



INSTITUTE *of*
TECHNOLOGY

CARLOW

Visual Developer tool for Mycroft: Design Manual

by

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Abstract

The aim of this project is to build a visual development tool in the vain of Scratch which would allow the users to easily build skills(apps) for Mycroft which is an open source voice assistant for Linux. This application should allow the users to create a skill without having to write any code by just dropping visual blocks on a canvas with prewritten code in the. The only thing that a user will have to do is answer a short questionnaire to create a skill template and select the file

Table of Contents

Abstract	1
1. Introduction	3
2. Design	4
2.1 Use Case Diagram	4
2.2 Class Diagram	5
2.3 Message Sequence	6
3. Plan	6
4. UIX	7
5. Conclusion	8
Declaration	9

1. Introduction

The objective of this document is to provide an overview of how the software is expected to operate, its target audience as well as how its success is going to be measured. The document will be broken down into 3 sections with each section giving an in-depth description of its respective topic with a conclusion at the end . The sections are as follows.

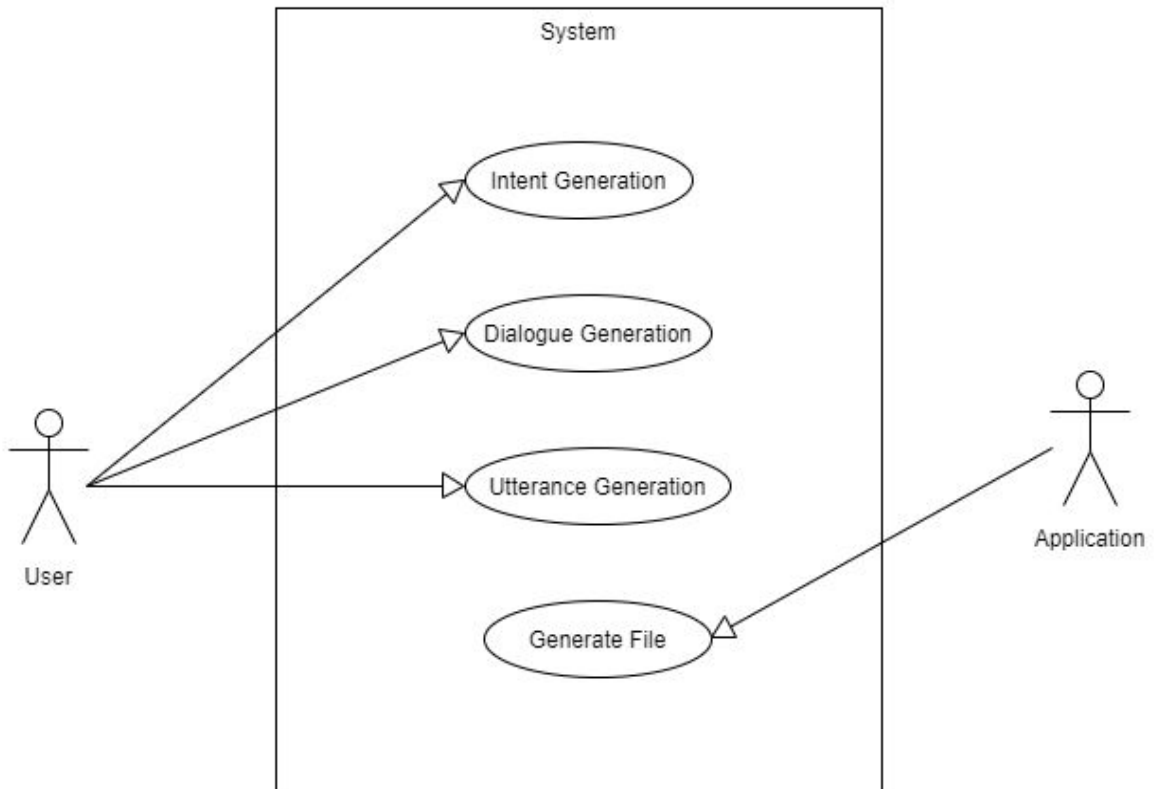
Section 1: *Design* - Displays the UML diagrams to convey the design of the project

