

VOICE CONTROL XARVIS SYSTEM

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Computer Science and Engineering

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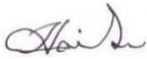
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APPROVAL

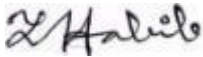
This Project titled “Voice Control Xarvis System”, submitted by **Abir Hossen ID: 181-15-11097, Md. Mahedi Hasan ID: 181-15-10773 and Md. Solaiman Sheik ID: 181-15-11026** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on **5 January 2022.**

BOARD OF EXAMINERS



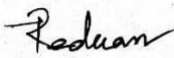
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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md. Mahade Hasan, Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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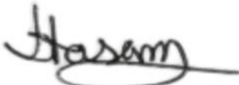


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Also, our heartfelt love goes out to our parents for their always support.

ABSTRACT

The present age is the age of modern science. In this modern age, all people want to do everything at home with the help of modern science. Speech recognition or voice control is one of the best engineering technologies in the modern world. It deals with various application in different sites and also have many useful things. In our modern world, there are lot of people who are suffering from different disabilities. Likely many people are blind, many people may not able to use their hand properly. The voice control system surely helps this kind of people. They can easily share all kinds of information with all people by operating computer through voice input. Who are not able to operate computer by voice control system, they can easily control it. We have designed our project keeping in mind that users can easily get all kinds of computer information using this application. By using this application people can easily uninstall app, through voice easily play music, and easily go to browser. Above all-in-one frame, people can find all computer related information. Our application is created by C# operating system. Our implementation results show improvement in response time.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

People easily control their application by doing different works likely bare appeal, bare browser, by sending an mail, bare counter or conversation when they feel depressed. There are many tools which easily translate our voice command into text. It also takes a short time to convert our voice into text what we can not type quickly. Thus, it helps to, improve our productivity have perfect results. Voice control system is a process which inactive a pc to get at the sound which give the user for voice command by using of headphone. These words are then identified by a voice control system, and at last, system will give output of the acceptable words. The procedure of voice control deals with different steps, discussed below one by one. A perfect scenario within the procedure of voice control system is that, a voice control system acknowledges all voice developed by a mortal, Generally the working of a voice control system build on different causes. In 1940s and 1950s is called first making time to the method of voice control system.

Voice control system is a digital methods increasing by highly motion. This is having different management with various location and also having huge solution. In the modern age, there are different kinds of people who are bearing from different inactivation; likely many people can not see with their eyes that means they are blind, some are not able to conduct their hands properly.

The voice control Xarvis system may support those kinds of community. The user easily segment news with each other by controlling computer by command their voice. This provides the user an ability of preventing the process by the support of voice that provides an include benefit of fast operation bearing, progress productivity and also make sure to helping those kinds of human who are unable to operate computer.

There are different steps that include active voice control system and adjustment and also in different programming languages and stage. In the mentioned step, we have drunk C# programming language . Many kinds of commands are implemented and tested. The VoicePad are not able to voice synthesis and voice recognition at the same period. Our project has the capacity to lead by C#, Linux etc.

1.1.1 Kinds of voice control system

People may allocate voice control system within different areas. It depends on the ability of understanding the noise and chart of noise. The composition of various kinds of voice control system having:

Several speech:

Several speech generally mean feedback a interval among two words. This accepts one words simultaneous and also have the capability to receive over than a individual message.

Connected Speech:

Connected speech and isolated speech are same but different utterances with minimum pause between them is granted.

Continuous speech:

In this system, the user is giving permission to talk their own way. This system is also called computer motivation.

1.2 Problem Statement

Having many advantages, it is very difficult to making 100% perfect voice control system. Different kinds of causes hamper to reducing in perfect validity and representation of the system. This system maybe not easy to work for a system in execute, among disparity to a mortal-thought-voice control system is thinking few knowledgeable.

The main cause mortal thought is a grant of our Lord and the ability of consideration, taking, to feeling and feedback is common thus a computer program this could be troublesome work. In beginning, it imperative to be understood what is the users told and the understanding, and this needs to making an skillful measure among the voice, uproar and distance. We easily understand the sound from a voice and besides a machine needs training for understanding. To separate the voice from the other voice generated, computer needs to be trained.

1.2 Objectives

- * To understand voice control system and its framework.
- * It is mainly implemented as a Desktop Application
- * Mainly works by human voice.
- * Performing and management of voice control system in various location.

JSAPI Machine Digitalization:

This is highlighting the voice control system to the conduct of XML outline list as like as it is called overall rule out list cause this XML list bargain to us along the ability among various operating system as it cannot give any obstacle in taking no action along various kinds of process performing on various operating languages.

1.3 Methodology

We firstly selected C# language for making our voice control system project cause, it has individual stage, also easily to usage and understand. It easily runs into Visual studio 2019.

We use this app to create our project and properly get our outcome. we make our project by two steps. Firstly, we develop our voice system where we give our command. When we speak with the VoicePad, it shows the word in the screen through voice. By doing Text to Speech and Speech to Text procedure we develop our VoicePad that means voice control system

1.4 Expected Outcome

- For this Xarvis windows application we can expect we can control our machine/computer by our voice,
- Likely we can control our internet connectivity,
- we can control our browsing system,
- we can control our root app,
- Also, we can install or uninstall our extra apps.

CHAPTER 2

Backgrounds

2.1 Introduction

Controlling a PC/Smart Phone/ any device/ any system by voice command has become a very popular way to navigate a smart device. Some decades back, people had to try various difficult kinds of ways to navigate their electric devices which were very costly and weren't time friendly. Now, people don't have that much time to waste for such small tasks. Even a few years ago, people started to leave using keyboard and started to use touchscreen to control their devices. And in the present days, they don't even want to waste any time or any efforts after navigation. So, voice command and voice assistant have become a very popular way. It is less costly, accurate and time friendly. Thinking all these stuffs and the demand of the smart users, we decided to make a system which can help them more effectively. Our Voice Control Xarvis System is an excellent solution for these kinds of problems. And we think that, our project will be a much easier and quicker solution for the users.

2.2 Related Works

There are tons of voice control system like ours in the world. But we tried to do something unique in some ways and making it better is also another goal of us. Though there are some systems available in our market, most of them are high of cost and sometimes they are not easy to get. Also, users have to face so many issues to make payment to buy those systems. Even some users find those systems very hard to use.

Unlike the others, we have worked to make our project user friendly. We have also tried to make the UI more comfortable for the users. We made it interesting to use. We have worked patiently for a better and more reliable UI.

2.3 Comparative Studies

Like our systems, there are many other systems available in the market currently. But there are so many differences between them too. First, what we have to say is, our project is a unique one with some unique features. It meets the demand of the clients smoothly. Also, we have some more features in thought that we will include in our project very soon.

Our project is not only unique in features, but also it cares the demand of the users. It is cost efficient, it will be available to get and also, it is easy to use. Its user interface will attract the clients. Being easy to use, it will give the users an experience that they have never tasted.

2.4 Scope of the problem

There are some common problems in our Voice Control Xarvis System project. Hardware problem, microphones problem and other internal problem creates hampering when we run our project. Mainly distance and noise creates huge problem. When user give voice command, additional sound makes problem.

Input voice and addition voice became clash. So, voice recognition will not able to get proper command and did not give proper output. For best outcome we need fresh place where no addition is sound.

2.5 Challenges

We have had to face many challenges in doing this project. In many cases there are bugs and mistakes in the code. Then the code has to be corrected. It took a lot of work to get the codes into a good management. Also, all the problems that we have to face:

- To make the systems user friendly.
- To create a smooth database.
- Beautiful and easy to create user interface.
- The API was much more difficult to handle.
- Finding and fixing bags of code.
- Putting all the mini projects together.

We have needed to confront many difficulties in doing this venture. Much of the time there are bugs and errors in the code. Then, at that point, the code must be rectified. It took a great deal of work to get the codes into a decent administration. Likewise, every one of the issues that we need to confront:

- To make the frameworks easy to understand.
- To make a smooth information base.
- Beautiful and simple to make UI.
- The API was substantially harder to deal with.
- Finding and fixing packs of code.
- Putting all one of the small scale projects together.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Technology Used:

C#:

C# is a modern, general-purpose programming language that can be used to accomplish a wide range of activities and goals in a variety of fields. C# is most commonly associated with the Windows.NET framework, but it can also be used on an opensource platform.

3.2 Requirement Collection and Analysis

We determined which technology is being used most widely all around the globe and then the requirement begins. Then we looked for a scope to serve people with which they are seeking but unable to access. There are a lot of works similar to us but the users find them very hard to use or they have other difficulties. Some of them are highly paid software which the users don't want to use. Thus, a majority of people are neglecting to use such kind of technologies.

So, we have thought of a project of making our computer usable by only voice command. We gathered the information that we required. As a result, we collected all of the features that should be done by us.

After that, we searched for the technology which we can make the best use. We found C#. As a result of our analysis, we have come to an agreement that we should create this type of application.

3.3 Use Case Diagram

Use case diagram describes all the system's actors and then show them how they can participate in the system. The following diagram shows the use case diagram of our tasks:

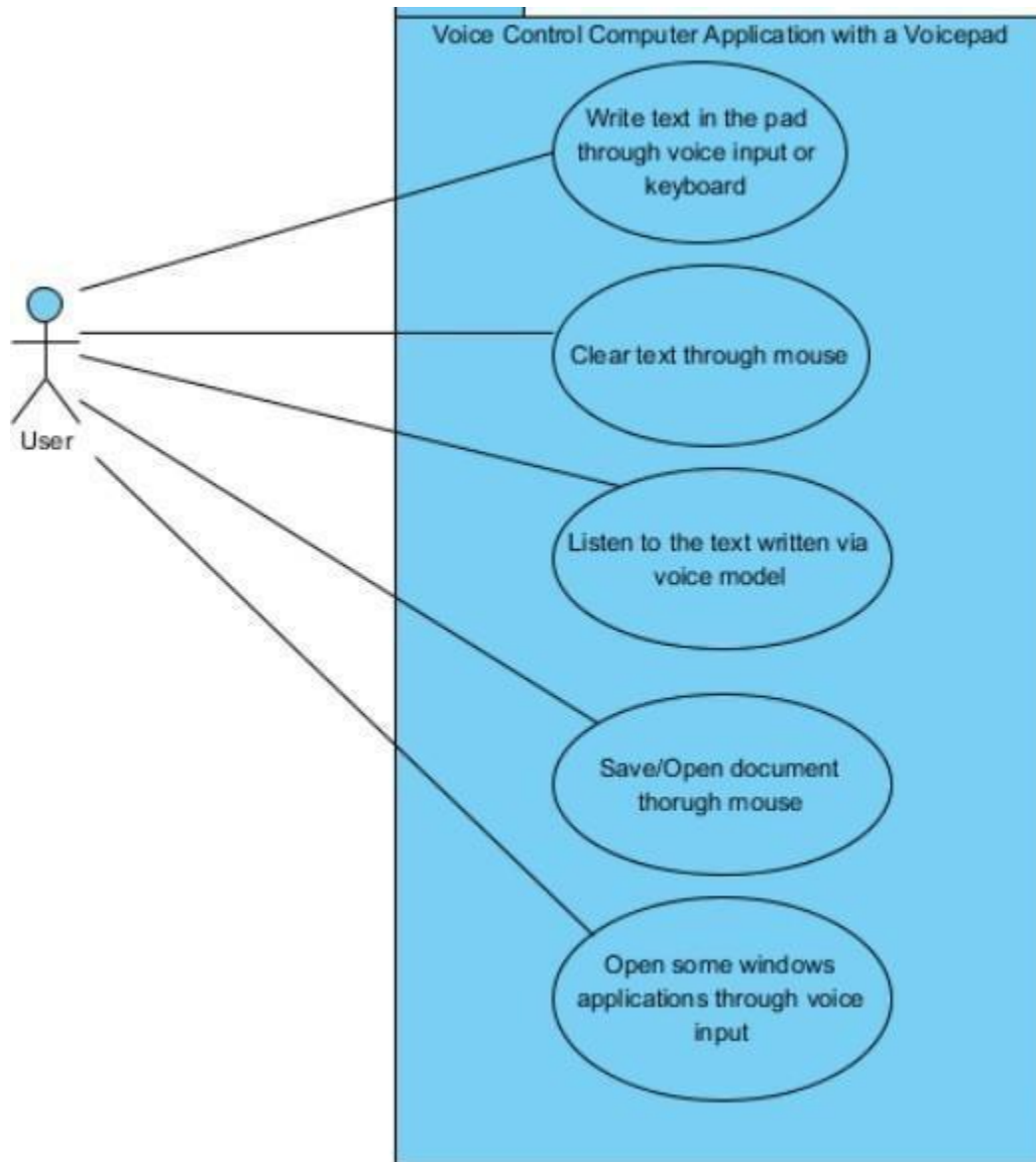


Figure 3.3-Use Case Diagram

3.3.2 Description of Use Case:

For our use case diagram, there is only one particular actor. And the only actor in our system is the user himself. Because, he will command the whole system to run.

