DCUBuddy
User Manual

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0. Table of Contents

1. User Section

This section of the document serves as a guide on the installation and usage of the non-administration components of DCUbuddy, the web application and virtual chatterbot assistant.

1.2 Overview of DCUBuddy

DCUBuddy is an online virtual assistant chatterbot that is targeted towards newer students attending DCU. If you have any queries regarding the college, DCUBuddy can answer them. DCUBuddy is also equipped with command line tools which could help the user during their time in college. Features include:

- Answers to queries a new student might have
- View student timetable
- Add/delete/view assignments

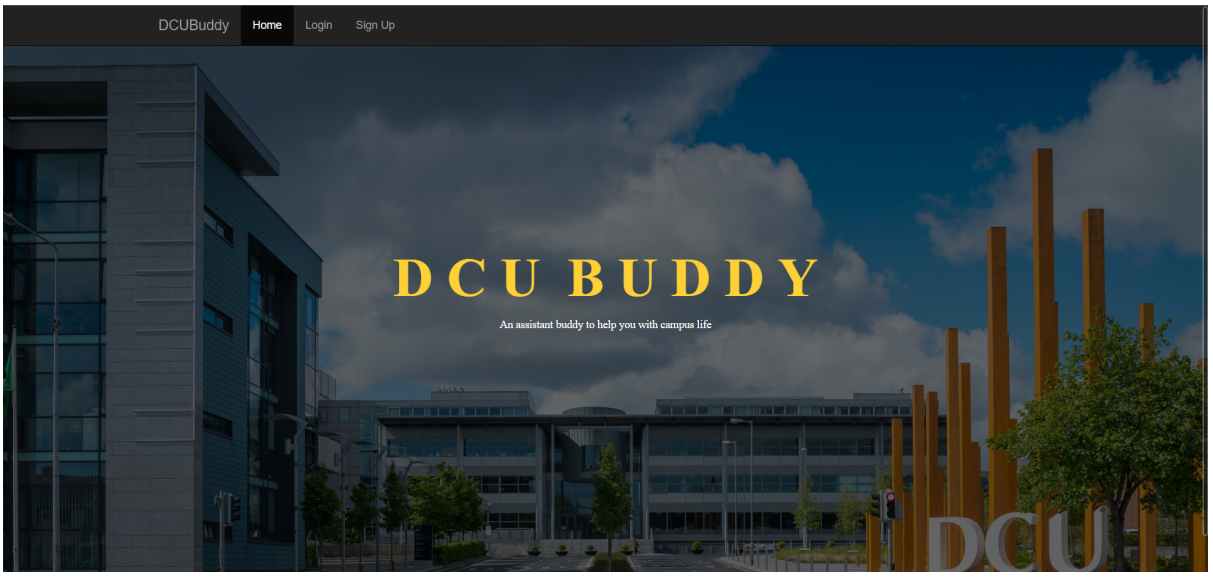
1.2 Web Application

1.2.1 Dependencies

A modern web browser with JavaScript enabled is the only required software dependency to access the web application.

1.2.2 Installation

There is no installation of any software required. To access the web application, simply visit the hosted instance of the web application in your web browser[1].



[1] Link to project Gitlab repo: https://gitlab.computing.dcu.ie/marshc2/2022-ca326-marshc2-queypom2

Figure 1: Homepage of DCUBuddy.

1.2.3 Account Registration

1.2.3.1 Navigation Bar

The navigation bar shown in Figure 2, is located on top of the interface. It contains three options:

- **Home**: this directs you to the home page of the web application.
- **Login:** this directs you to the login page to log in your account if you created an account.
- **Sign Up:** this directs you to the registration page for account creation.

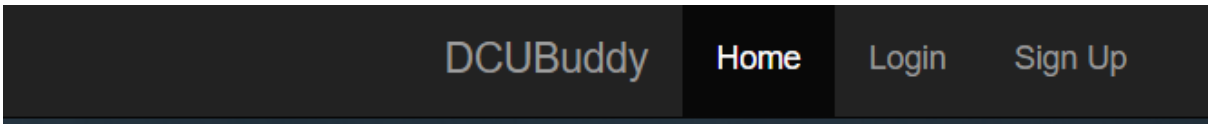


Figure 2: Navigation bar of DCUBuddy.

1.2.3.2 Creating a New Account

In order to create a new account, click on **Sign up** on the navigation bar. You'll be then be taken to the registration page as shown in Figure 3.

