

## **HOMEWORK 6**

### **SETUP**

The program was run and compiled in Ubuntu 18.04 but should work in most other versions. The following commands were done in order to get the program working:

```
> sudo apt-get update
> sudo apt-get install freeglut3
> sudo apt-get install freeglut3-dev
> sudo apt-get install binutils-gold
> sudo apt-get install g++ cmake
> sudo apt-get install libglew-dev
> sudo apt-get install g++
> sudo apt-get install mesa-common-dev
> sudo apt-get install build-essential
> sudo apt-get install libglew1.5-dev libglm-dev
> sudo apt-get install mesa-utils
> sudo apt-get -f install
> sudo apt install fltk1.3-dev
```

### **PROGRAM COMPILATION AND RUNNING**

The following command should be executed to compile the program:

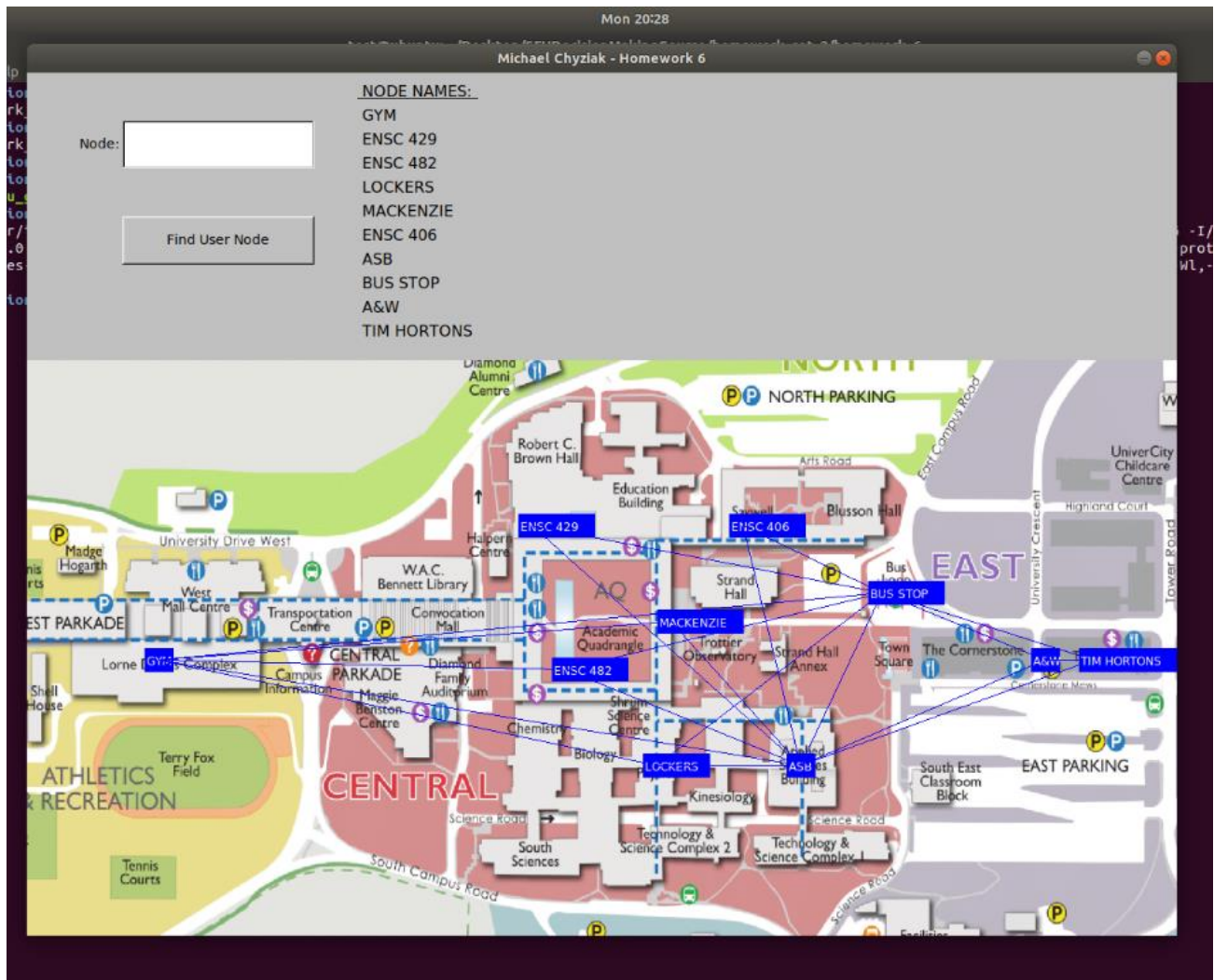
```
> fltk-config --use-images --compile sfu_graph.cc
```

This should create a "histogram" program which is ran doing the following command:

```
> ./sfu_graph
```

## SOLUTIONS/SCREENSHOTS

The following screenshots will show the user a demo of how the program can be used and how it deals with some edge cases. In the first screenshot we can see the default view when the program is opened. The user can type in the node names into the input box (must be the same) and the button will allow them to highlight the node and its connected edges.