The user must set a username and a password in order to use the system. And the user is the controller of the system.

The table 3.1 will speak about the process of our login:

Utilize case title	Login main function
Precondition	Must use username and password
Actor	Admin
Purpose	For the security of admin
Main flow	<ol style="list-style-type: none">1. There will be login option at the top of the home page2. After login admin find the main surface

Table 3.1: Use Case Description for Login Function

3.4 Proposed System Architecture

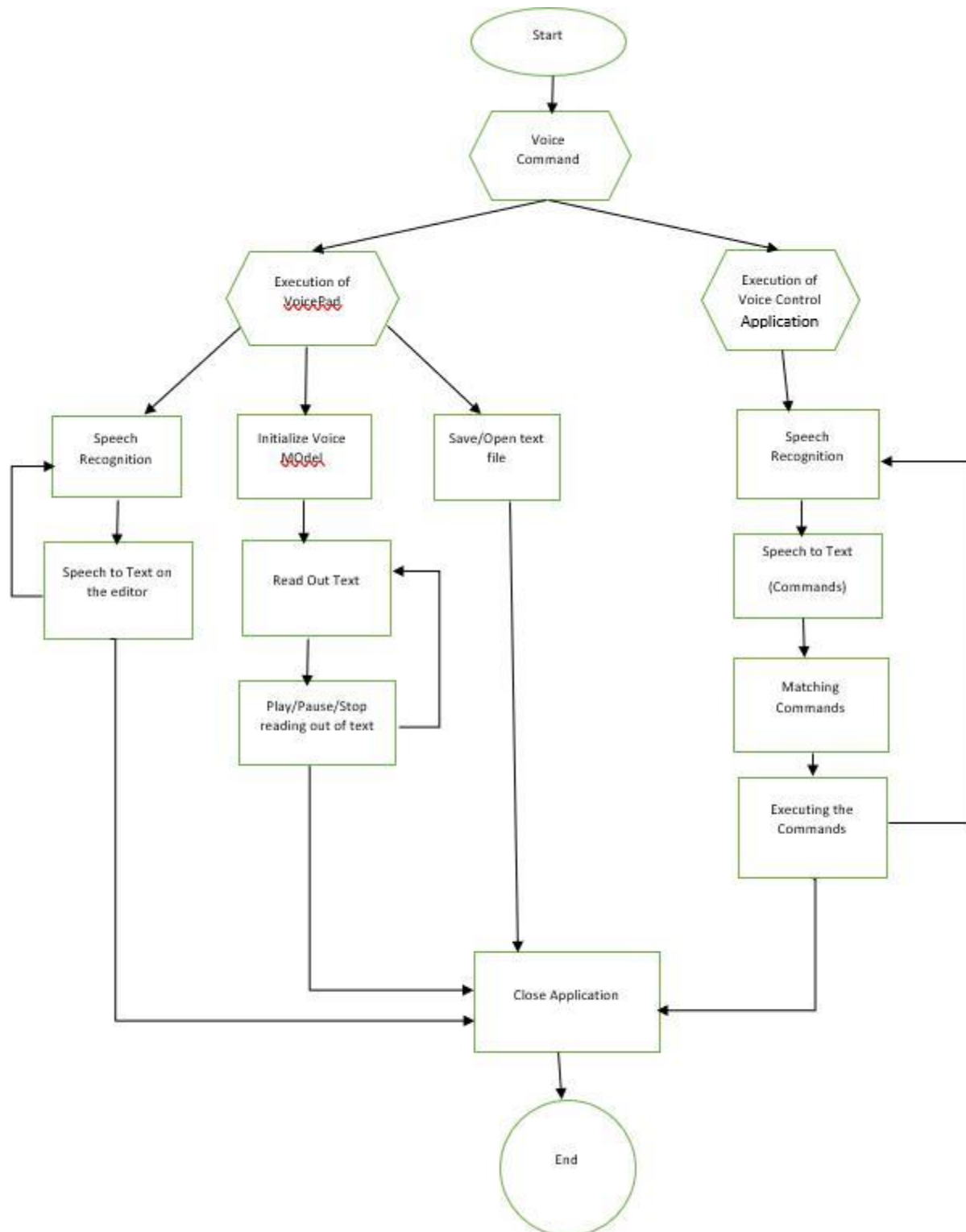


Figure 3.4-Proposed System Architecture

