Project Deliverable G : Prototype II

GNG 2101
Submitted by: Group 5

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Introduction: This deliverable defines the design solution we intend to present on Design Day and develops new prototypes on our way to creating our final project.

1) **Summarize the client feedback that you received during your third client meeting for your first product prototype and clearly state what needs to be changed or improved in your design.**

As we presented our prototype in the last client meeting Mr. N'diaye very much liked the plan and recommended us going forward with it but also recommended we fix a few things which includes making it easier for the wifi to connect which includes trying to make it easier so that the connection also accepts the terms and conditions page, looking at a hardware component or not depending on how much of the project expectations are met, and most importantly the code should be running on all major softwares available in the market (Windows, MacOS, etc.).

2) **Based on the feedback, develop a second prototype (or more) which will help you on your way to creating your final product.**

Basing it on the feedback we received, the second prototype will focus more on running the code on different software. We would be using curl in order to make it more interactive and possible to run all software possible. According to the feedback from the client meet, we are very much keen to drop the idea of a hardware component in the project because it would be cost-effective, saves time, and less complicated the project; higher chances we have to excel and have a better approach in having our program run.

3) **Document your latest prototype(s) using as many sketches/diagrams/pictures as required and explain the purpose and function of your prototype(s).**

The next prototype would be with a few more additions in the code shown below:

wifi_module.py - /Users/himanshu/Desktop/wifi_module.py (3.8.0)

```
"""
@Author: Group 5
This code is used to connect to wifi-connection
and automatically reconnect to host Spot
"""

import os
import sys
import argparse
import time
def wifi_pipeline(FLAGS):
    """
    show the list of available networks
    and generate full pipeline
    """
    while(True):
        ### show the list of available networks ###
        os.system("netsh wlan show profiles")
        print("The current Profile chosen : %s"%FLAGS.interface_name)
        ####  show the chosen network to connect ###
        os.system("netsh wlan show profiles name=%s key=clear"%FLAGS.interface_n
        ### disconnect to previous connected wifi ###
        os.system("netsh wlan disconnect")
        time.sleep(2)
        #### connect to specified network ###
        os.system("netsh wlan connect name=%s"%FLAGS.interface_name)
        time.sleep(10)

if __name__ == "__main__":
    parser = argparse.ArgumentParser()
    parser.add_argument('--interface_name', type = str,
                        default = "GuestWifi", help="Interface Name for the WIFI
    FLAGS = parser.parse_args()
    #### wifi module sequence #####
    wifi_pipeline(FLAGS)
```

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Figure 1: First iteration of the code that connects and disconnects the stated/saved SSID.