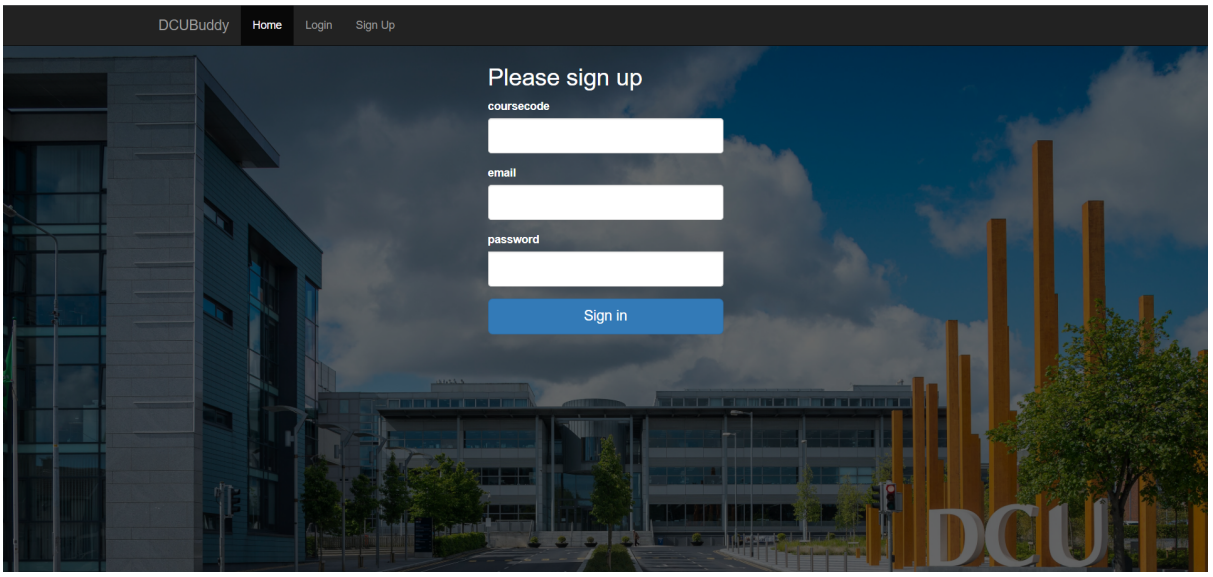


Figure 3: Registration page of DCUBuddy.

Fill in your email address, password and your course code. Please note that only valid course codes are accepted. The course code is needed for fetching the course's student timetable.

Upon successfully completing the registration form, your account will be successfully created and you will then be redirected to the chatterbot page as shown in Figure 4.

1.2.3.3 Logging in an existing account

If you have an existing account, you can click on **Log in** and you will be taken to the login page shown in Figure 5.