3.5 Diagrams

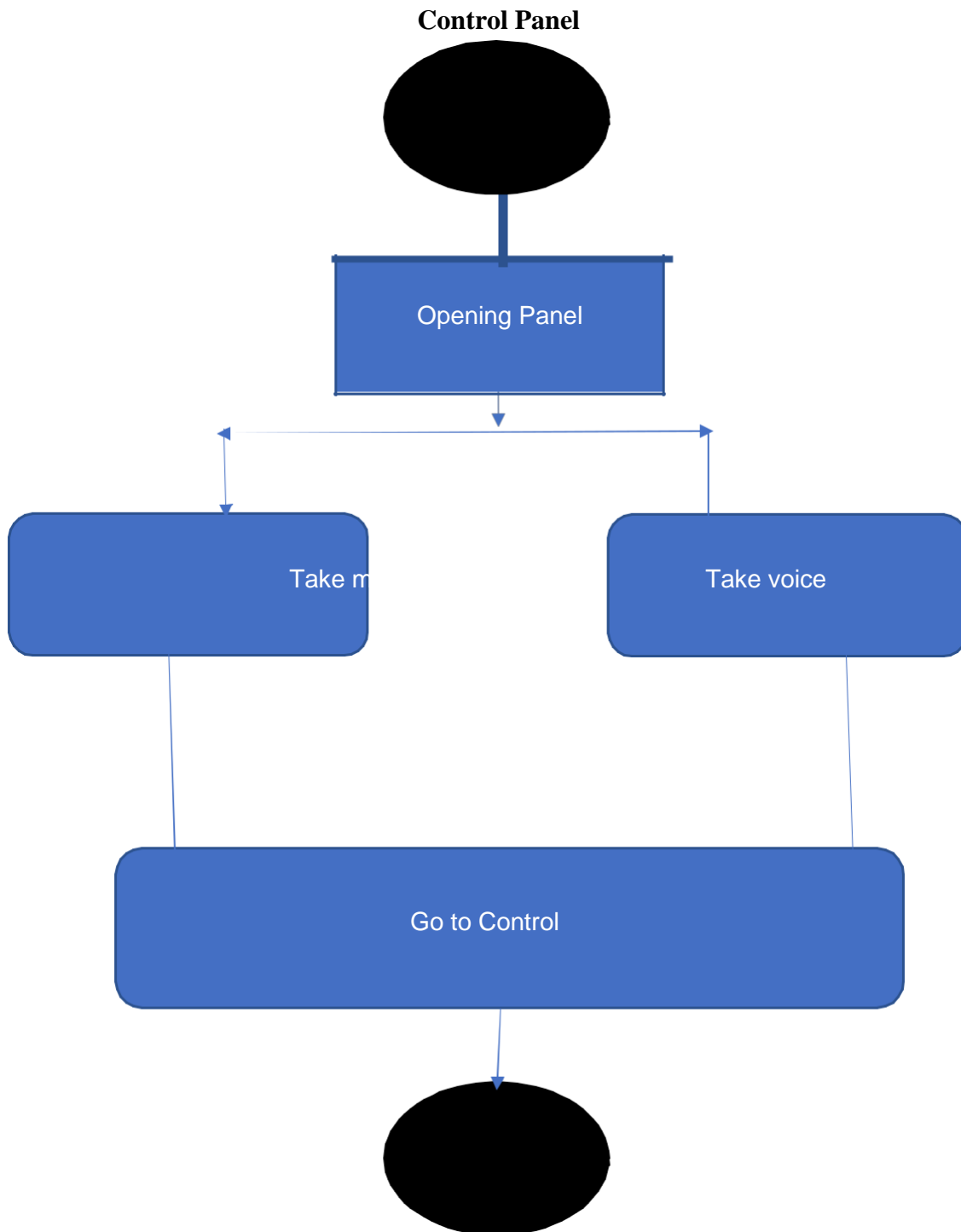


Figure 3.5.1-Control Panel

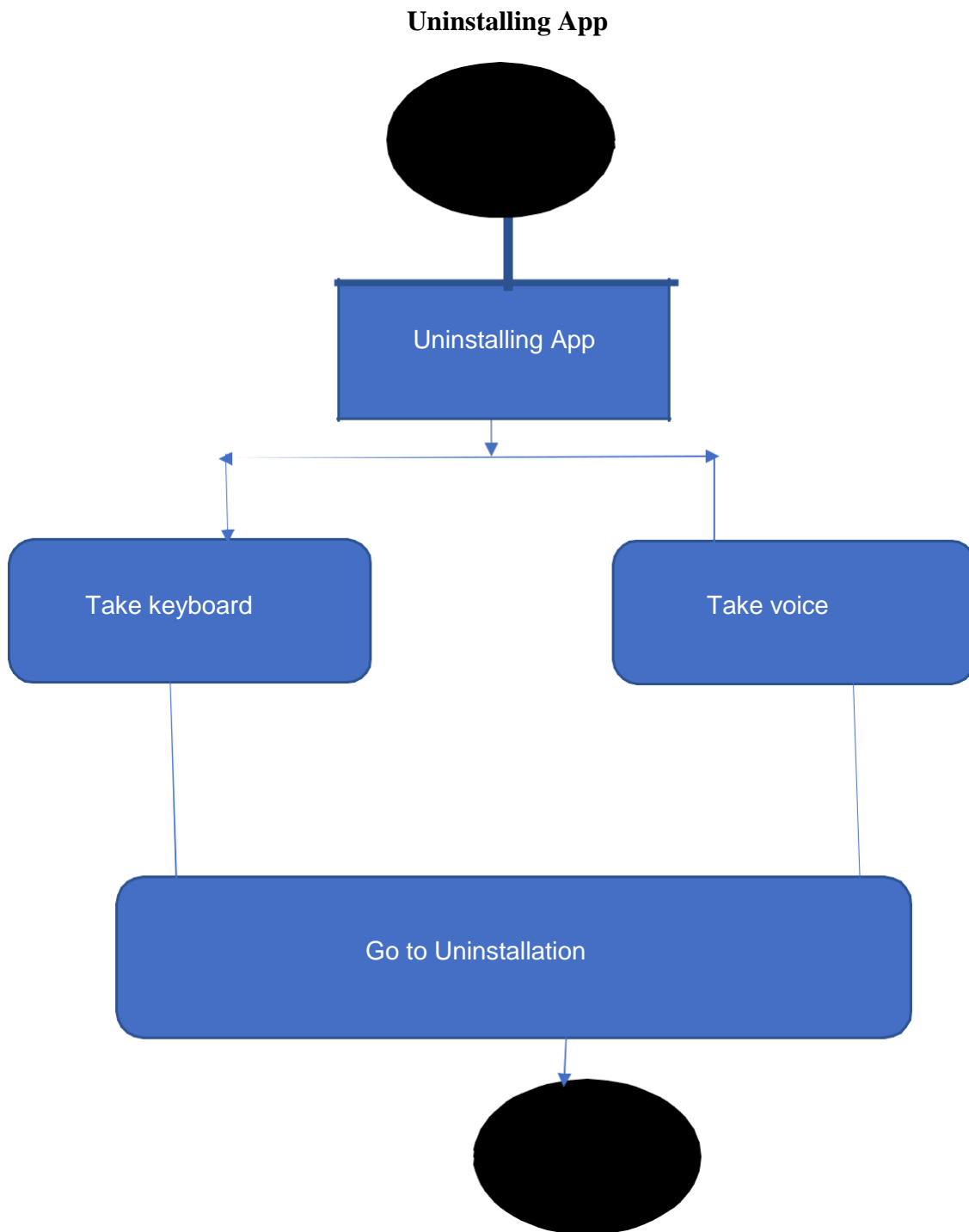


Figure 3.5.2 Opening Uninstalling Window

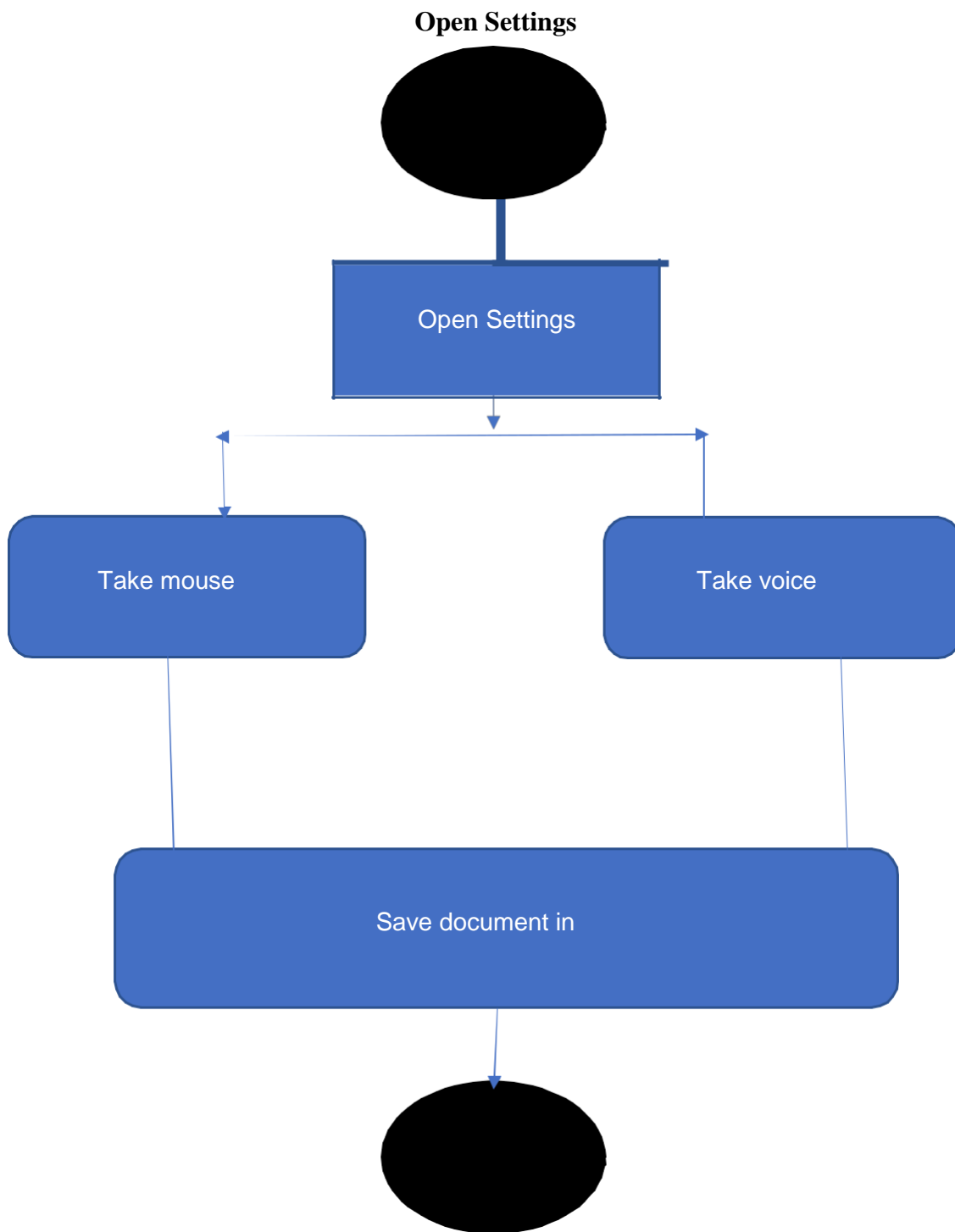


Figure 3.5.3-Open Settings

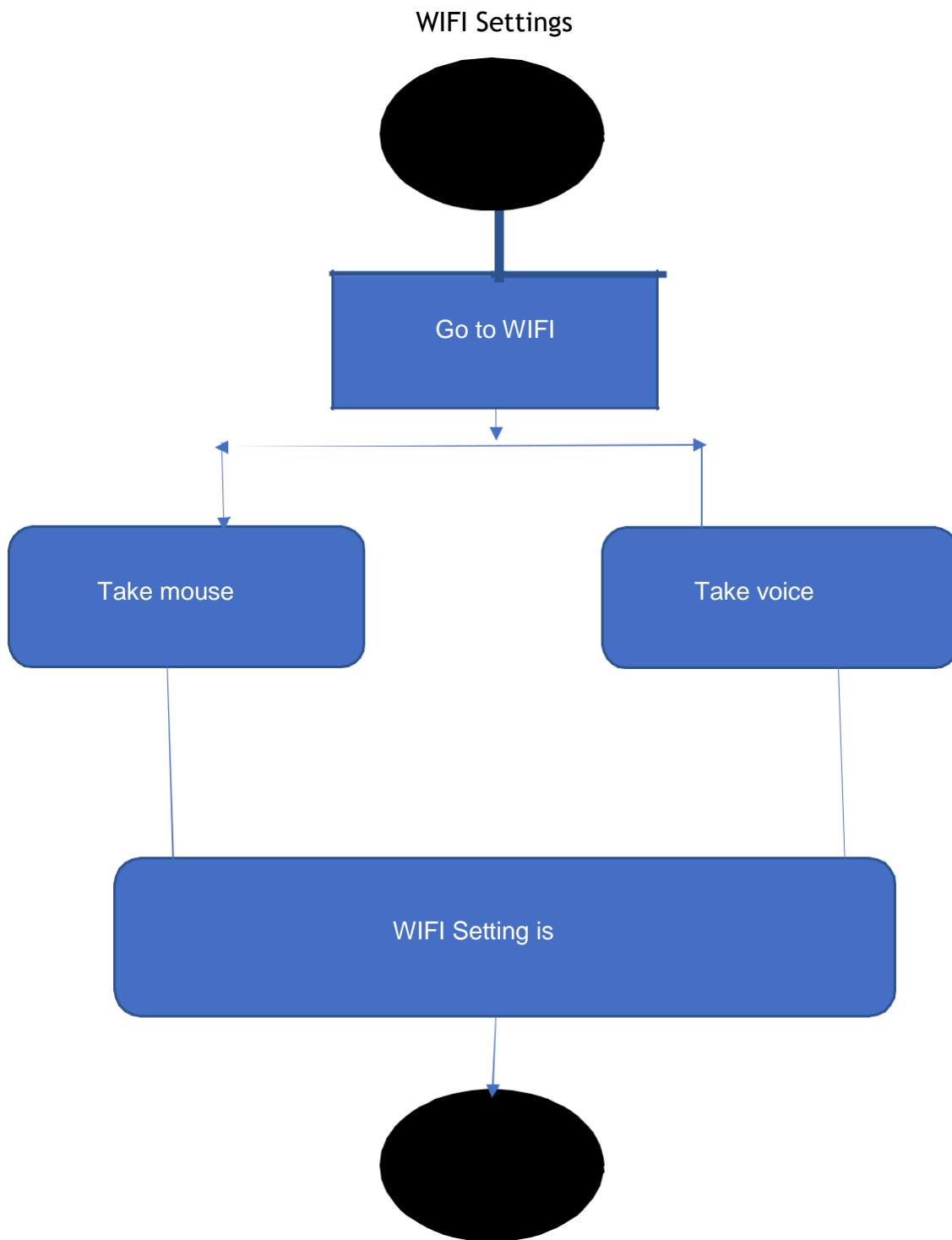


Figure 3.5.4-WIFI Settings

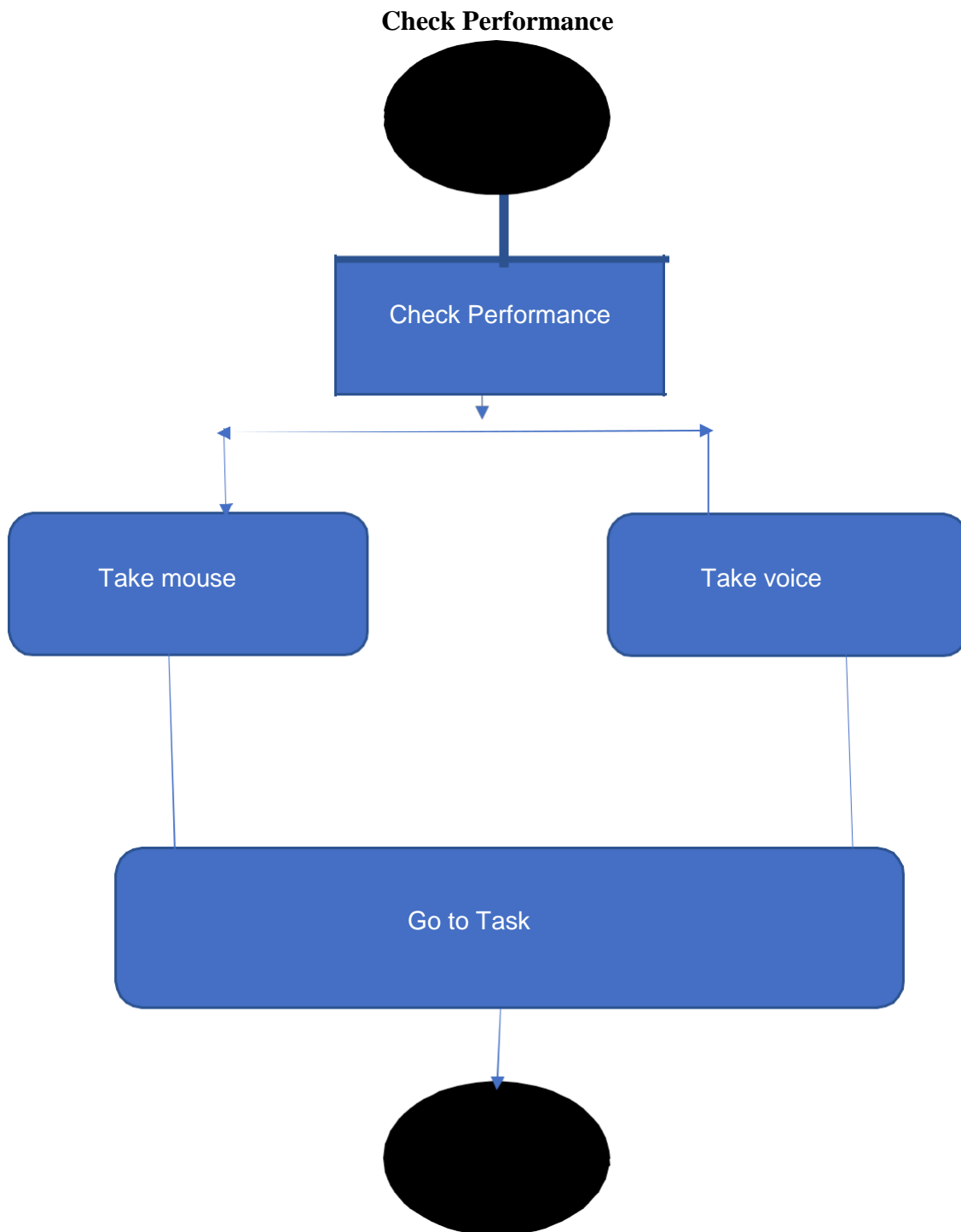


Figure 3.5.5-Performance Check

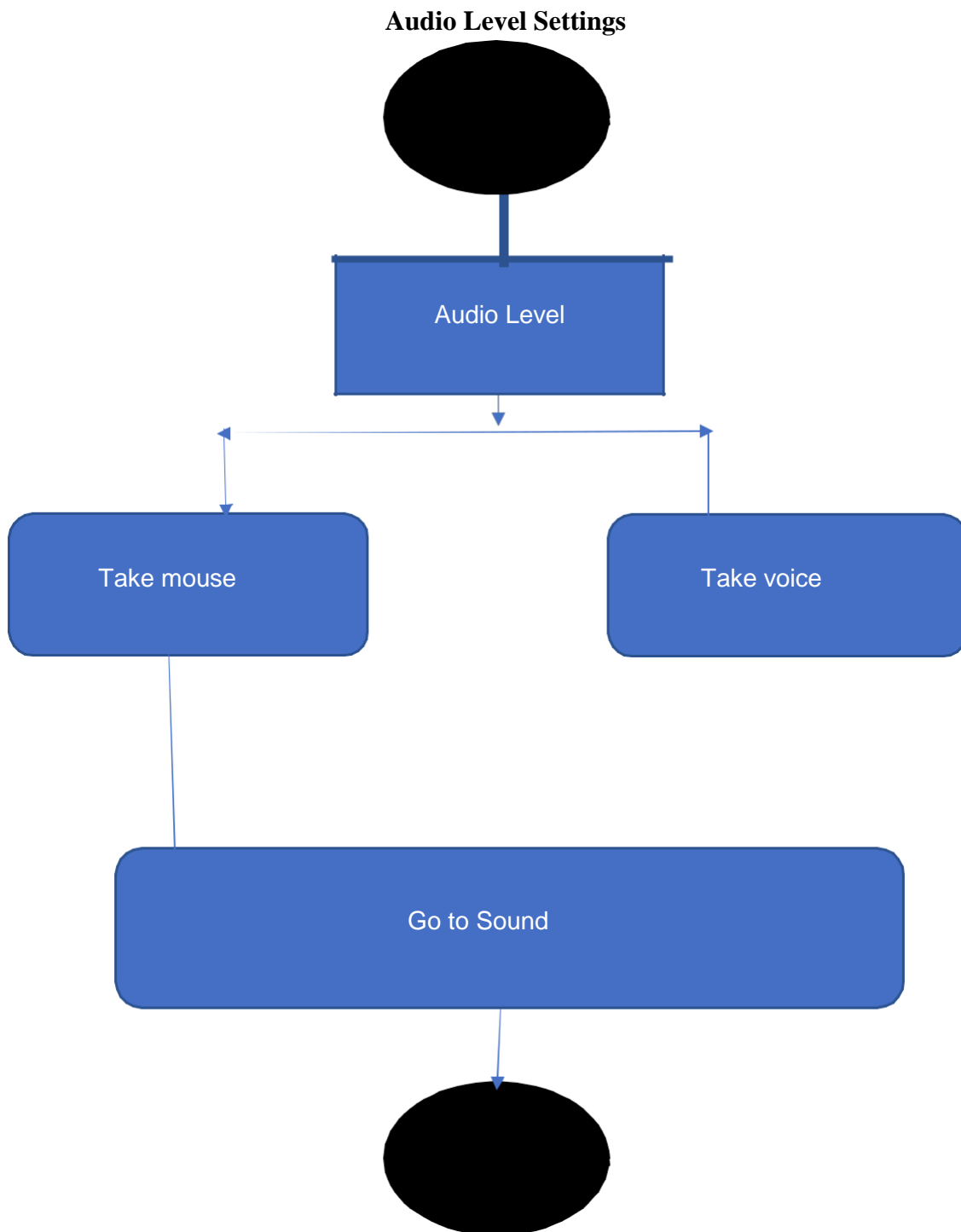


Figure 3.5.6- Audio Level Settings

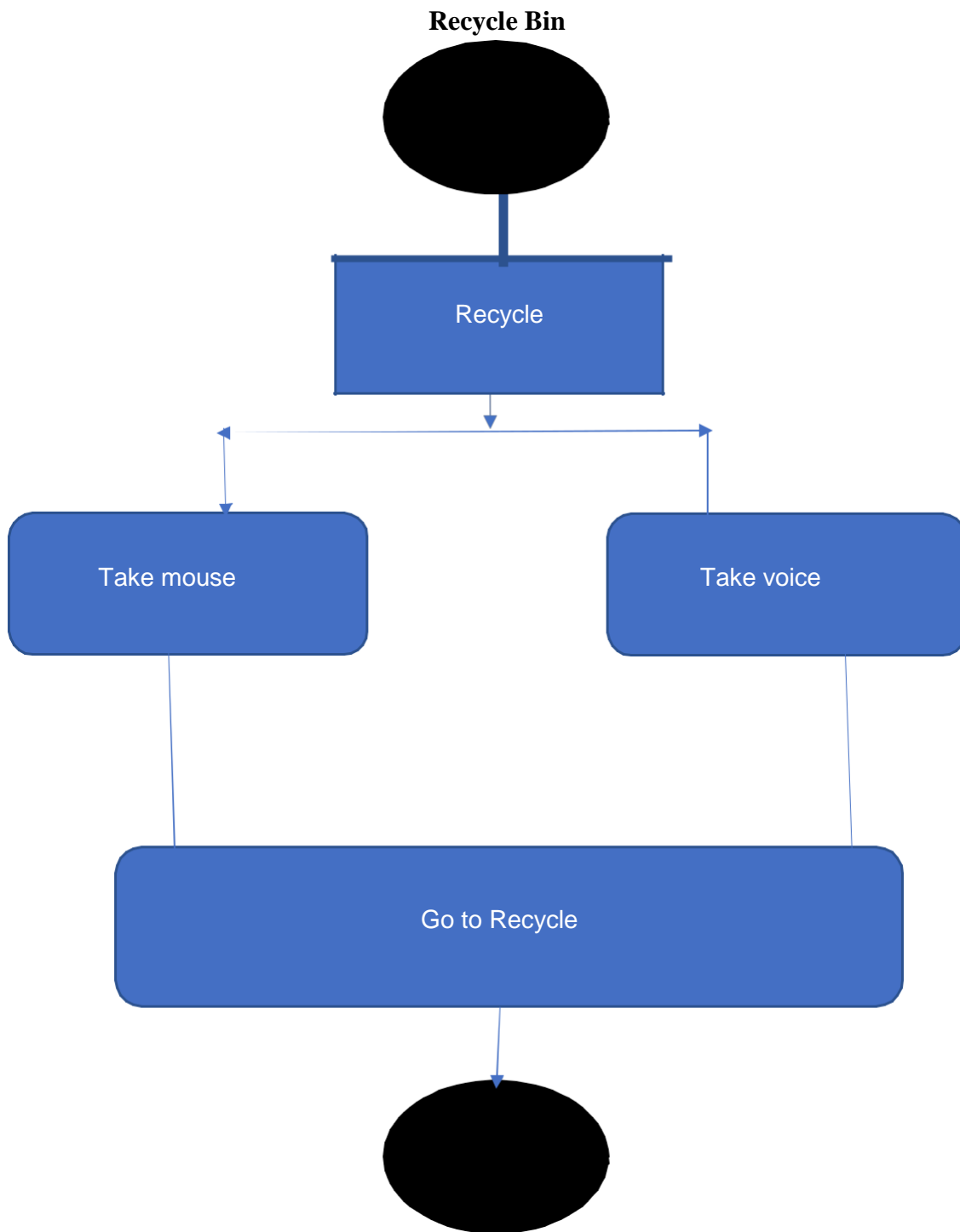


Figure 3.5.7-Recycle Bin

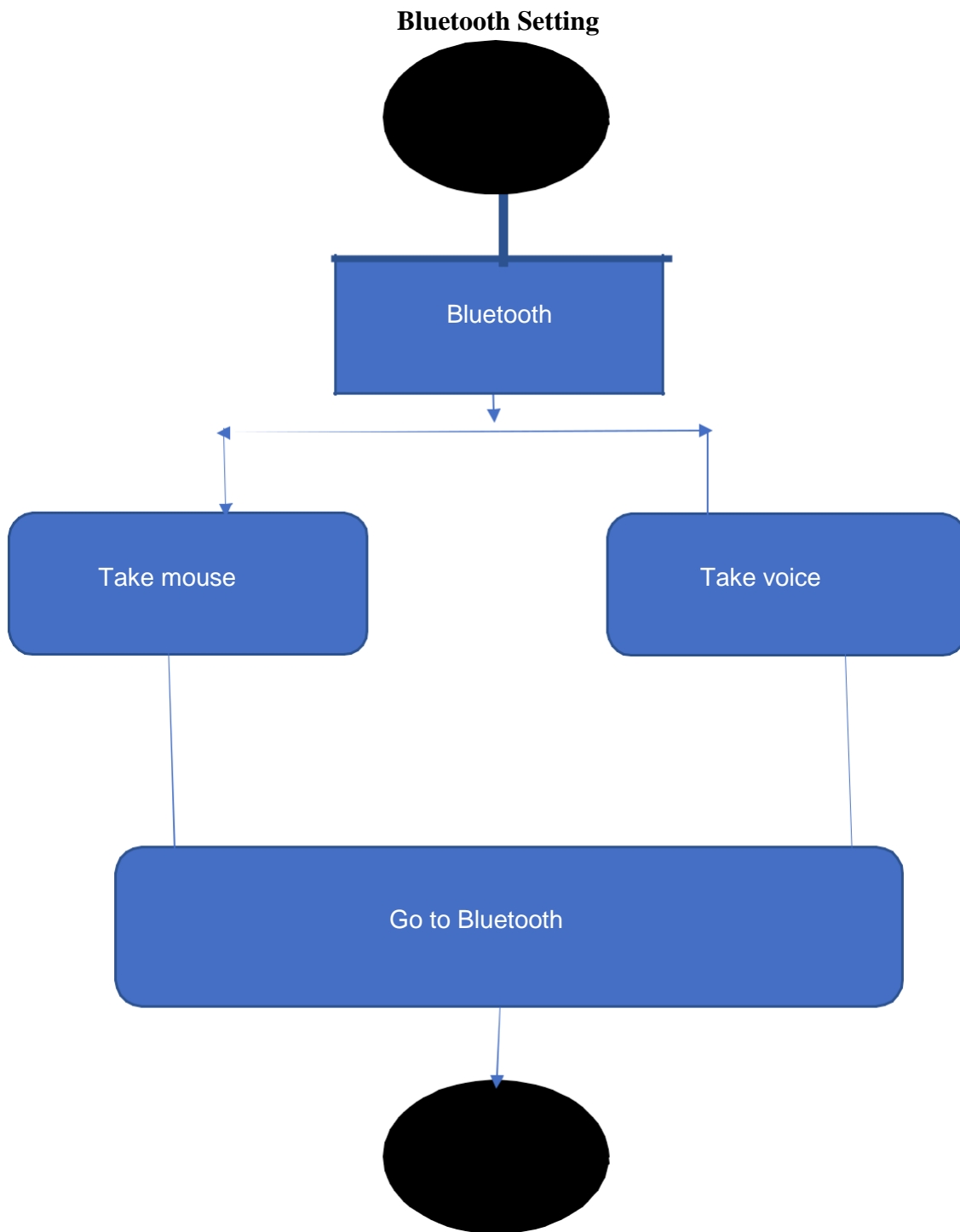


Figure 3.5.8-Bluetooth Setting