Section 2: *Plan* - This section outlines the plan and milestones

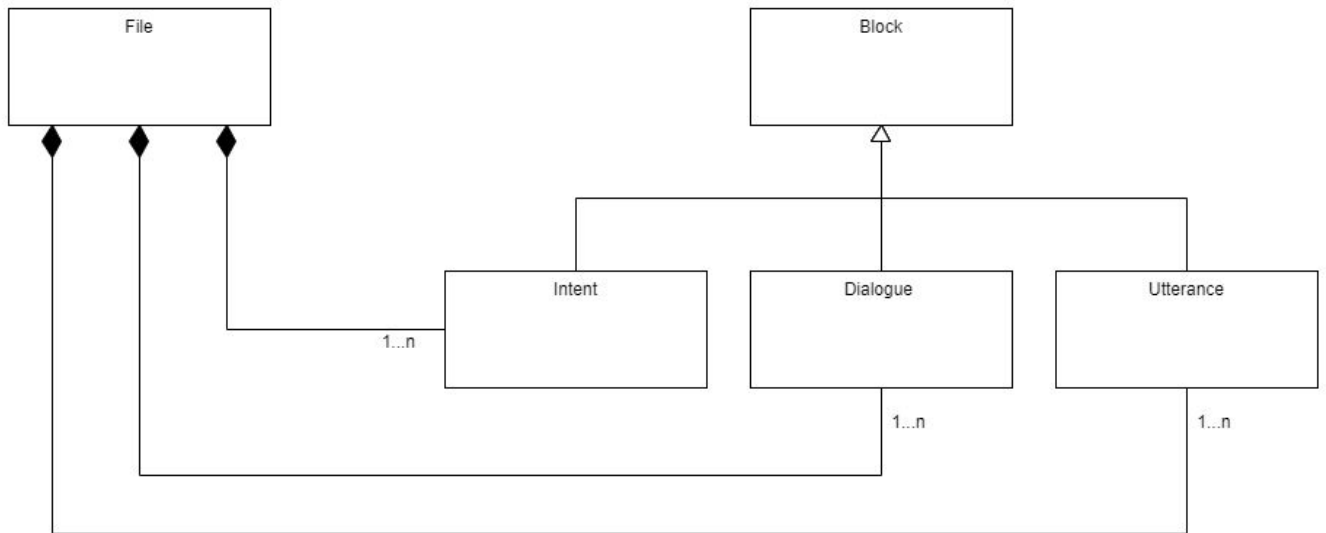
Section 3: *UIX* - An image of a sample screen is in this section as well as the explanation of what the components on the screen do

2. Design

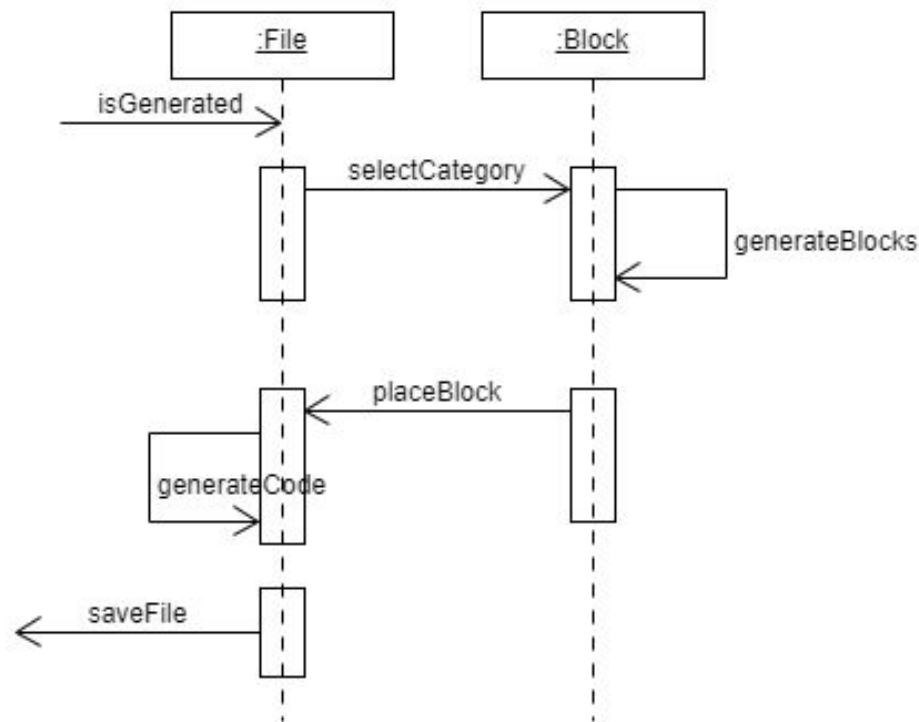
2.1 Use Case Diagram



2.2 Class Diagram



2.3 Message Sequence



3. Plan

The project is currently in its design phase after successfully leaving the planning phase on the 1st of November and the analysis phase on the 15th of November. With that the project has entered its design phase which is expected to be finished on the 28th of November. The planning phase had a cycle time of one month and the analysis and design received two weeks each.

The production of the tool will start in late December 2019 but due to the holidays it is expected to hit full production in early January 2020. The project will have a 16 week in its development cycle with 13 of which are allocated to the implementation phase and remaining 3 to the testing and integration. The goals and milestones are as follows:

Week 1 + 2: Basic GUI - White space for the blocks to be put into as well as the tab for different block types which once clicked displays the blocks of the specified tab.