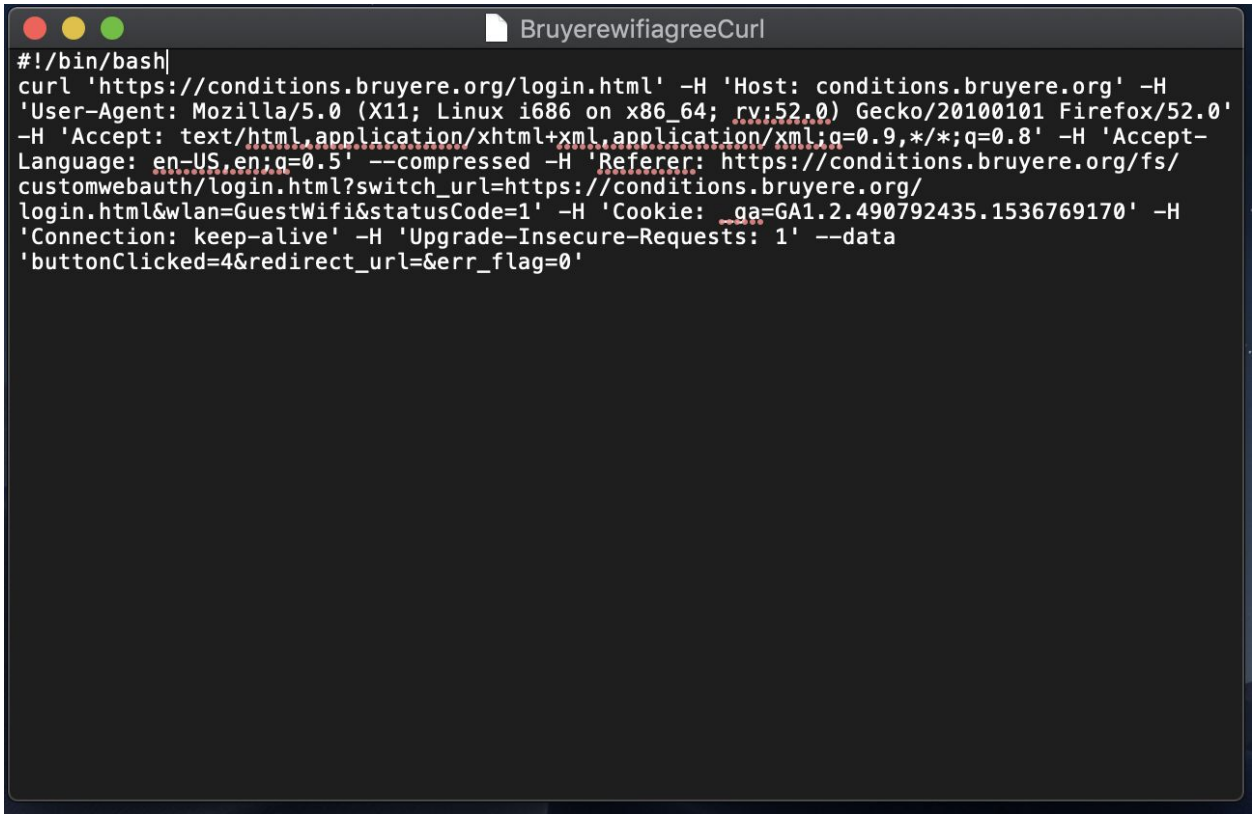

Figure 2: Client URL bash file script that accepts the terms and conditions on the host website (works only in Linux, so it needs to be converted to Python)