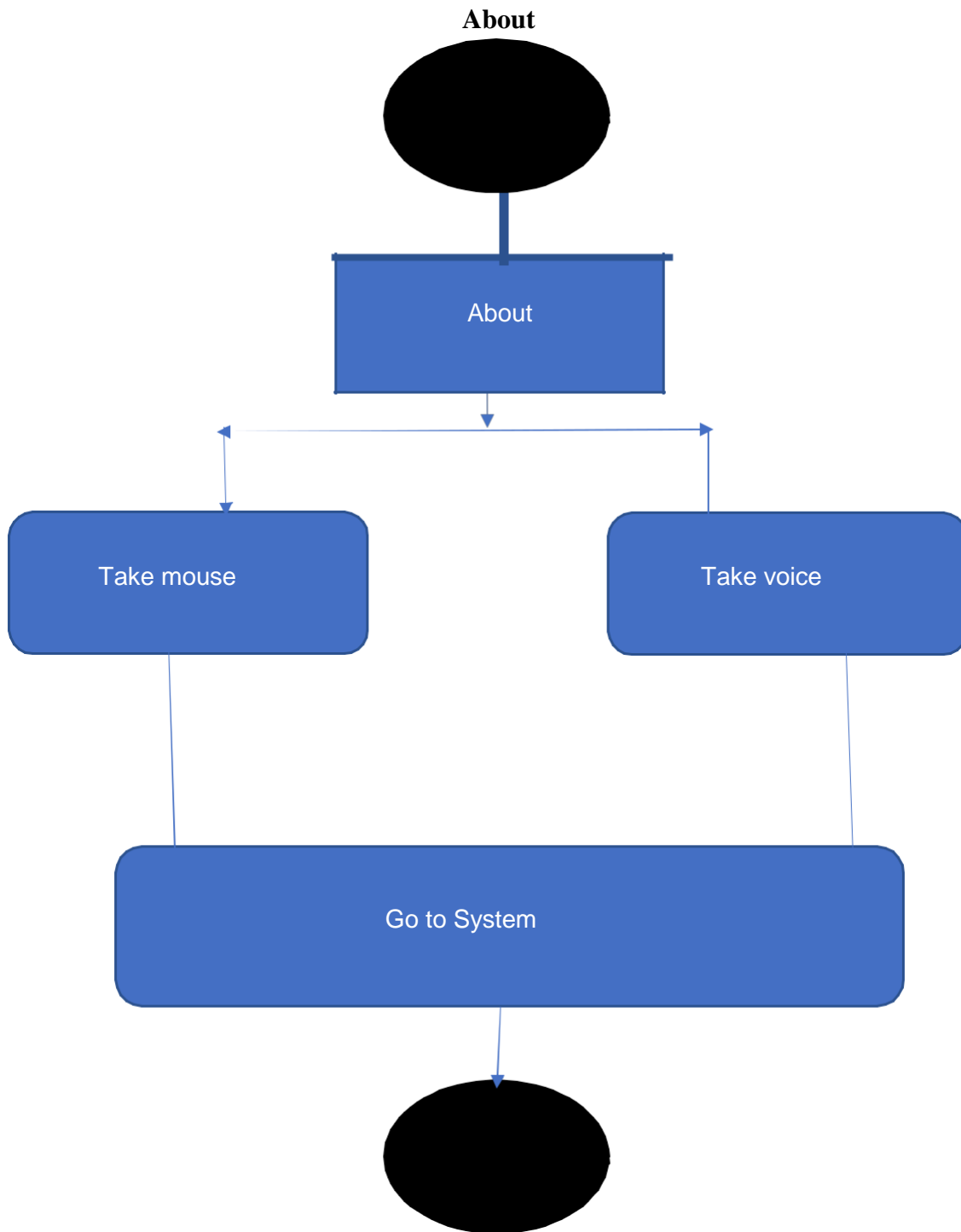


Figure 3.5.9-About

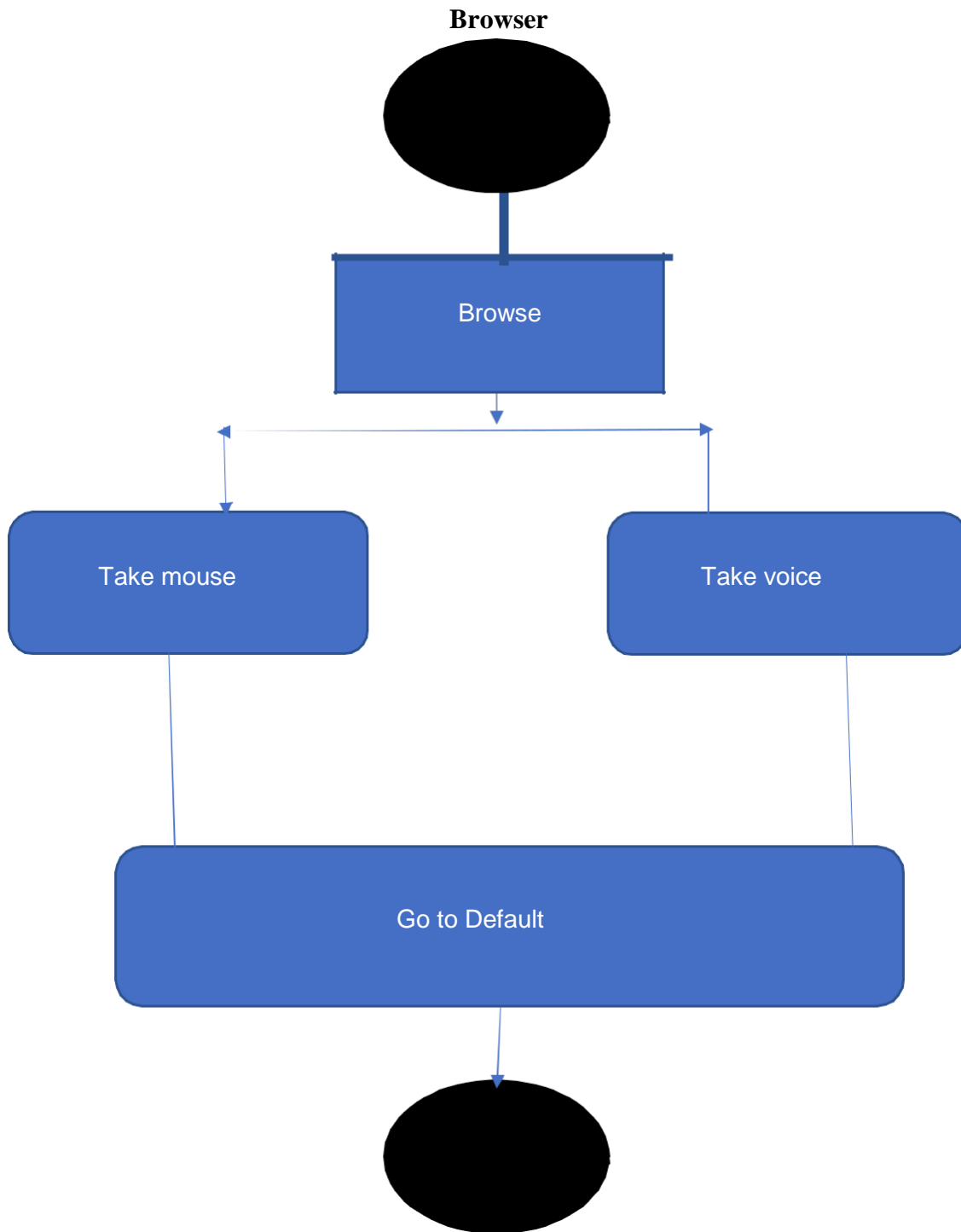


Figure 3.5.10-Browser

Opening System Software



Figure 3.5.11- Open Software

CHAPTER 4

DESIGN SPECIFICATION

In our project, there is a UI that carries some awesome features which has been already described in the previous sections. So now, we are showing how our system looks like in the real life.

4.1.1 First interface how to login

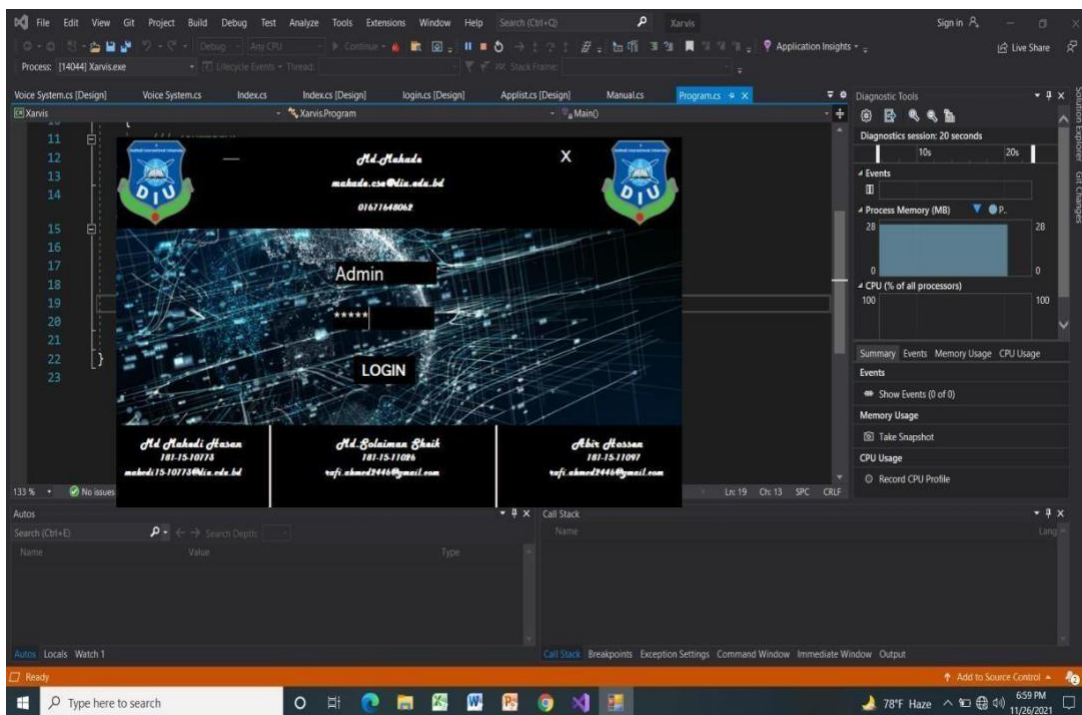


Figure 4.1.1-Login interface