Mon 20:28

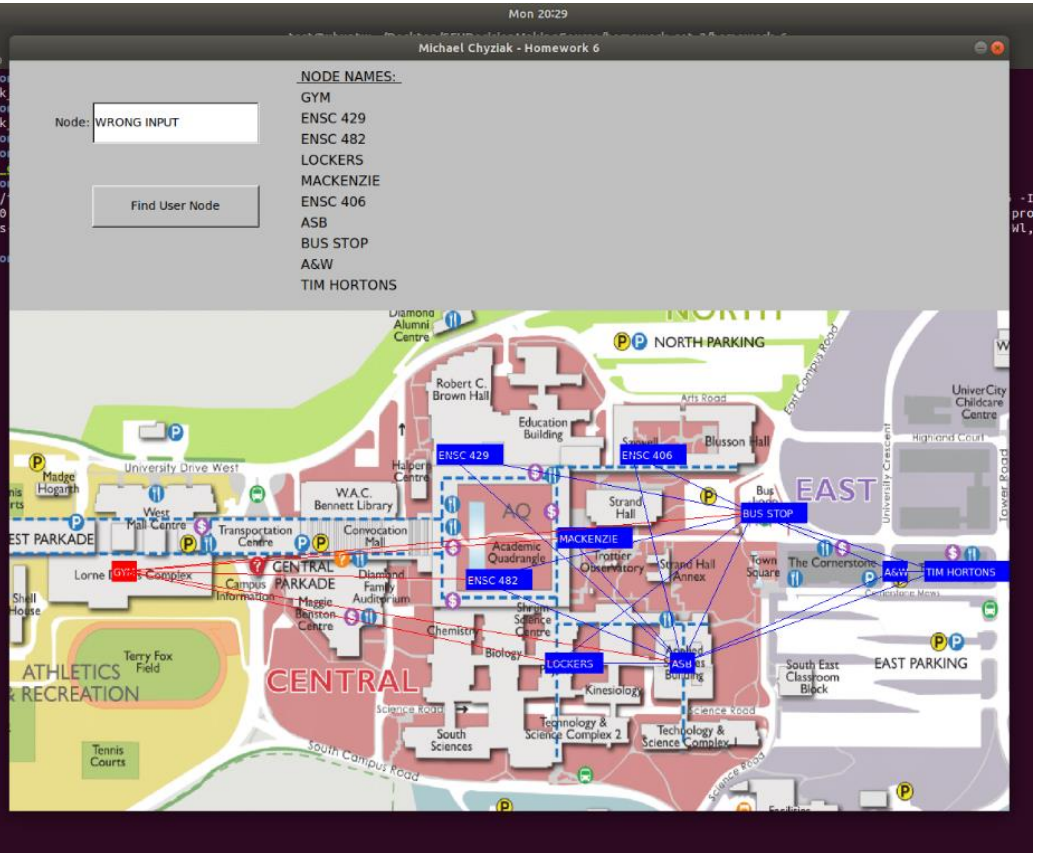
Michael Chyzlak - Homework 6

NODE NAMES:

