ECE498B: Prototype Checklist	Consultant: Fill this in <u>before</u> completing the *Final Prototype Demonstration Grading Sheet*

Group number (e.g., 2020.75): 2020.15

Project title: StreamingOS: Low Cost Education System

Project objective: (This may be ignored.)

Specification	Essential specification (yes/no)?	Procedure to be used to show that the specification is met	For consultant's use	
			Pass/Fail	Comments
Non-functional Specification 1 The user facing client should support iOS, Android, Windows, and Linux based operating systems.	No	We can open the client application on an Amazon Fire tablet that shows it runs on Android. We can run it on Windows laptops to show it runs on Windows.		
Non-functional Specification 2 The system should provide all users (students and teachers) functionalities through a single client facing application.	Yes	We show that the single client application with a single UI and codebase can be used by both the teacher and students in their own ways.		
Non-functional Specification 3 The system should be capable of providing of role based (teacher, student, etc.) access control.	Yes	We login separately as a Teacher and a Student and show how the application varies for both of them.	✓	
Functional Specification 1 The OS streams should be capable of supporting a web browser and a suite of desktop productivity applications (i.e. word processor, spreadsheet software, presentation software, and lightweight IDE)	Yes	We login to any OS container, be it Linux or Windows and show the suite of products that we support and how we can interact with a few of them. For example, run a simple lightweight "Hello World" program on Visual Studio Code.	✓	
Non-functional Specification 4 On accidental/unintended user disconnect(s), the system should be capable of re-establishing the connection to the same OS stream without losing user state (as long as an adequate internet connection exists). Re-connect	No	When the OS disconnects, we can reconnect it and show that the same applications are still open from before the OS container was disconnected (ie File Explorer, VSCode).	✓	

should occur in less than 10 seconds upon internet connection re-establishment.				
Functional Specification 2 The system should provide teachers with the ability to grant/revoke application permissions (on an OS container) per student.	Yes	We log into the system as a teacher, see a list of the students currently enrolled in their class. We click on a random student and the table gets updated to show their permission status. We toggle the slider to either grant or revoke access to an application. Then we open the OS container and show that the student can either open or not open the application	✓	User can Install software in some cases
Functional Specification 3 The teacher should be able to send notifications to students' clients. Notifications should be received within 10 seconds of being sent.	No	We send a notification to the student as a teacher and then time the amount taken for it to be actually displayed in the student's screen.	✓	
Functional Specification 4 The teacher should be able to see the screens of all students actively streaming with at most a 10 second delay.	No	Go to the student bird's eye view page and watch the screenshot of a specific student. On another device, open a folder on an OS and time how long it takes for the screenshot to update.	✓	
Functional Specification 5 The system should be capable of recognizing active/failed OS container states within one minute of becoming active/inactive. It should also add/remove containers in the allocation pool for users accordingly.	Yes	Kill an OS container and show proof that the cleanup process works by showing the backend logs, as well as the screenshot disappearing from the student bird's eye view page.	✓	
Functional Specification 6 The teacher should be capable of sharing their screen with their students.	Yes	Open the client application and login as a teacher and show the broadcast functionality working.	✓	

Non-functional Specification 5 The full cost of the system per user should not exceed $75 per year which is cheaper than the cost of a system with similar specifications.	Yes	We have a cost breakdown prepared by our group and that displays how we meet this specification.	✓	replacement o) parts ?
Non-functional Specification 6 The device should be capable of fitting in a standard backpack (17"x9"). The weight of the device should be less than 600 grams.	Yes	This can be easily measured on the actual tablet or by displaying the characteristics of the Amazon tablet to the marker.	✓	
Functional Specification 7 The OS container should be network isolated such that only the Reverse Proxy should be able to directly communicate with the OS container.	Yes	We demonstrate the ReverseProxy code that shows how the OS container only communicates the ReverseProxy.	✓	
Functional Specification 8 The streaming client and server use an encrypted tunnel to transfer data packets	No	Show how the backend uses Guacamole's encryption protocols for data transfer.	✓	
Other consultant comments:				

Consultant's signature: _John Gu_   Date: _MARCH 11, 2020_