It means the first purpose of our project. For going to the next interface we have to use Username and Password. Then click login. As a result, we easily go next page.

4.1.2 App information

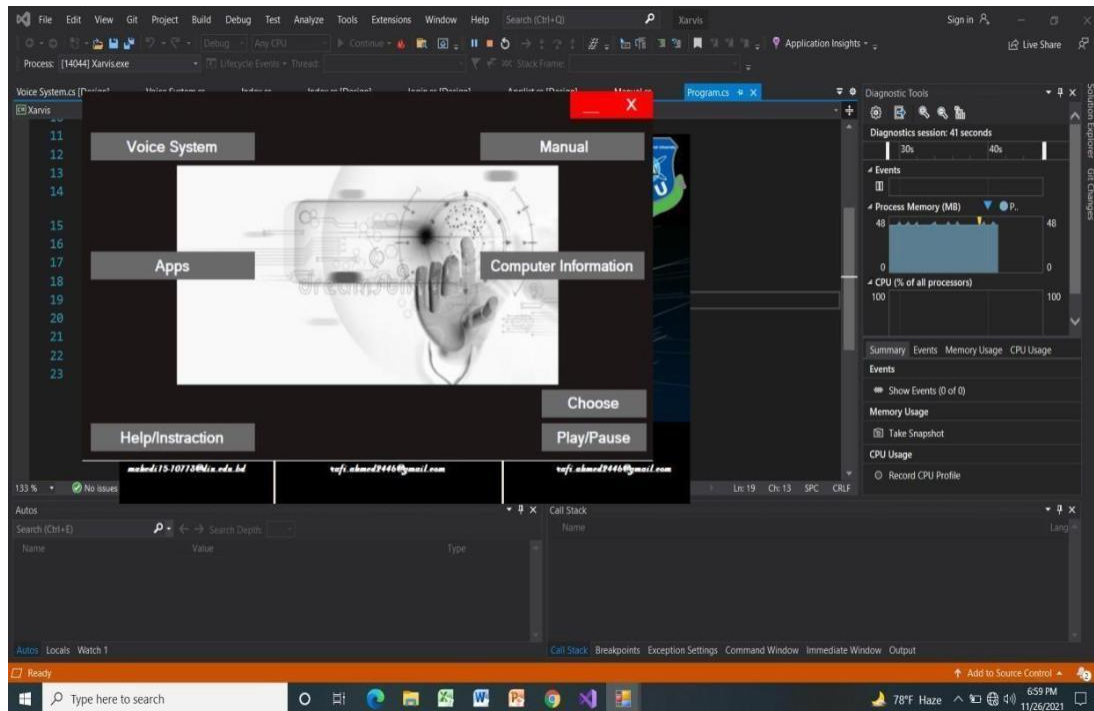


Figure4.1.2-App information

Here it is the second surface of our project. When we click on apps, it will show all app in our computer. Also by clicking computer info we get all information. We also play music in that surface.

4.1.3 All manual information

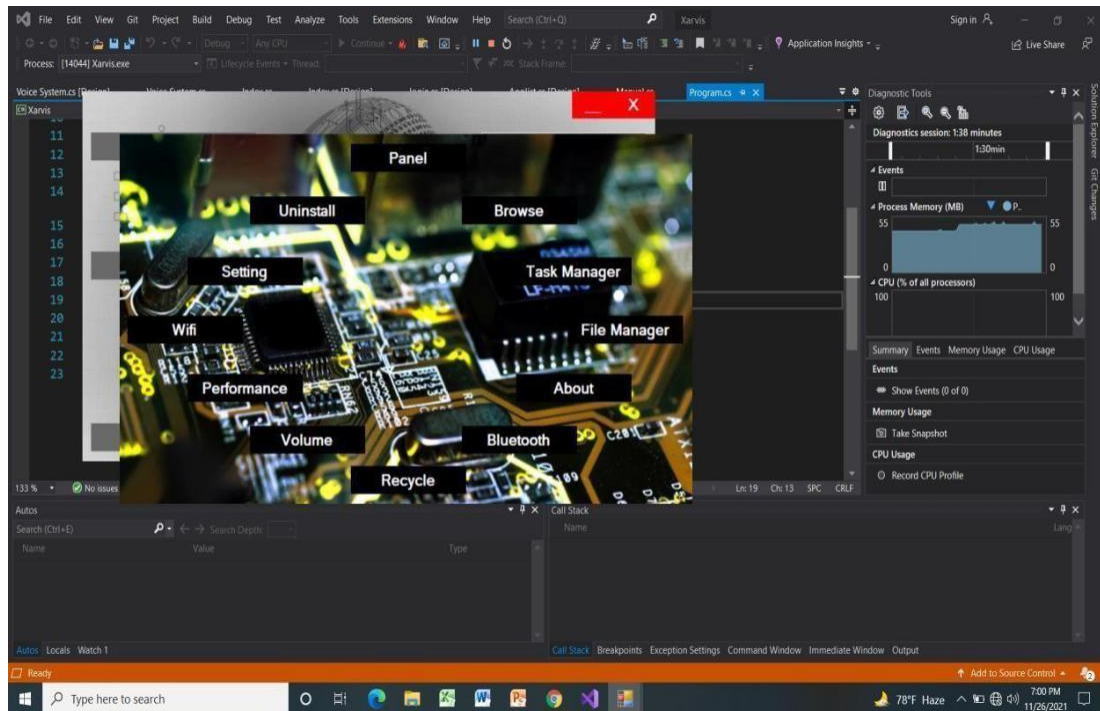


Figure 4.1.3 All manual information

When click manual, we get this surface. By clicking step by step we get all information to all the materials.