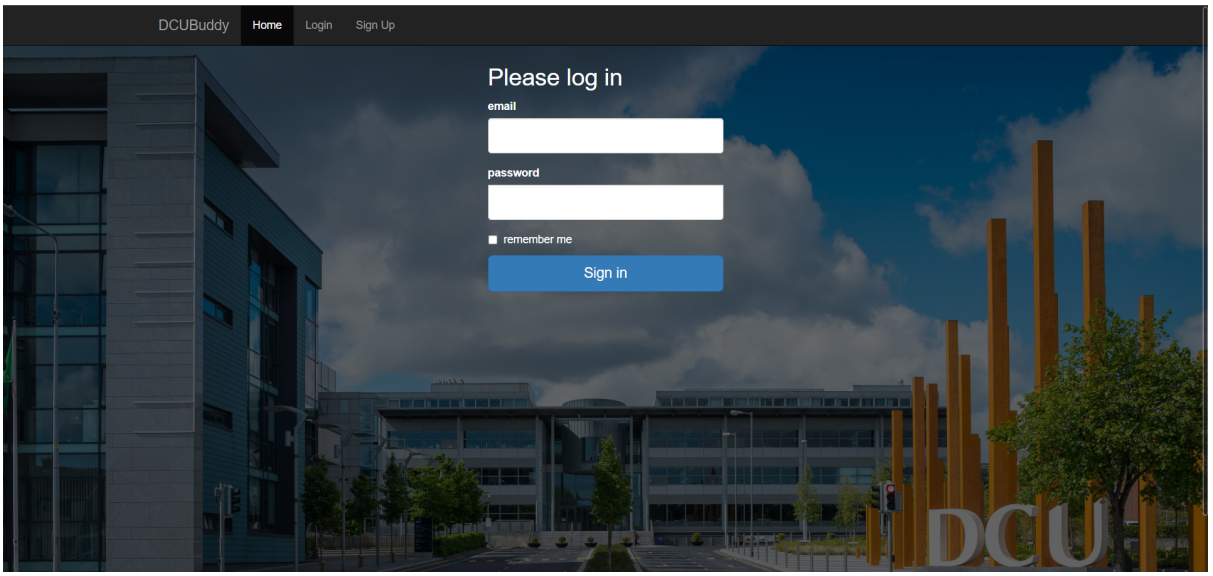


Figure 4: Login page of DCUBuddy.

Fill in your email and password. Once you finished filling in your login details, you will then be redirected to the chatterbot page.

1.2.4 Usage

This section provides details on how to use the DCUbuddy web application as an ordinary user. To access the main functionality of the web application, make sure you have registered an account mentioned in section 1.2.3.2.

1.2.4.1 Queries

On the chatterbot page, you will be greeted with a User Interface(UI) similar to messaging applications and you will be greeted by DCUBuddy (the chatterbot)(See Figure 5 below). To begin giving queries to DCUBuddy, simply click on the textbox located on the bottom of the page.

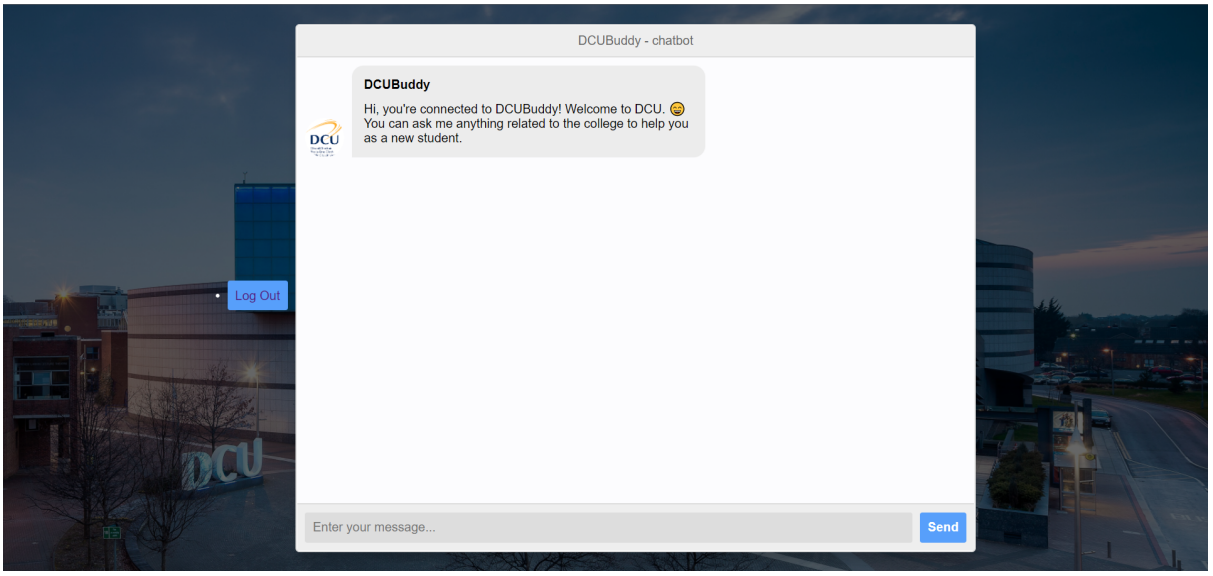


Figure 5: DCUBuddy Chatterbot page.

You can ask the DCUBuddy chatterbot any questions you have as a new student regarding the college and campuses.

Note: Queries and answers are pre-written by the developers, so not all queries can be answered. If you have any suggestions for queries that should be added to DCUBuddy, please contact us by email (conor.marsh2@mail.dcu.ie or mark.queypo2@mail.dcu.ie).

Fetching Student Timetable

DCUbuddy can fetch the timetable of the course(module) code you entered during the account registration process. To access your timetable, simply ask the chatterbot for the timetable. When asking for the timetable, you can specify the day. An example is shown in Figure 6 where the user enters “Can i have the timetable for today?”

