



# The Implementation and Development of a Semi-Humanoid Concierge Robot for the Stem Center

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## Introduction

Pepper, a semi-humanoid robot manufactured by SoftBank Robotics. Introduced in Tokyo 2014 as a concierge robot, it is available as a research and educational robot for schools, colleges and universities to teach programming and conduct research into human-robot interactions as well as noted uses in hospitals and hotels.



Figure 1: Pepper

## Purpose

The STEM Center at Kapi'olani Community College has reopened, with the use of the Pepper robot, the goal is to automate this process, especially the check in process, and assist with basic student STEM services and questions.

## Methods

The materials used in this research project includes 1 Pepper robot, laptop, and internet access to the website, Robot Management System (cloud-based robot project development platform).

The methods employed includes several initial steps:

### 1) Assess the physical and software limitations of Pepper

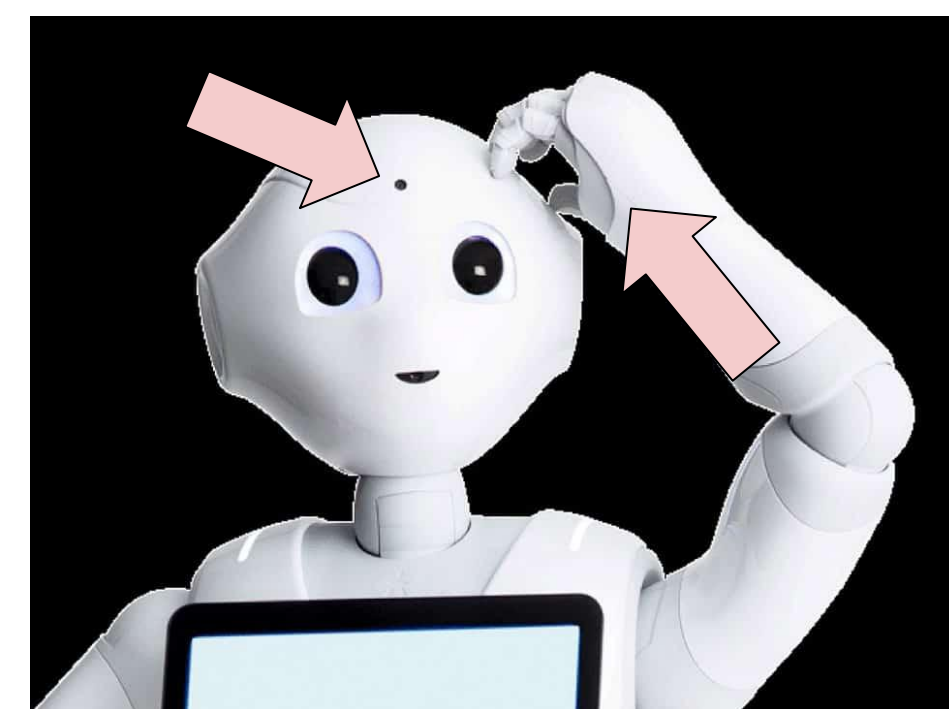


Figure 3: Pepper, up close! Note the hands and camera

### 2) Become familiarize with the Robot Management System

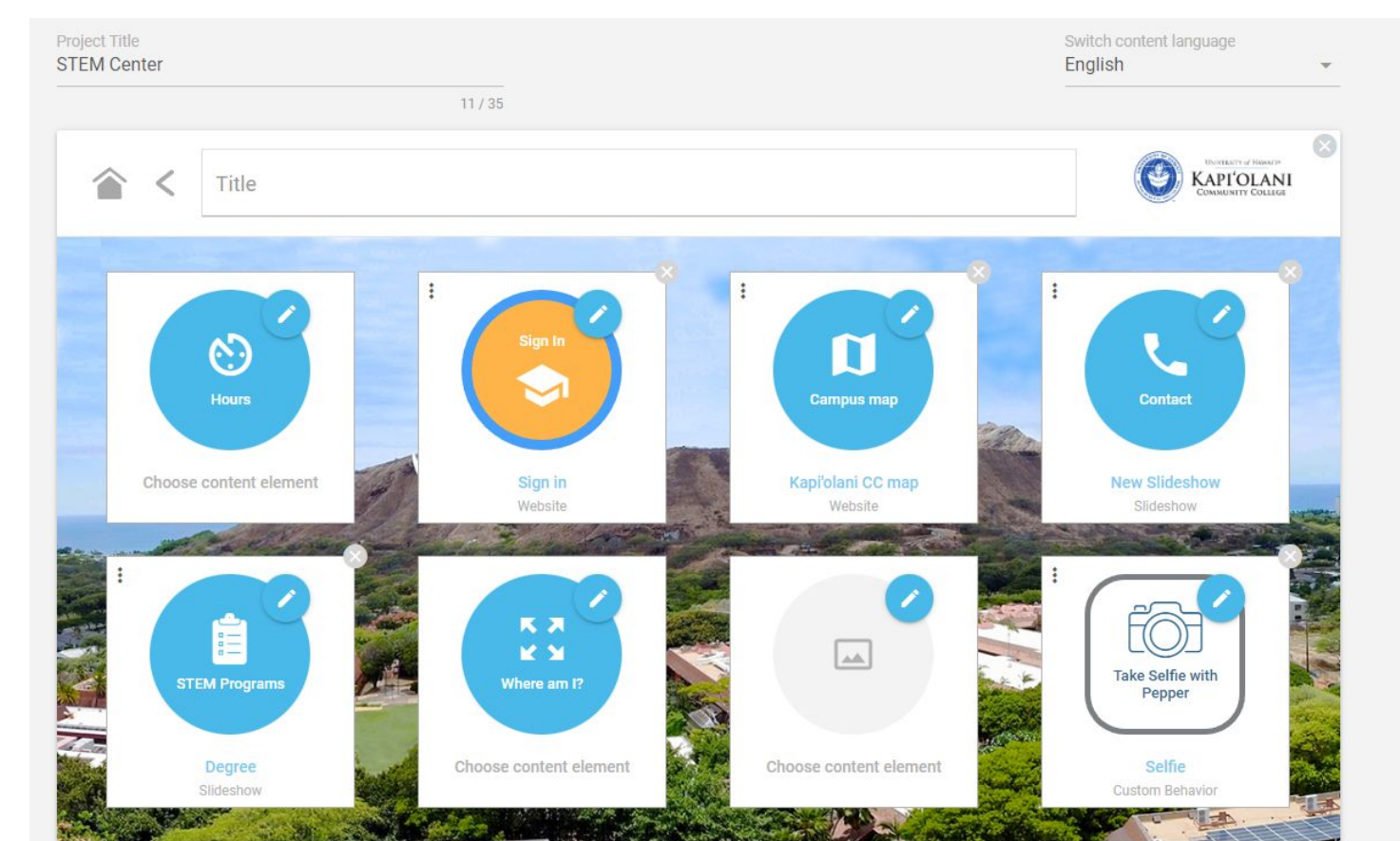


Figure 3: Robot Management System

- 3) Modify for the robot to display the following:
- Map Kapi'olani CC campus
  - Hours, location, and staff of STEM Center
  - Check in sheet