4.1.4 Voice System Interface

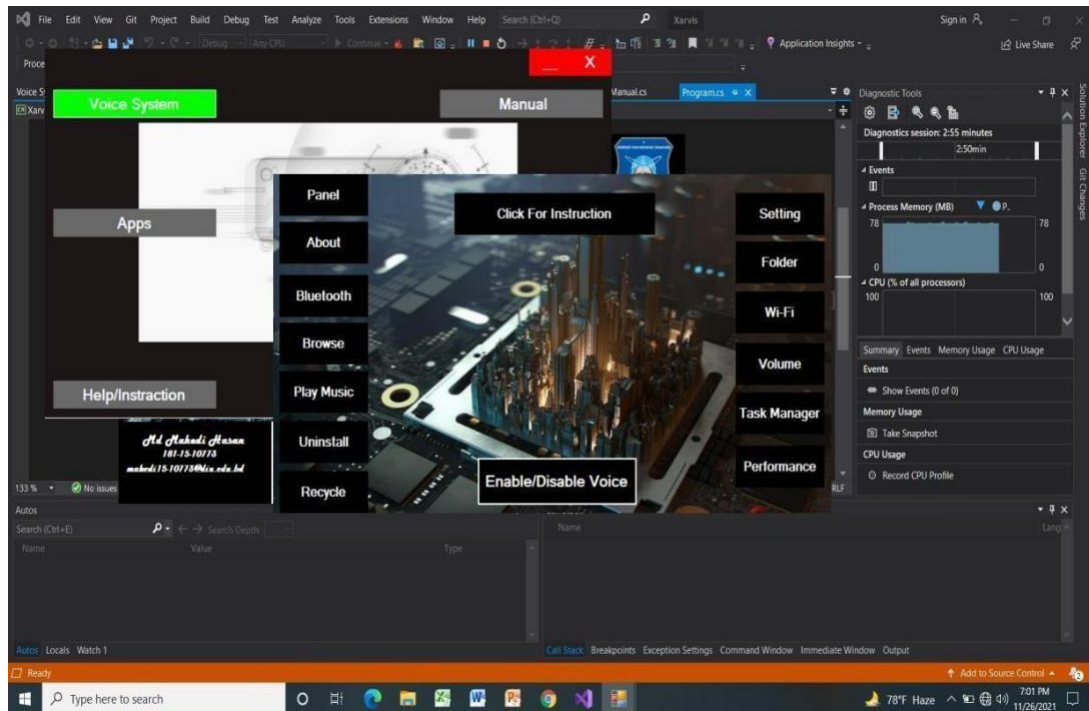


Figure 4.1.4-Voice System Interface

This is the main part in our project. When we click voice system, we get this surface. First, click Enable/Disable voice to give our voice command.

4.1.5 Input voice command to get output

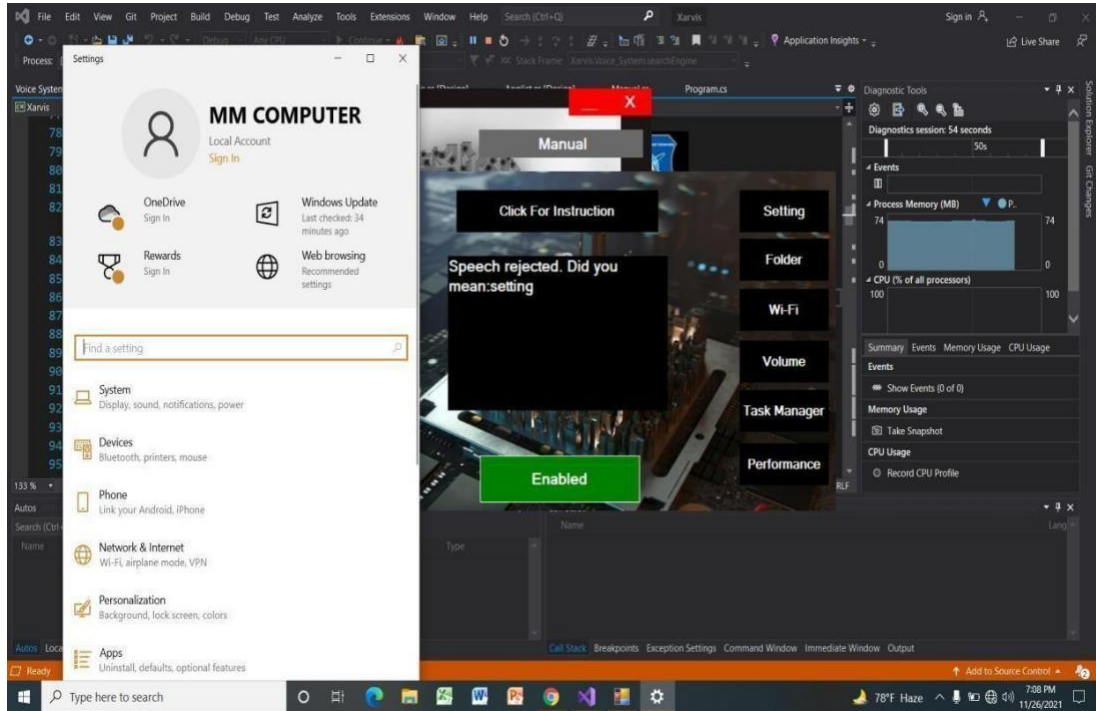


Figure 4.1.5-Input Voice Command to Get Output

When disable part get Enable then users give voice command. Likely say setting then the voice recognizer easily shows the option.

4.1.6 Input voice command to get output

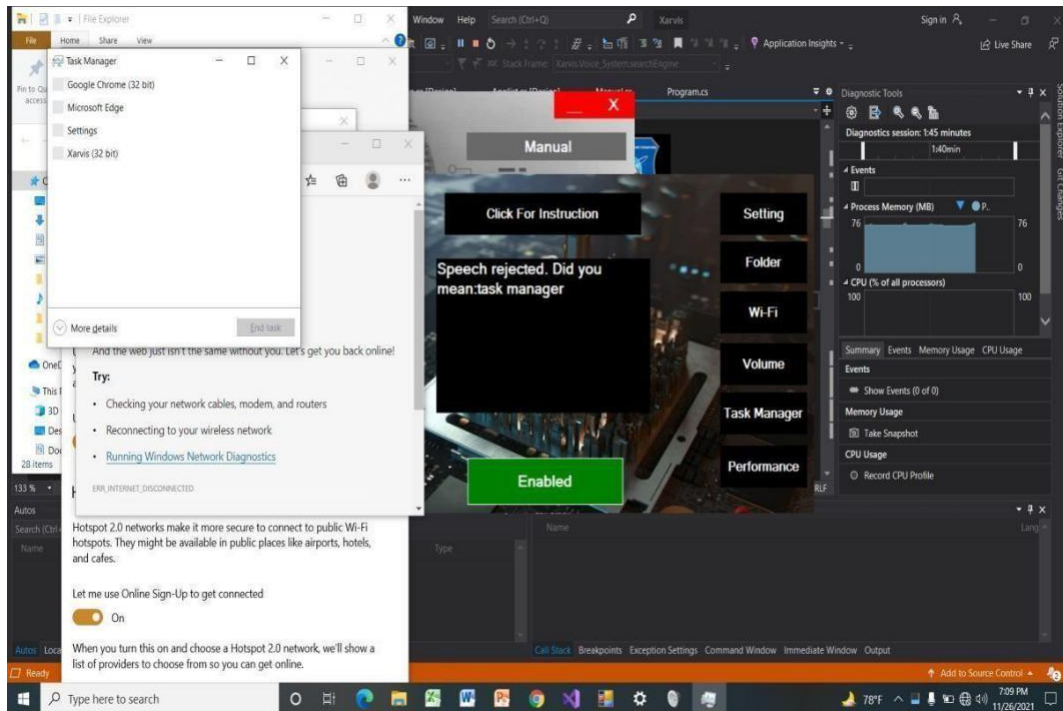


Figure 4.1.6-Input voice command to get output

It is also same as before. Users give voice command as task manager and voice recognition easily show it.

4.1.7 Input voice command to get output

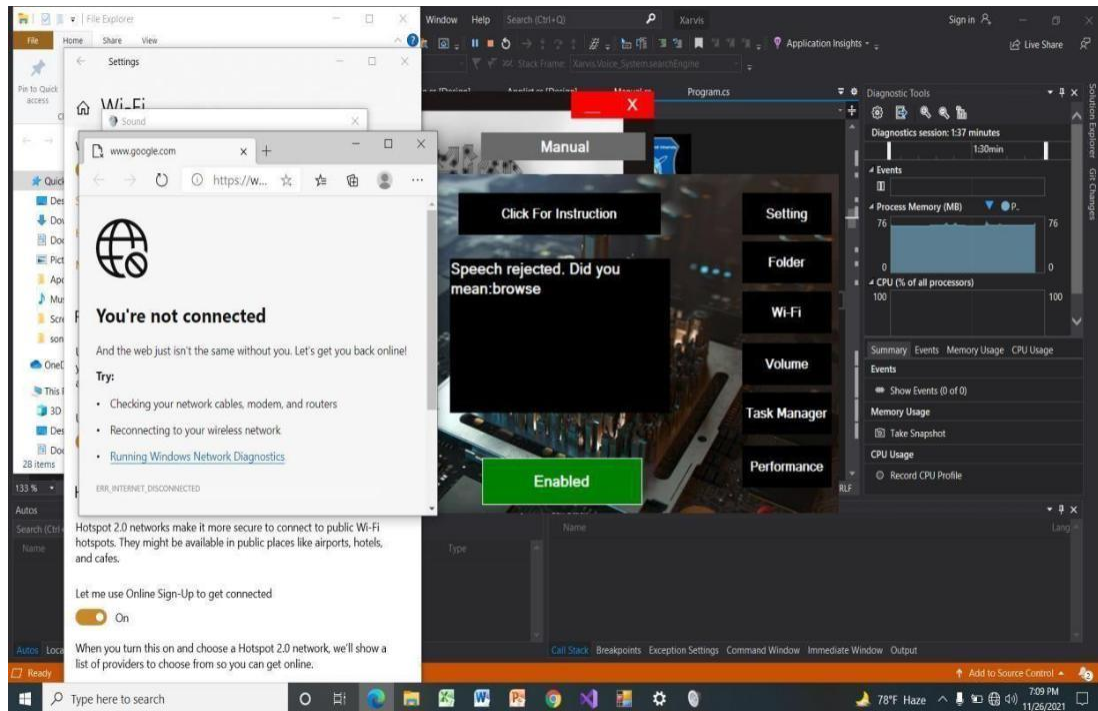


Figure 4.1.7-Input voice command to get output

It is same as before. Working procedure is all voice command are same cause we get output what we give our voice.

CHAPTER 5

IMPLEMENTATION AND TESTING

We will discuss about how we implemented project. The following figure illustrates all of the implementation.

5.1 Implementation

5.1.1 C# basic function

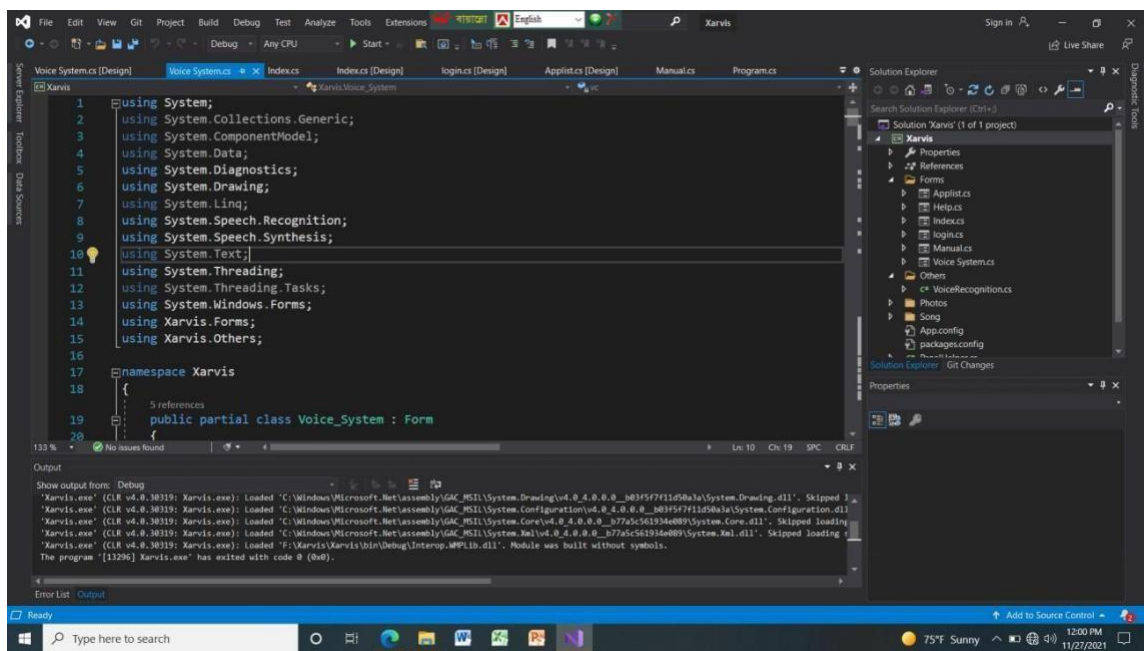


Figure 5.1.1-C# basic function

This is the basic function to implement a voice control Xarvis system. Here we use C# operating language with .NET framework.

