# Homework 1 for Einstein group

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## Introduction

This report contains a detailed explanation of the homework 1 assignment for the Einstein group.

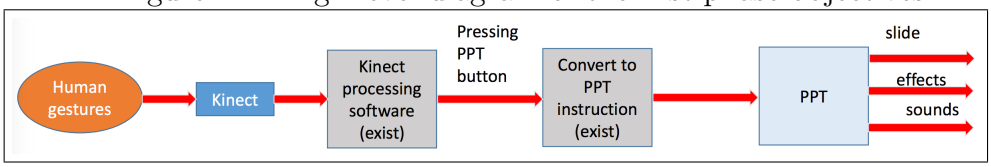
### Learning Outcomes

The purpose of this homework was to fulfill the following learning outcomes.

1. Use of Kinect to control a robot, to create commands and data for a robot.
2. The concept of state machine in robotics
3. The concept and use of fuzzy logic in robotics
4. Using Powerpoint for scenario prototyping
5. Dialogs with robots

## First phase explanation

Figure 1: A high level diagram of the first phase objectives




**The objective for the first phase of this homework was to:**

1. Figure out how to use a Kinect to control the mouse on a computer
2. Figure out how to use Kinect to control a powerpoint presentation
3. Create a powerpoint presentation with info, effects, figures, pictures, and videos about Einstein and the "Quantum Debate" play
4. Record voice with German accent that is suppose to be Einstein for the powerpoint presentation

In order to meet these objectives, our group used the following:

- We created a powerpoint presentation using Microsoft Powerpoint.
  - The powerpoint presentation contains
    - Famous quotes from Einstein
    - History about Einstein's life, achievements, and hobbies
    - Einstein's parts in the "Great Quantum Debate", Acts I and II
    - Lots of pictures of Einstein himself and things related to him
    - A voice with a german accent that reads what is on the slide
  - Within the powerpoint presentation, several macros were created using Microsoft Visual Basic for Applications.
    - Macro code can be found here? (need info from david)
    - Macros were used to make buttons that could be clicked on with the mouse to transition to another slide

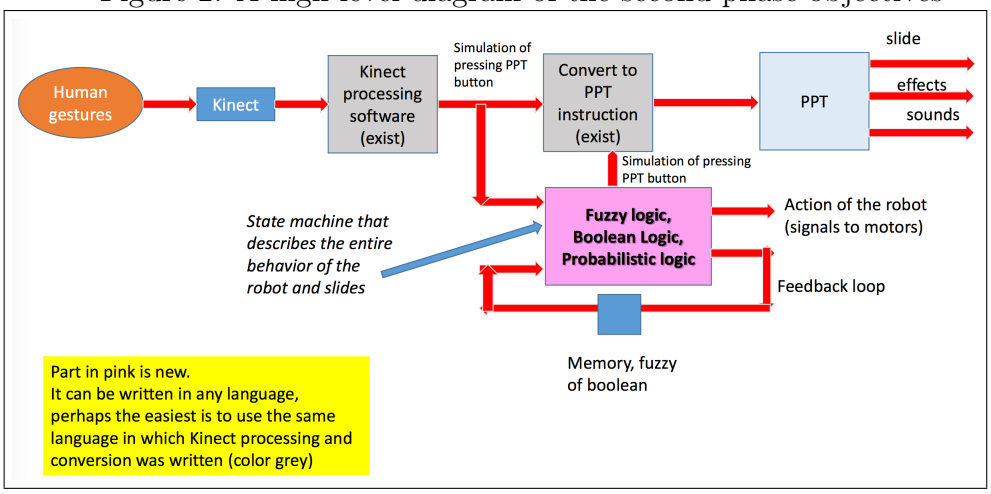
- We found software called KinectMouse for controlling a PC mouse and powerpoint presentation with Kinect
  - The software can be located here [1]
  - There are detailed instructions on how to use this software here [2]
  - We also found a tutorial on how to use a face to control the mouse with this software here [3] but never had time to implement it
- We found some other software to do voice effects? (need info from Waleed here)

### Group roles for first phase

- Powerpoint: Will, David, Waleed
- KinectMouse: David
- Voice effects: Waleed
- Documentation: Will

### Second phase explanation

Figure 2: A high level diagram of the second phase objectives




[1] https://kinectmouse.codeplex.com/
[2] http://futuretechblog.com/?p=26
[3] http://futuretechblog.com/?p=71