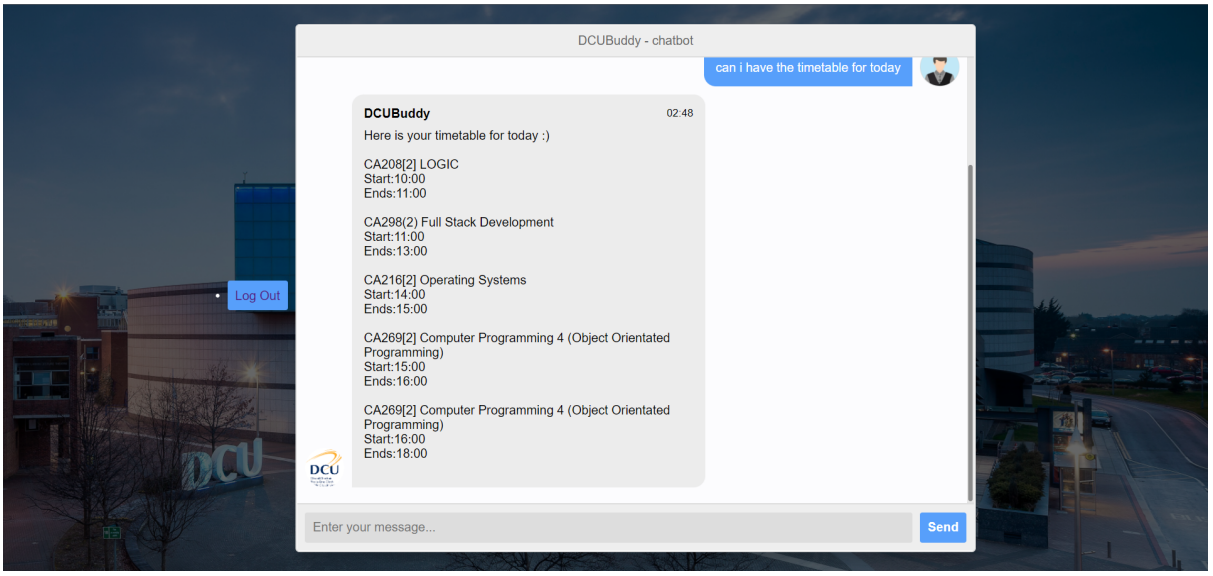


Figure 6: Getting timetable for CASE2.

1.2.4.2 Commands

DCUBuddy is also equipped with tools that can help you with your daily life in college. This section provides the commands you can give DCUbuddy and their functionality.

Assignment Command Tool
You are able to manage your assignments as reminders using commands in the text box. A command must be preceeded by “!”.

!addassignment

`Usage: !addassignment [Assignment_Name] [Due Date]`

This command lets you store assignment information to your account. It accepts two arguments: the name of the assignment and the due date of the assignment. You will then get a confirmation if the assignment was added.

!deleteassignment

`Usage: !deleteassignment [Assignment_Name]`

This command lets you delete any existing assignments you added. It accepts one argument which is the name of the assignment you wan to delete. You will then get a confirmation if the assignment you wish to delete is deleted.

!viewassignments

`Usage:` **`!viewassignments`**

This command lets you view all the assignments you stored. This command accepts no arguments.

Updating Your Course
To update the course code which you have entered during the account creation process, use the command:

```
!updatecourse [Course_Code]
```

This will update the course code for your account. It accepts one argument which is the course code you want tied to your account. If you have entered a valid course, you will be given a confirmation message that your course has been updated.

2. Admin Section

This section of the document serves as a guide on the installation and usage of the administration components of DCUbuddy, the web application and virtual chatterbot assistant.

2.1 Dependencies

Languages

- Python
    - Version: 3.7[2] or below (Compatible without extra steps).
    - Version: 3.8[3] and above (requires changes to sqlalchemy module - see section 2.2).
    - Used by: Backend
- Javascript
- HTML

Databases

- SQLite
    - Used by: Account and Assignment Management, Chatterbot.

[2] https://www.python.org/downloads/release/python-370/
[3] https://www.python.org/downloads/release/python-380/

Python Modules:

- Flask[4]
  - Version: 2.0+
- SQLalchemy[5]
  - Version: 1.2.19
- ChatterBot[6]
  - Version: 1.0.4
- Chatterbot_corpus[7]
  - Version: 1.2.0
- PyYAML[8]
  - Version: 5.1.2
- Requests[9]
  - Version: 2.27.1
- WTForms[10]
  - Version: 3.0.1

2.2 Installation & and Setup

2.2.1 Creating a Virtual Environment

The venv module from Python provides support for making lightweight “virtual environments” with their own site directories, optionally separated. from system site directories.