5.1.2 Voice controller and app list function

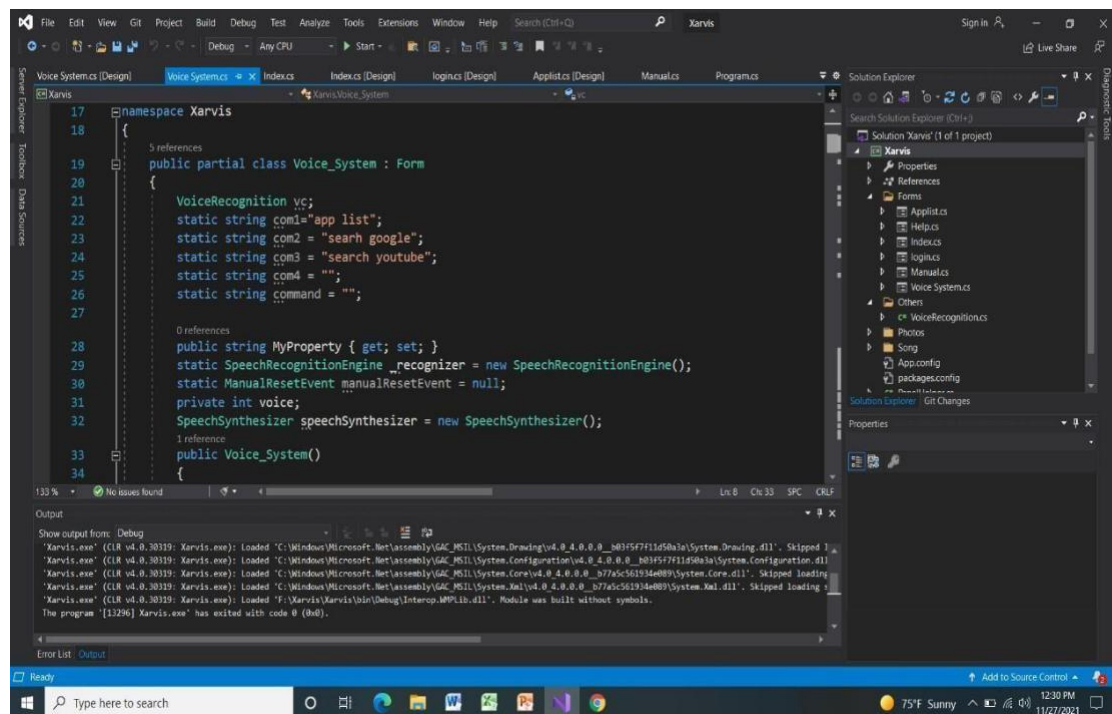


Figure 5.1.2-Voice controller and app list function

Here we use voice recognition VC. This is the main part of our project. Also take namespace Xarvis. We take com1 =app list, com2 =search Google. By this function we easily find all app list.

5.1.3 Volume function

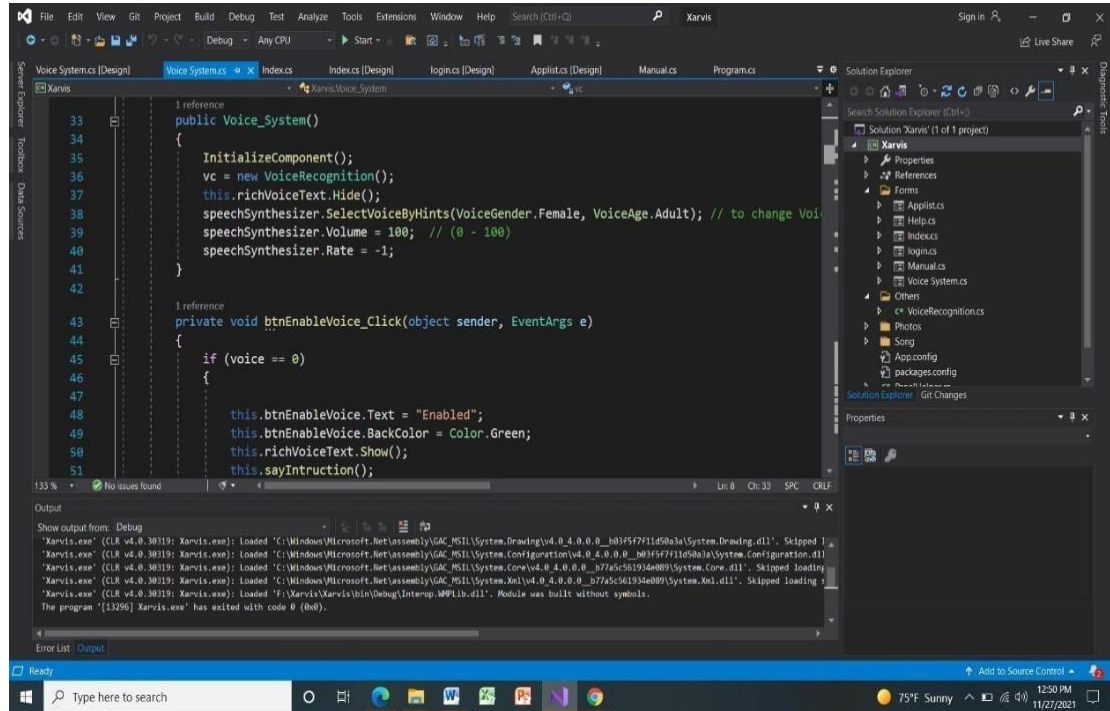


Figure 5.1.3-Volume function

Here we take new voice Recognition. Take volume range 0-100. Any people give voice command. When voice==0, the instruction will enable and color will be green.

5.1.4 voice command function

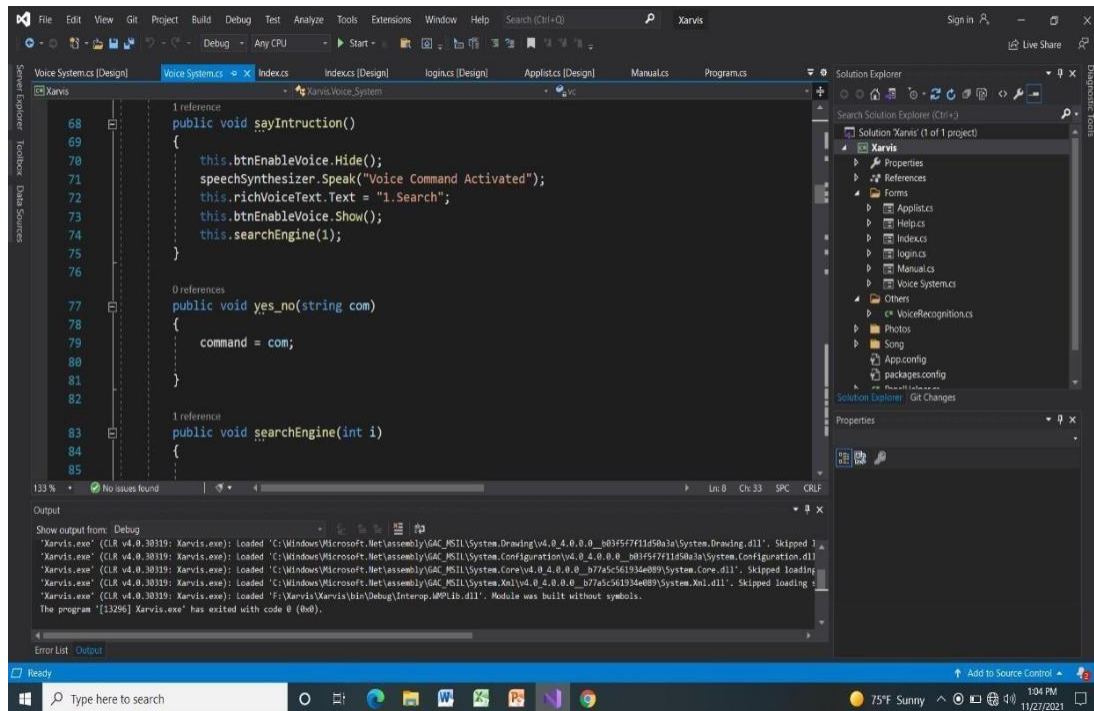


Figure 5.1.4-Voice command function

This is the voice command activated function. When users give voice he show the output likely he said panel, the voice recognizer show all information panel.

5.1.5 Computer attributes list

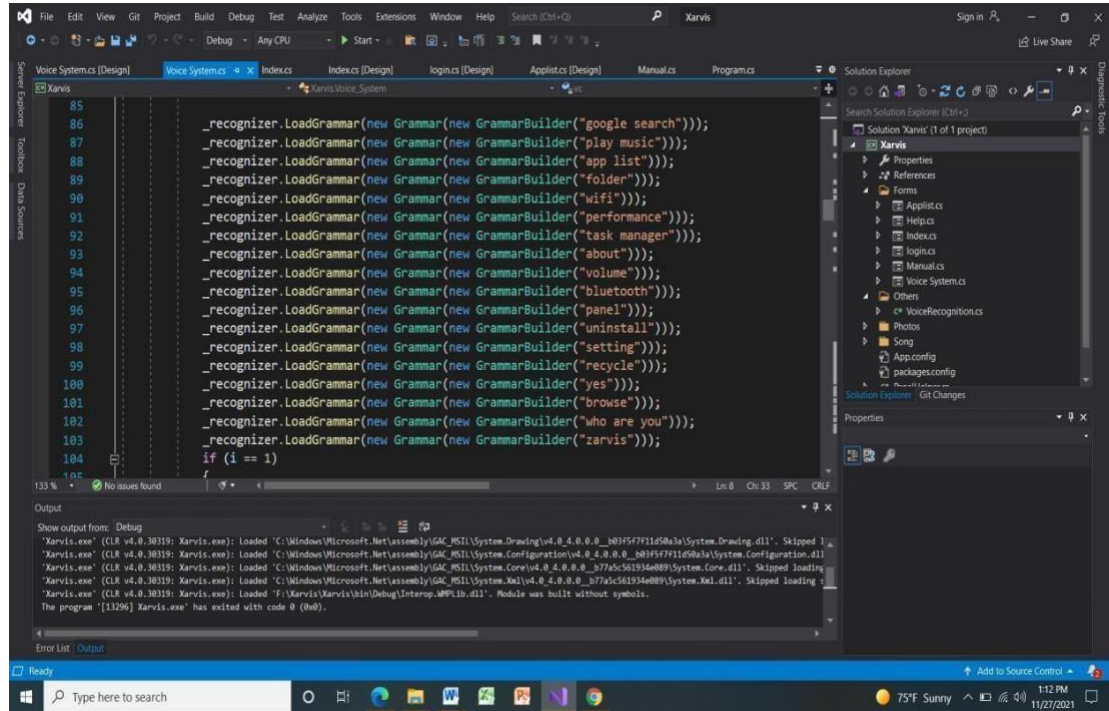


Figure 5.1.5-Computer attributes list

Here we setup all kind of attributes which we can easily find in our project. In one frame we find this information.

