in store navigation.
* Competes with existing market.

Constraints:

* Navigation
* Must be able to interact
* Safety able to move around a
* Manuver the store and avoid hazards. (People)
* Within budget.
* Time for completion - meet key milestones

Stakeholders:

* Technicians - Working directly on it + repairs at later date
* Supervisor/Manager -
* Developers -
* Companies -
* Customers -
* Employees who have to work with it. -

Markets:

* New Zealand retail markets - Larger stores

**Organization:**

Phase One: (2 Weeks)

* Basic planning and management completed
* Timeline - Gnatt chart
* Contract
* Risk Ideantication
* Constraints
* Further specifications
  + Background research on all aspects
    - Mechanical
    - Electrical
    - Software
    - Consumer
* Basic plan of prototype
* Order parts

Phase Two: (2 weeks)

* Base robot that moves - Human control
* Basic control system for navigation
* Basic CAD for modular design
* Consumer interaction

**Project Proposal (**Week 4**)**

Phase Three ()

* Basic charging system implemented
* Sensors integrated
* Basic program written
* Basic suspension system
* Shell design
* CAD final draft
* Impact report
  + Environmental
  + Feasability
  + Financial
  + Specifications

**Progress Meeting One (**Week 12**)**

Phase Four:

* Moving reliably and accurately within controlled environment
* Testing plan for controlled to uncontrolled environment
* Navigation system in place

Phase Five - Final Phase

* Working reliably and accurately in an uncontrolled environment
* Report