To install the virtualenv package. You can use pip:

```
$ pip install virtualenv
```

Once you have installed package, you need to create a virtual environment. To create one, type the following command:

```
$ virtualenv [Name_of_venv]
```

[4] https://readthedocs.org/projects/flask/
[5] https://docs.sqlalchemy.org/en/14/
[6] https://buildmedia.readthedocs.org/media/pdf/chatterbot/latest/chatterbot.pdf
[7] https://chatterbot-corpus.readthedocs.io/_/downloads/en/latest/pdf/
[8] https://pyyaml.org/wiki/PyYAMLDocumentation
[9] https://docs.python-requests.org/en/latest/
[10] https://wtforms.readthedocs.io/en/3.0.x/

You can activate your virtual environment depending on your OS by running the command:

Mac OS / Linux

```
$ source [Name_of_venv]/bin/activate
```

Windows

```
> [Name_of_venv]\Scripts\activate
```

To deactivate your virtual environment, simply type:

```
$ deactivate
```

2.2.2 Installing Module Dependencies

In the root directory, there is a file called requirements.txt which contains the required modules needed to run the web application. Use the command:

```
$ pip install -r requirements.txt
```

Make sure everything is installed before advancing to the next step.

2.2.2.1 Using Python 3.8 and Above

If you have python 3.8 and above installed, you need to follow these steps before running the web application.

1. From the root directory, copy the compat.py.
2. Go to your Lib/site-packages/sqlalchemy/util/ folder in your virtual environment folder and paste the file and overwrite. To clarify, the directory you have to paste compat.py is the following

```
$ [Name_of_venv]/Lib/site-packages/sqlalchemy/util/
```

2.2.3 Running the Web Application

Go to the app directory and then simply type:

```
$ python app.py
```

Wait until the server is up and running. You will know when it's finished when you see the final line in your terminal shown in Figure 7.

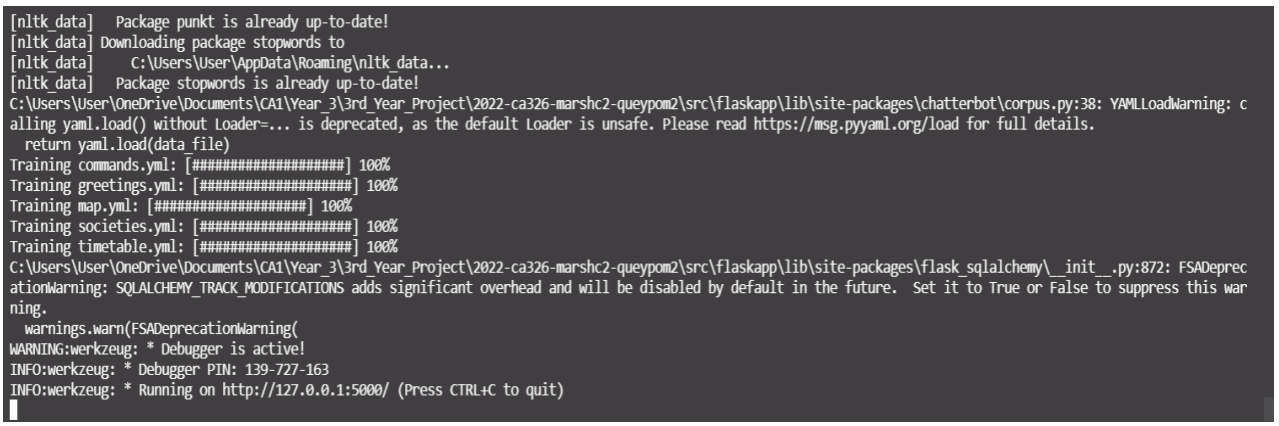


Figure 7: The web application server is running.

2.2.4 Accessing Web Application/ Finishing Up

In order to access the application, you must visit the hosted instance of DCUBuddy in a modern web browser with Javascript enabled. In this case, it is your localhost: http://127.0.0.1:5000/

You can now access the web application and it's features. We refer the reader to Section 1 to learn more about how to use the interface. To stop running the server go to your terminal and on your keyboard, press ctrl + c.