- GYM
- ENSC 429
- ENSC 482
- LOCKERS
- MACKENZIE
- ENSC 406
- ASB
- BUS STOP
- A&W
- TIM HORTONS

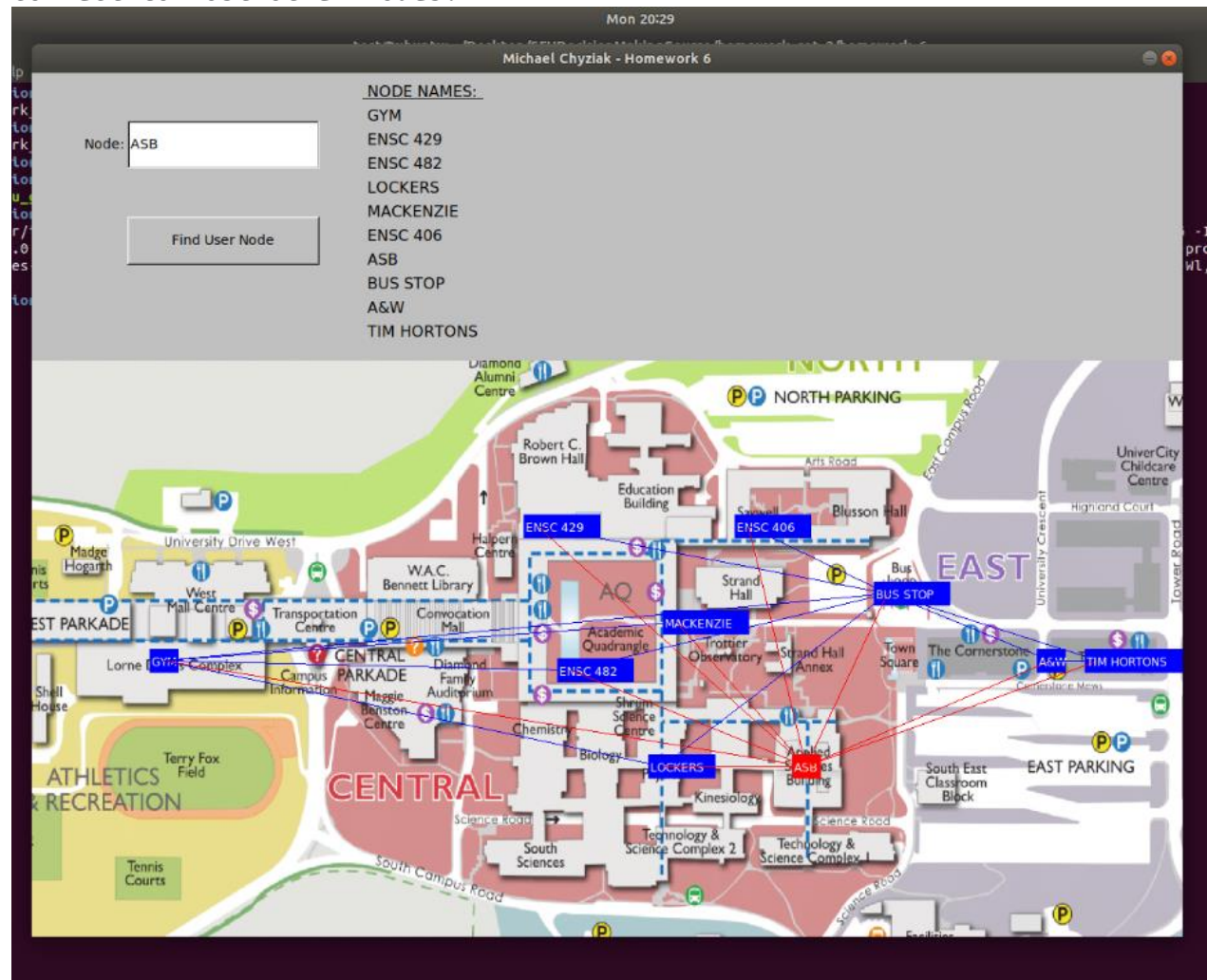
Node:

A screenshot of a Linux terminal window titled "Michael Chyzlak - Homework 6". The terminal shows a user at a prompt "test@ubuntu:~/Desktop/SFUDecision" entering a series of commands to find a node. The first command is "find\_node", which returns a list of node names: GYM, ENSC 429, ENSC 482, LOCKERS, MACKENZIE, ENSC 406, ASB, BUS STOP, A&W, and TIM HORTONS. The user then enters "Node: WRONG INPUT" in a text box and clicks a "Find User Node" button. The terminal output shows "Invalid node name. Try again!". In the background, a map of the SFU campus is visible, showing various buildings and parking areas. The map is divided into sections labeled "CENTRAL", "EAST", and "NORTH". Buildings like "WAC Bennett Library", "Strand Hall", and "Academic Quadrangle" are labeled. Parking areas are marked with "P" and "P/P".





The next screenshot is an example of another node which is the most popular node in my graph. The node known as “ASB” (Applied Science Building) is highlighted in red as well as its connected edges which connect to most other nodes.



Lastly, the final screenshot shows an example of the “ENSC 482” node for obvious reasons. We can see that the edges are highlighted to the GYM, ASB, and BUS STOP nodes. This is because I go to class sometimes from the BUS STOP or from the GYM and after class I go to the ASB.