## Results

Figure 4:  
Main menu

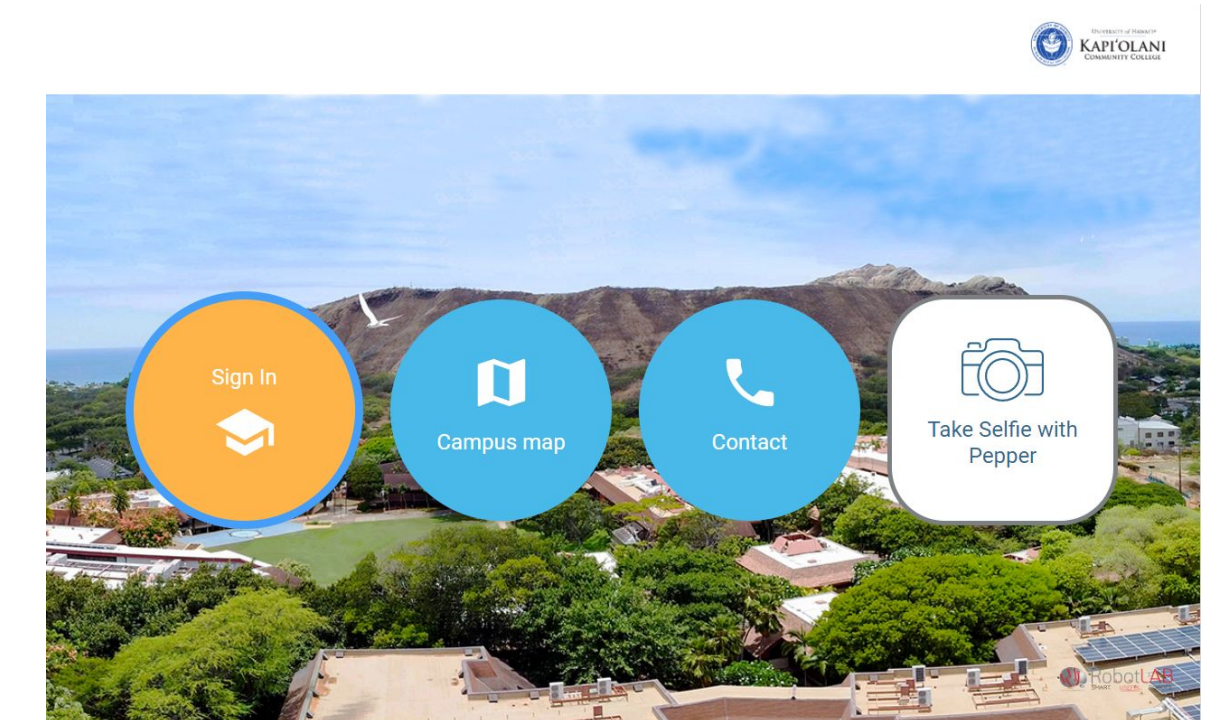


Figure 5:  
Hours, location,  
and staff of STEM  
Center

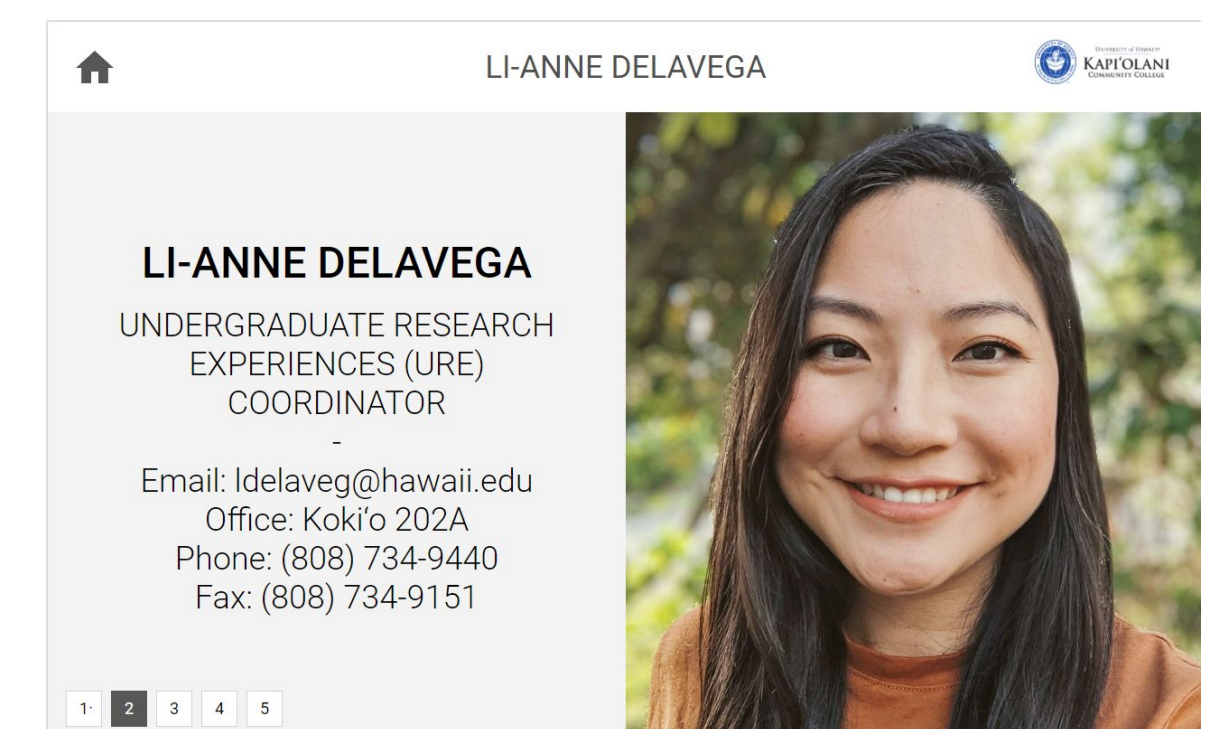
