National College of Ireland

Configuration Manual

MSc Internship
Programme Cyber Security

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MSc Project Submission Sheet

School of Computing

Student Name: ……Anmol…Bava……

Student ID: ……18195792……

Programme: MSC cyberSecurity…… **Year:** ……2019-2020……..

Module: Academic Internship

Lecturer: Michael Pantridge

Submission Due Date: 17 August 2020……

Project Title ……Speech based OTP system to prevent shoulder surfing……

Word Count: …690…… **Page Count:** ……8……

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ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.
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Signature: ……Anmol Geer Bava

Date: 17 th August 2020……

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Configuration Manual

Anmol Geer Bava
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1 Introduction

The document guides a user how to rebuild the project and execute successfully. The project is built on python programming language[1]

2 System requirements

Django Framework has been used to develop the application – version [2]
HTML and CSS has been used to develop front end application
Django's inbuilt server has been leveraged for application development

3 Libraries invoked

Google's speech to text [3]

sudo pip install --upgrade google-cloud-speech

PIP for python3 [4]

sudo apt-get install python3 python3-dev python3-pip

Dependencies for pocketsphinx and pocketsphinx speech recognition library

sudo apt-get install build-essential swig git libpulse-dev libasound2-dev

sudo apt-get install portaudio19-dev python-all-dev python3-all-dev

pip install pocketsphinx

Python packaging tool [6]

pip install pipenv

Python audio recorder library to record the OTP from user [7]

pip install PyAudio

Python audio reader required to feed the recorded audio as input to google's speech to text converter [8]

pip install playsound

The following library will invoke google's audio to text converter API [9]

pip install SpeechRecognition

pip install voiceit2

The following command will initiate django's server
python manage.py runserver

4 Installation

Open Django framework
Import the code
Run
This will start a server on port 8000 (defaultport)

Open the browser and navigate to **http://localhost:8000**

Click on Register→ Enter the required details and register for an account

Now click on Sign in and enter the Email Id

One-time password(OTP) will be sent to your registered mail ID

Click on the Mic symbol and start reading the OTP

If the OTP matches the one sent to your mail, Authentication will be successful and user will login to the application.

```
(anmol) test@ubuntu:~/thesis/anmol/otp_voice$ python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

close connexion 'NoneType' object has no attribute 'close'
System check identified no issues (0 silenced).
August 14, 2020 - 15:59:23
Django version 3.1, using settings 'OTP_VOICE_RECOGNITION.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
[14/Aug/2020 15:59:34] "GET / HTTP/1.1" 200 20051
[14/Aug/2020 15:59:35] "GET /static/css/home.css HTTP/1.1" 200 10289
[14/Aug/2020 15:59:35] "GET /static/images/Avatar-8.png HTTP/1.1" 200 66347
```

```
(anmol) test@ubuntu:~/thesis/anmol/otp_voice$ python manage.py runserver
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[14/Aug/2020 15:59:35] "GET /static/images/Avatar-8.png HTTP/1.1" 200 66347
```

```
[14/Aug/2020 18:16:59] "POST /home HTTP/1.1" 200 132
The audio file contains: 3669
[(1, 'anmol', 'anmolbava96@gmail.com', None, '3669')]
{'alert': {'code': 0, 'message': 'Query is done succesfully', 'otp': '3669'}}
```

References

[1] Python, R., 2020. *Django Tutorials – Real Python*. [online] Realpython.com. Available at: <https://realpython.com/tutorials/django/> [Accessed 16 August 2020].

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[3] Google Cloud. 2020. *Speech-To-Text Client Libraries | Cloud Speech-To-Text Documentation*. [online] Available at: <https://cloud.google.com/speech-to-text/docs/libraries#client-libraries-install-python> [Accessed 16 August 2020].

[4] Linuxize.com. 2020. *How to Install Pip On Ubuntu 18.04*. [online] Available at: <https://linuxize.com/post/how-to-install-pip-on-ubuntu-18.04/> [Accessed 16 August 2020].

[5] PyPI. 2020. *Pocketsphinx-Fork*. [online] Available at: <https://pypi.org/project/pocketsphinx-fork/> [Accessed 16 August 2020].

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[7] PyPI. 2020. *Pyaudio*. [online] Available at: <https://pypi.org/project/PyAudio/> [Accessed 16 August 2020].

[8] PyPI.2020. *playsound*. [online] Available at: <https://pypi.org/project/playsound/> [Accessed 16 August 2020].

[9] PyPI.2020. *SpeechRecognition*.[online]Availableat:<https://pypi.org/project/ SpeechRecognition/> [Accessed 16 August 2020].