# Aim and purpose

The purpose of this project is to create a functional voice recognition application that will record your voice, return it in text, compare it to a local database with stored commands and give you the desired result.

**Research questions**

 How can we make voice recognition a more reliable input?

 How can voice recognition be used to improve the quality of life?

# Arduino

Connected to the Bluetooth via 2 cables rx and tx. Uses the ports 2-6 for the led-lights.

Receives an ID from the Bluetooth module and with that ID the Arduino board knows which led to light up.

**4. Results**

**4.1 Expected results**

The expected result from this project is there will be a functional and good working program, which will work well with voice recognition. It will also be able to turn on the right light depending on the given command, and store every given command in the database.

**4.2 Results**

In this project Extreme Programming was used, between the iterations we used story cards and task cards. The story cards were used to know how far the project had gone, and what was left to do. The task cards were also used between iterations but they were individual between the members in the project, they were tasks for the members to be complete for the next iteration. The testing done in the project was Black box - White box testing, this is done by testing while programming. Instead of doing a complete code for testing, there were test between every code done to see if it worked. In this project GitHub was used as its revision control program. This was a very good combination with the Black box – White box testing, between every successful test the project would sync with GitHub and saved (PMJ, 2015).

The problems that were encountered in this project were:

 Learning the new programs: Android studio, Arduino playground.

 Programming and implementation to the application: Database, application functions, implementing voice to text.

 The connection between the Android app and the Bluetooth unit.

 Sending commands from the Android app to the Arduino.

 Receive commands in Arduino and make the desired output.

All these problems were solved by implementing code from tutorials and complete code, Black box – White box testing and pair programming. Tutorials and complete code were searched, to be able to learn the programs and to manage the implementations of the database, application functions and voice to text. The tutorials were searched were to learn the different programs, and learn how to manage the send and receive commands from the application to the Arduino board. Using all this knowledge this project was able to achieve its goals and make a functional program, and create all the functions needed for this project to work. After a lot of research the Bluetooth connection between the Arduino and the application was achieved, using all the tutorials and code found. Sending and receiving the commands to the Arduino was a big problem in this project, this was the problem researched the most and it showed out to be the physical connection that was wrong.

The aim for our project was to create an application that records a voice command and stores it in the database. The command that have just been stored will then be return to you as text on the screen of the app.

Here are our research questions that we had for this project.

**Research questions**

 How can we make voice recognition a more reliable input?

 How can voice recognition be used to improve the quality of life?

Arduino

The arduino is connected to the Bluetooth via 2 cables rx and tx for transmitting and receiving data. And uses the ports 2-6 for the led-lights that we use to simulate something real.

The Arduino receives an ID from the Bluetooth module and with that ID the Arduino board knows which led to light up.

The expected results for this project were to make a program that would be able to record your voice and do something with it. Like a mentioned earlier simulate something in the real world and for now that is lighting led-lights and writing the command you just said as a text that you can read to see if it understood what you said.

We have been working according to XP for the most past of this project although we have not been that Strict when it came to writing story cards. Pair programming were used a lot, and we used black box white box testing for when developing the application.

Github was our revision control system of choice.

The problems we had going through with this project were learning all the new software programs like android and arduino playground.

The implementation of SQlite was also a hand full.

But the most demanding part of our project was the Bluetooth connection between the arduino and the android application. It took us more time than I like to admit to make it work.

The problems we had were solved by implementing code from tutorials and taking bits of code from already completed examples. Also pair-programming helped solve these problems because two heads are better than one.

On a side note our average velocity were 0.8 with 259 active work hours.