

## VI Kitchen Assistant

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# 1 Executive Summary

## 2 Acknowledgements (other's assets)

## 3 Introduction

### 3a. Project Overview

This research project is focused on constructing training environment to perform some basic tasks. In particular, it establish kitchen environment, which will be supervised by Virtual Intelligent (VI) . Using set of motion detective tools and kitect camera on the top of area, VI will be able to track persons movements, provide cooking advice and follow up environment state to inform of any sort of danger or thing which require user attention or other assistant. This tool is aimed for people with different disabilities, in order to train watch over them self, independent from other guardians.

Virtual assistance was given a name *Evka - Enhanced Virtual Kitchen Assistant* <sup>1</sup>. Her name can be translated as Eva, which will be used in majority cases. Using a hand trackers, tool markers, property or sort of thermal scanners and fridge content she will be able decide the best possible to cook menu, track user activities in order not to harm anyone, track on the state of cooking process with level of heat, time and user actions.

At current stage Eva is able to communicate with her voice using RTVoice asset. Her responses are generated based on user actions. Original idea was to develop Question-Answer Virtual Intelligent environment. However, after going through limitation of the project, users ability and current level of technologies, idea was postponed to better times.

As a result, Eva able to use Unity Engine Kitchen environment around, which were marked with a tag to, which type of tool it belongs. Her dialogues stored in a tree hierarchy and changes depending on user actions. In the mean time, player has abilities to manipulate with object using controllers, represented as mouse and keyboard.

### 3b. Report Aim

Presented how tasks were achieved. Overjeis of API

## 4 Background research

Indeva, doctors . Multicap.

## 5 Methodology

1. Establish Unity on Home Windows Machine with VR support. Find the best method os sharing code with Dr Brown. - Unity 2017.2.0f3
2. Use Unity Asset Store to establish sort of kitchen environment. In addition, SketchUp for 3D models. - Kitchen Asset from HarpetStudio was used, in order to get 3D models kitchen environment.

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<sup>1</sup>from a Czech language - Eva

3. Draw VI model and place in the kitchen. Add one of two ways of communication using either text of voice. - Using different speech synthesis, Google translate was used as more appropriate. In addition, WebGL Speech Synthesis may become the best tool.
4. Build one work flow hierarchy with Evka's feedback. Add camera view track.
5. Set up Evka's track abilities.
6. Build easy interactions with enum states as lift pull and collisions.
  - Knife - Lift, Pull, Cut. Safe state, Danger State.
  - Kitchen plate - Cooled, Heating, Hot. Safe state, Danger State.
  - Pan/Pot - Empty, filled. Cooled, Hot.
  - Spoon - Cooking Tool.
  - Glass/Plate/Shell/Fridge - Storage.
7. Give player the hands - keyboard/mouse.
8. Set Cooking ingredients.
  - Vegetables - Whole, Cutted. Dirty, Clean. Old, Fresh.
  - Meat - whole, cutted, mean. Frozen, normal.
  - Rice - Dry, Cleaned. Empty/ Full.
  - Pasta - Empty/ Full.
  - Potatoes - Dry, Cleaned. Empty/ Full.
  - Oil - Filled, Empty.
  - Butter/Salt/Paper/Seasons - Yes or Null.
9. Set Up Avatar restraints. I.e Do not allow take knife from working area, do not put pasta into empty Pot. ...
10. To be added ...

## 6 Conclusion

## 7 ?Proposal

## References