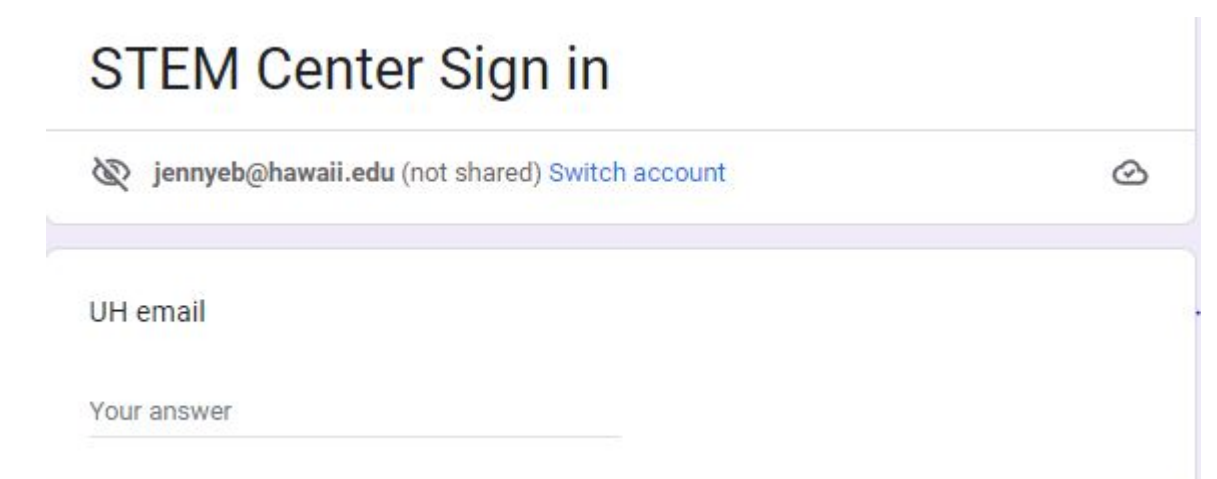


Figure 6:  
Check in sheet



## Conutining Research

Further research and experimentation is needed to refine the practical uses of the Pepper robot with student interactions.