Week 3 - 5: Block design and functionality - A block will be fully completed with the functionality to print its code out onto the project file

Week 6 - 9: Application creation test - Enough blocks will be created in order to test creating a single basic application .

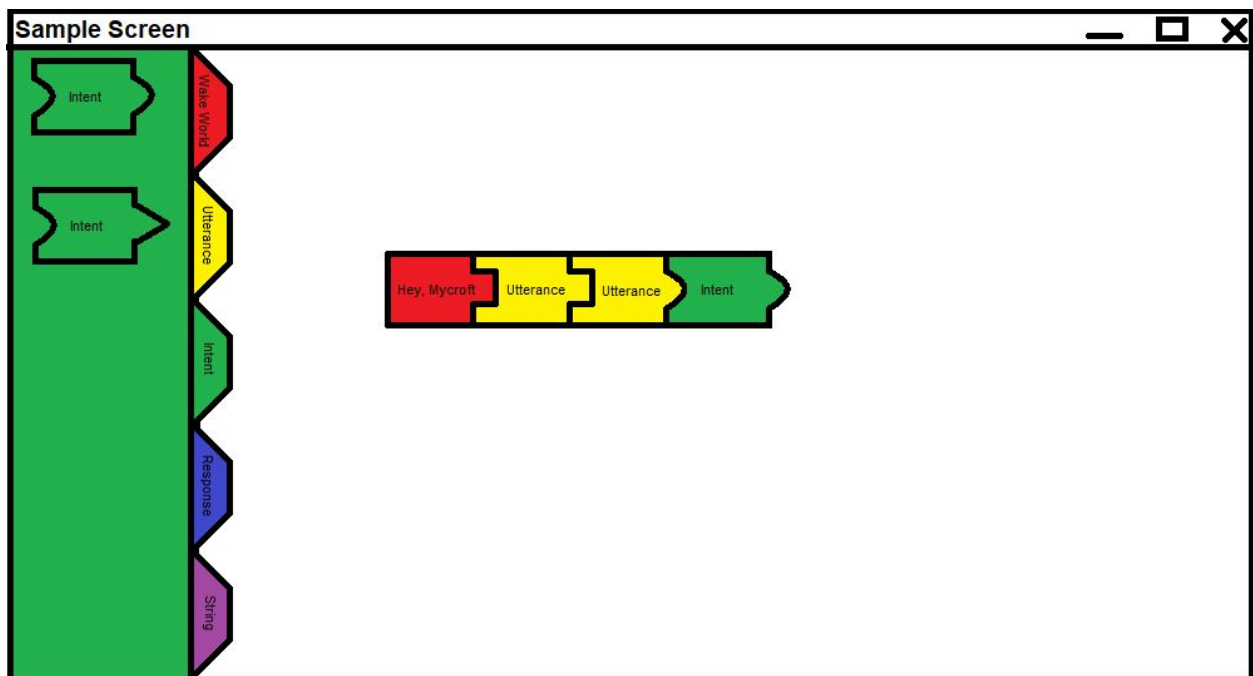
Week 10 - 13: Make more blocks - Create enough blocks to make various other basic applications eg check what happened on that day 100 years ago

Week 14: Make it stand alone - Make the program stand alone as an exe able to work without the compiler

Week 15: Bug fixing - Fixing any standing bugs in the program

Week 16: Documentation - Creating documentation for the project

4. UIX



The image above is a sample screen created in a third party software to illustrate how the project is expected to look. The app will have several tabs, each colour coded and representing a different aspect of the code. Furthermore, each block will have several variations with different shaped sockets allowing the block to connect to blocks with the same sockets. This is created in order to make it easier for the user to understand the code structure and limit the amount of mistakes it is possible to make. When a block is attached to another block its code is written below the previous block's code.

Not all blocks fit each other as the code would not be in the correct order and the entire skill wouldn't work. Each block type will have from one to three different sockets, one which allows

them to connect to a different block type before them, one to connect to the same blocks and one to allow different block types to connect to it

5. Conclusion

While what the GUI of the project is still subject to change, the project design and the roadmap are in their final stages and are unlikely to be drastically changed before the project hits production.

Declaration

- I declare that all material in this submission e.g. thesis/essay/project/assignment is entirely my/our own work except where duly acknowledged.
- I have cited the sources of all quotations, paraphrases, summaries of information, tables, diagrams or other material; including software and other electronic media in which intellectual property rights may reside.
- I have provided a complete bibliography of all works and sources used in the preparation of this submission.
- I understand that failure to comply with the Institute's regulations governing plagiarism constitutes a serious offense.

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