Group Members:

Anurag Joshi (20604210)

Vidit Soni (20627647)

Surag Sudesh (20636861)

Matthew Milne (20626854)

Vinayak Sharma (20585279)

StreamingOS: Low Cost Education System

In today's world, studies show that students from schools in lower-income families have limited or no access to technological tools such as cellphones, tablets, or laptops. This implies that those students are at a major disadvantage and have fewer opportunities to collaborate outside a classroom environment, conduct online research for school assignments/general learning, and develop meaningful computer skills for the industry compared to students from middle and high-income families. The objective of this project is to design a low-cost (yet powerful) device and system that enhances the learning experience. StreamingOS uses an inexpensive Raspberry Pi (or alternative) and container virtualization to visually render and stream applications from a server or the teacher's computer to these devices used by the students. The system design leverages concepts learned in distributed computing, operating systems, database theory, and networking courses. The advantage of this design over current alternatives is that it is scalable while enabling the teacher full control of what software each student views. Due to the inexpensive hardware, it breaks down the barrier of the lack of technology in school settings, and empowers teachers to incorporate more modern-day means of learning in their classrooms.

[Handwritten annotations:]

This is not clear. What is StreamingOS?

The stated advantage is not in conformity with the motivation

6.5 + 2

8.5

Redo the abstract in the next submission or spec.

Group number: ___2020. 15___

(For coordinator use only)

Agreement Principles

Intellectual Property Rights: All members of the University of Waterloo, including students, staff, and faculty members are subject to the terms of Policy #73 on Intellectual Property Rights. This policy clearly states that ownership of the intellectual property rights created during the course of teaching or research activities belong to the creator(s). The creator(s) grant the University a non-exclusive, free, irrevocable license to copy and/or use such works in other teaching and research activities.

Student Academic Discipline: Students are expected to conduct their design projects in accordance with all university policies, procedures, and guidelines. Academic offences will be handled in accordance with Policy #71 on Student Academic Discipline. This policy clearly states that students must not infringe unreasonably upon the rights of others, violate safety regulations, take part in plagiarism, or submit work previously submitted at this or any other academic institution. To ensure a safe working environment, all projects must be available for inspection by department staff.

Material Property: Components or material partially or wholly purchased using University funds belong to the University. Such material must be returned to the University at the end of ECE498B, at the discretion of the Course Instructor. Except where otherwise stated in this agreement, other components, material, or completed prototypes belong to the party that provided the source of funds used in purchasing them.

Consultant Responsibilities: The consultant acknowledges that his/her responsibilities include:
- being available to meet with the student team at mutually convenient times (nominally weekly) in this term and in the upcoming winter term to provide technical guidance to the student team,
- reviewing and commenting on (but not formally grading) the project deliverables as requested by students,
- assessing the prototypes demonstrated by students near the end of ECE498A and near the end of ECE498B, and
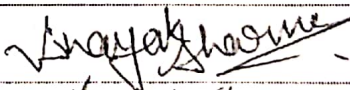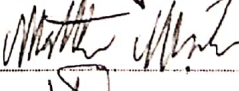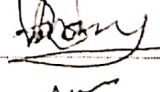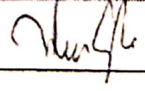- upholding the students' academic interests above all others.

The consultant is a Professional Engineer, a University of Waterloo professor, a University of Waterloo lab instructor, or an individual approved by the ECE498A Course Coordinator. The consultant acknowledges the general terms of this agreement.

Student Responsibilities: Each student team member acknowledges that his/her responsibilities include the following:
- Each team member is expected to contribute positively and fairly towards the completion of the design project.
- Each team member has full authority to represent the whole team in any matter relating to the project including the use of the project for student competitions or media interviews.
- Each team member is responsible for returning University property owed by any team member (see Material Property above).
- Each team member has reviewed Policy #71 on Student Academic Discipline and Policy #73 on Intellectual Property Rights.

Each student also acknowledges the general terms of this agreement.

Project title: StreamingOS: Low Cost Education System

Student name (print neatly)	Student number (print neatly)	Student signature	Date signed
Vinayak Sharma	20585279	*signature*	21st May 2019
Matthew Milne	20626854	*signature*	May 21st, 2019
Vidit Soni	20627647	*signature*	May 21st, 2019
Anurag Joshi	2060 4210	*signature*	May 21, 2019
Surag Sudesh	20636861	*signature*	May 21, 2019

Consultant name (print neatly below)	Consultant email	Consultant signature	Date signed
WOJCIECH GOLAB	WGOLAB@UWATERLOO.CA	*signature*	MAY 21, 2019