Computer Network
CSC1010
TRIMESTER 2, AY 2020/21

Team Projects: Network programming

1. Objectives

The main objective of this project is to provide opportunities for students to experience how devices can communicate with each other through developing network applications. More importantly, it allows students to experience the many issues concerning effective teamwork as well as the various activities involved in configurating the network architecture, connecting the devices and make them talk to each other.

2. Rules and Regulations

a. This project aims to design, implement and test an application, in a team of 4-5 students.

b. The implementation must include multiple Raspberry Pi, though wired or wireless LAN connection. Cannot use serial communication.

c. The Raspberry Pi must be able to communicate with each other though the program the team developed.

3. Project descriptions

Teams can choose to implement any (not limited to) of the following projects:

1. Social Media & Communication related applications
2. IoT related applications
3. Health care-related applications

*We have 5 Wi-Fi 6 smart phones for your project, first come first serve.

4. Deliverables & submission

a. **Project proposal (5%):** Teams are required to submit a one-page project proposal, which includes the student name, uid, selected project title, abstract and expected goal, working schedule (proposed timetable), and work distribution. The proposal should be submitted by **Friday 5th Mar 2021 23:59:59.**

b. **Final product (10%)**: Teams are required to submit the final completed application, which must include your source code and any other files that are required to run the application. The team leader must submit ONE zip file containing the complete application.
The application should be uploaded on xSite by **Friday 9th April 2021 23:59:59**.
A demo session will be arranged in week 12 / week 13 lab session.

c. **Poster and 5-minute video (5%)**: In the poster, the team should include the network diagram using Cisco Packet Tracer to illustrate how the devices are communicating with each other. The video should concentrate on the network configuration, how the application works and demonstrate the use of the application. It should contain contribution by all the team members. If the teams like, they are encouraged to add a video blog.
The application, poster and video should be uploaded on xSite along with the final product by **Friday 9th April 2021 23:59:59**.

LATE SUBMISSION

A penalty of **20%** per day of this assignment marks (including Sunday and public holiday) will be imposed for late submission unless extension has been granted by the tutor **prior** to the submission date. Request for extension will be granted on a case-by-case basis. Any work submitted more than 4 days after the submission date will not be accepted and no mark will be awarded.

NOTES ON PLAGIARISM

The University's policy on copying does not allow you to copy software as well as your assessment solutions from another person. Copying of another person work is unacceptable. It is the responsibility of all students that their assessment solutions are their own work. You must also ensure that others do not obtain access to your solutions for copying a part of them. Where such plagiarism is detected, both assessments involved will receive **ZERO** mark.

5. Mark scheme

This project weight 20% of the total assessment of this module. **Please refer to the detailed marking criteria table posted on xSiTe.**

Criteria	**Marks**
Project proposal: • The abstract and selected topic of the project. • The expected goal, outcome and the scope of the project. • The working schedule and the work distribution.	5
Application: • Completeness of the application. • All features of the application should be implemented.	10
Poster and Video: • Able to demo how to run the application. • Able to show how the networking applied in their application.	5
Peer review	As described in part 6

6. Teamwork & Peer Assessment

Each project will be graded as a team. That is, each person receives the same grade if each person contributes equally. Great teams have great contributors, each contributing equally. Within the team, you must negotiate with one another on how much and what each person will contribute. Think carefully about your team members' strengths and weaknesses and distribute the workload wisely.

Each member of the team is asked to provide a peer assessment of each member of their team (including themselves), in terms of the quality of work and effort expended on the project.
The online peer assessment system **TeamMates** (https://teammatesv4.appspot.com) will be used in this course.
The peer assessment feedback session will be conducted at the end of the module after the final program submission.