Submission Date	9/10/2019
Project Name	Resistor value recognizer
Student Names	Husnal Kaur, Brendon Woo
Project repository	https://github.com/HusnalK/Resistor-Value-Recoganizer-RVR
SensorsEffectors choices	ultrasonic sensor , luminosity sensor, camera
The database will store	user account information, history of recognized resistors and resistor color code lookup table
The mobile device functionality will include	viewing value of resistor, viewing history, color code table with values
I will be collaborating with the following company/department	Humber Parts Crib
My group in the winter semester will include	Brendan Woo
50 word problem statement	Due to the large volume of students that use the parts crib, large amounts of unsorted components often accumulate. High traffic makes it difficult to sort these components, and it is often time consuming to figure out values of each and every resistor. Moreover, it can be hard to identify resistor values correctly in a fast paced environment.
100 words of background	When a component is inserted into a processing area, image processing and machine learning will be used to recognize resistor values through object and colour recognition. Once the resistor's value has been found, this can be logged in a database to track usage. This information can be accessed by an Android app so the user's ID can be used to look up their history. An ultrasonic sensor will be used to detect when an object is inserted. As image processing techniques are dependent on lighting, a luminosity sensor will be used to trigger a lighting system to ensure ideal lighting conditions are always present. The ultrasonic sensor will then trigger both the camera and the lighting system for greater energy efficiency.
Current product APA citation	Amazon. (2019, September 05). Amazon Go. Retrieved from Amazon.com: https://www.amazon.com/b?node=16008589011
Existing research IEEE paper APA citation	Cruz, J., Dimaala, M., Francisco, L., Franco, E., & Bandala, A. (2013). Object recognition and detection by shape and color pattern recognition utilizing Artificial Neural Networks. 2013 International Conference of Information and Communication Technology (ICoICT).
Brief description of planned purchases	cast acrylic for component casings, ultrasonic sensor, luminosity sensor, Raspberry Pi, Raspberry Pi camera module, assorted screws, standoffs, and bolts
Solution description	This system will make it easier for both students and professionals to recognize resistor values in a fast and efficient manner.