5.1.6 Rejected option

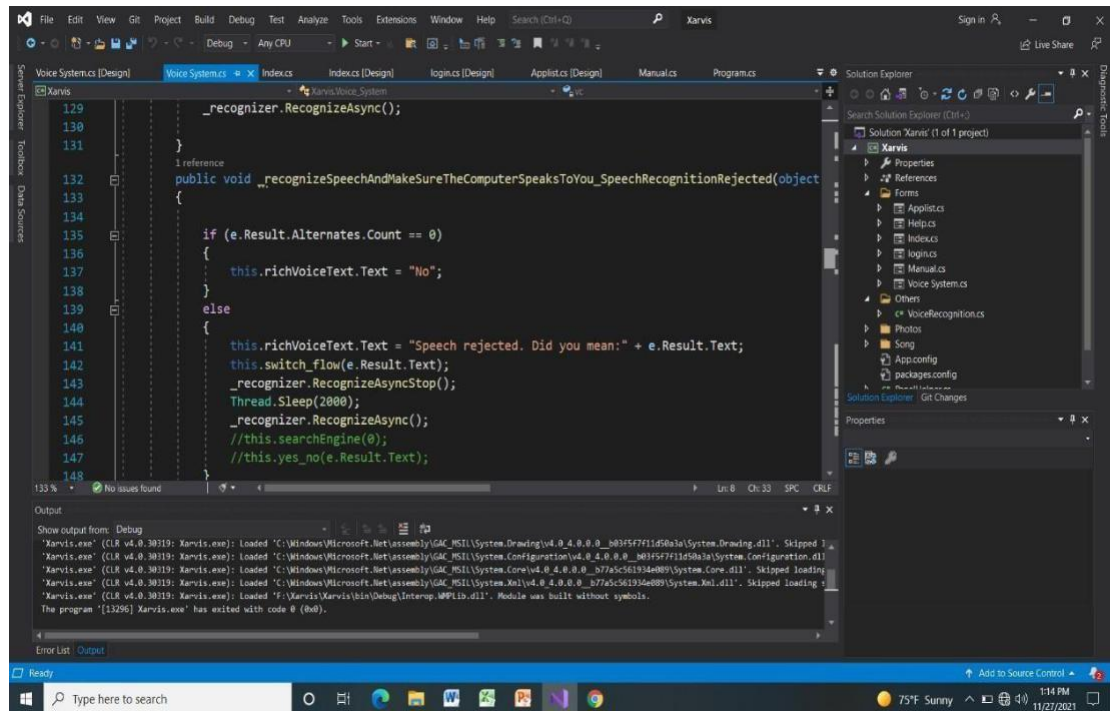


Fig no 5.6 rejected option

In this function it means Speech rejected. Because the program did not get proper word.

5.1.7 Input voice command function

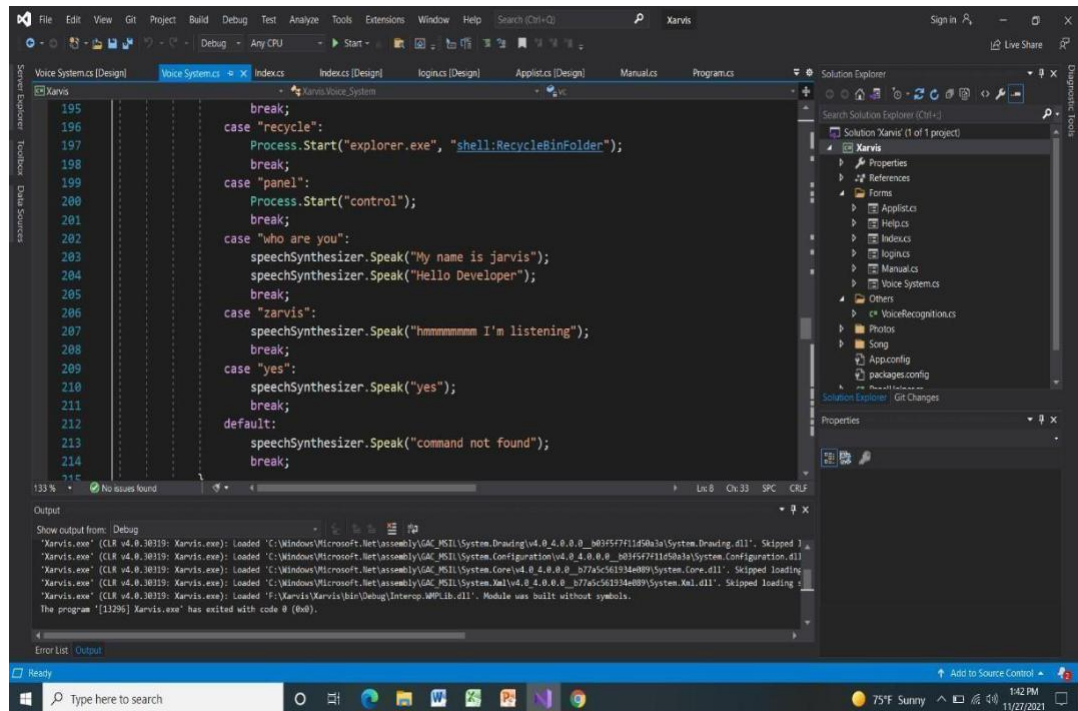


Figure 5.1.7-Input voice command function

This is main part in our voice control system.

5.1.8 Serially input attribute

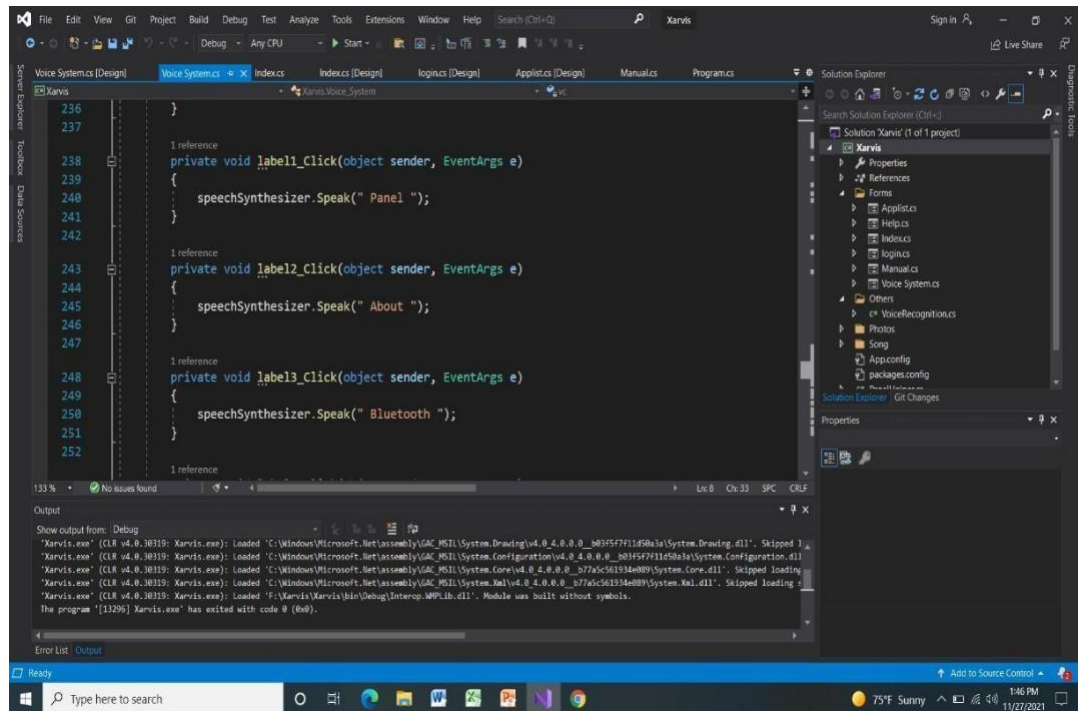


Figure 5.1.8-Serially input attribute

We use here same function for all attributes. Likely panel, about, Bluetooth, play music, browse and also others.

5.1.9 Asking question XARVIS

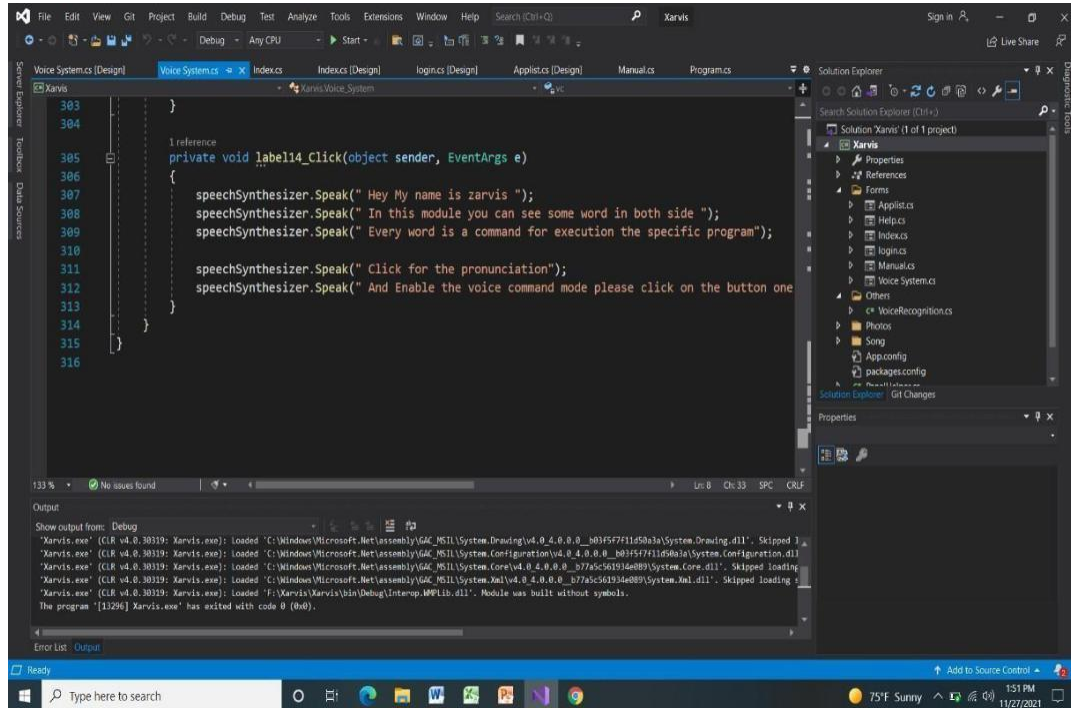


Figure 5.1.9-Asking question XARVIS

This is the last part of implementation of our project. This part is automatically provided by Xarvis.

5.2 Testing Implementation

It is an application software. We'll have to run a few tests prior to delivering the application. Since it will work by a large execution and give understanding into the application's feedback and result measurements. A test, then again, can give data regarding how often it can run and its careful execution. There is a great deal of utilization testing that should be possible. We've likewise done some testing for this application. The following are a couple of models.

5.2.1 Unit Testing

When we finished our code at that time, we found some errors in our code then I check this again and try to fixed the error and see where our mistake.

5.2.2 Integration Testing

First, we designed our application then we made it by thinking about how it will work and what will remain we made our code that way for commands.

5.2.3 Functional Testing

All things considered, we previously decided for our application. We've finished the undertaking's first necessities as a whole. Moreover, each capacity is analyzed independently.

5.2.4 System Testing

Since our project is one, we made it run through visual studio 2019 on our computer

5.2.5 Usability Testing

After everything was done, we showed our project to some of our friends and they run it on their computer. Then I checked how they felt.

5.2.6 Test Results and Reports

Indeed, even yet, there are a few discoveries on that test after the entirety of the testing. Coming up next are the experimental outcomes and report.

5.2.7 Result of Unit Test

During the code process, I got some problems and I fixed this then I got no more problems.

5.2.8 Result of Integration Testing

During the Test, our code work successfully and we not face any errors.

5.2.9 Result of Functional Testing

After all we saw something wrong in our application. Since we improved after verifying from people, our function test is complete.

5.2.10 Result of System Testing

When all testing was complete, our system work properly.

CHAPTER 6

CONCLUSION AND POTENTIAL IMPLICATIONS

6.1 Discussion and Conclusion

Thus, everything above is an attempt to show all of the important aspects of our project. This report was also designed to give the impression of real programming progress. It summarizes what we've learned and recognized as a result of our efforts on this project. We understand that now that we've accomplished this project, we'll require a few outcomes. We must also make a big deal out of it.

As a result, we accept that we have reliable information on the subject. We chose this assignment to complete the test because we plan to use it to update the man-made brainpower and equipment application framework. As a result, we have a thorough understanding of frameworks that never fail, as well as how to put up fully responsive frameworks.

Then again, notwithstanding the way that we were making a voice application, we had one An expansive thought of how programming abilities can be applied in the improvement business. Information base plan was a fundamental component of the undertaking. We can get a decent one Understand how to make an information base dependent on data set model and style. We can Get much more out of this venture than we have talked about up until this point.

6.2 Future Development Potential

We were unable to accomplish our entire unbiased as we needed to follow through with our responsibilities in a restricted time. All in all, what is the point that we really want to set up to broaden our viewpoints? We will actually want to consolidate windows-based application.

As our framework totally chips away at sound acknowledgment, a little way to express change in voice order might show broken result. Be that as it may, we are contemplating on how we can build the precision, time productive and easy to use in not so distant future.

The terms portrayed above is to know the full thought behind the location of our undertaking and its drawn out objectives. Our Voice Control Xarvis System could be the best voice order based frameworks of each of the methods are satisfied.

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