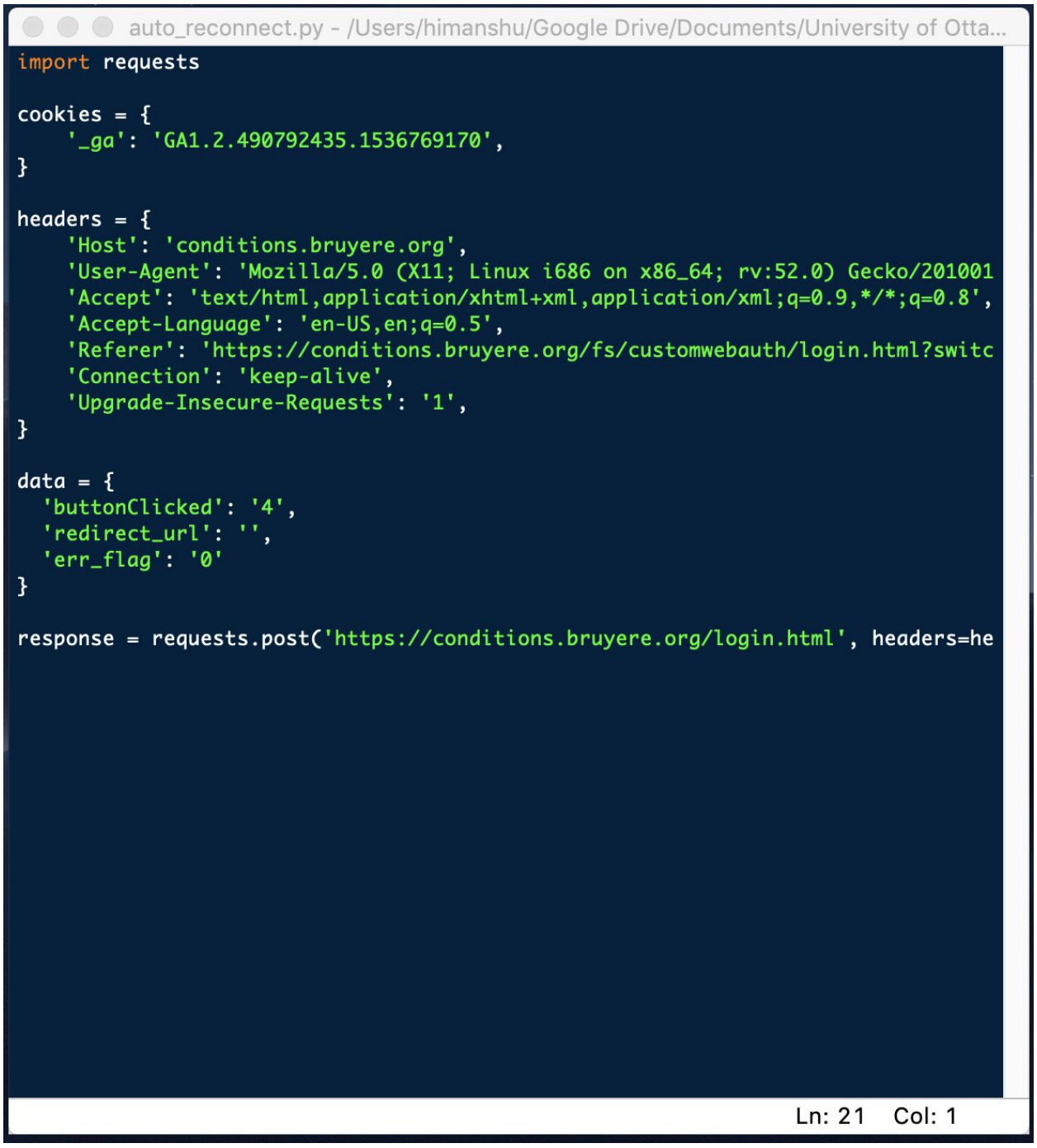

Figure 3: The Client URL code converted over from Linux operating system to Python so it works on all platforms

The purpose of this next prototype is to run on major software in the market and be more user friendly with some bug fixes which would ease up connecting to the wifi for the patients at St. Vincent Hospital. How this prototype functions is really very basic. It's based off of python in which the command centre prompts the wifi to connect and disconnect every 1-2 hours during

which there is a 1-2 second delay. After this delay the loop runs again and the device connects with the wifi. This loop keeps on running and even if the wifi drops, it gets it back on.

4) **Carry out prototype testing, analyze and evaluate performance compared to the target specifications developed in Project Deliverable B and document all your testing results and prototype specifications. Present your testing in an organized, tabular format that shows expected versus actual results.**

After carrying out the prototype testing for prototype I and II we evaluate the performance compared to the target specifications developed in Deliverable B and the information found is mentioned in the table below:

Target Specifications in Deliverable B	**Evaluated performance after Prototype Testing I & Plans for Prototype II**
Efficiency	Prototype I turned out to be not that efficient since it didn't actually connect to the terms and conditions page but we intend to achieve that in Prototype II. Also focusing on pushing our code onto iOS software is also something would make Prototype II more efficient than Prototype I.
Modulus of Hardware	Prototype I didn't include any hardware components and was supposed to be tested with some hardware but after we got our client feedback back we took out the idea of putting in a hardware component.
User-Friendly	Prototype I is very user-friendly and didn't include much work from the patients' side. Prototype II would be even more user-friendly by including major bug fixes.
Expense	All the Prototypes would turn out to be fairly cheap since our project is based solely off of software now.
Software	The software is something which is playing a very important role in this project because after Prototype I it is solely going to be based

	off on software. The software itself is python and very basic source code will be running the project for patients.
Hardware	The hardware is completely taken off the project after the client feedback received during the last client meet.

Table 1: Target specifications stated in Deliverable B

5) **Outline what your team intends to present on Design Day and how you intend on verifying that your "Solution Works Really Well".**

During our presentation on Design Day we intend to present a simple python source code which runs in a forever loop and connects and disconnects the wifi by just having the loop running for forever. Something that really would show that our "solution works really well' would be when we could show that how our source code can connect and disconnect the wifi available (eduroam or guOttawa open, etc) on different software such as Windows and MacOS.

Conclusion: In the end we made sure we took our ideas of the first prototype and converted them into something more viable for all the patients at the hospital. We will also try to include the source code in software such as Windows and MacOS.