Submission Date	2019-01-130
Project Name	RC-Rover
Student Name	Mykal Bailey, David
Project website	https://github.com/mykalbailey/RC-Rover
Our project will	combine two hardware devices to work interdependently with an android software application. This project will be conducted by two group members merging individual hardware projects to create a super bot. A swivel enabled camera which is to be mounted on top of a two-wheel drive robot allowing for mobility, surveillance, and remote control when paired with a Raspberry Pi. It will be able to drive around and control direction of camera.
The database will store	The database will store videos and photos taken from the camera portion of the hardware. It may also potentially store information on location.
The mobile device functionality will include	The application will have an easy to use user interface. It will provide a live video feed of the RC rovers view directly from the software application. It will also include a controls to individually control camera view and movement of the RC rover. It will also include functionality to record and take snapshots from the RC rover which will be sent and stored to the database. Data files saved to the cloud will be available for viewing and editing directly from the application.
I will be collaborating with the following company/department	I have not concluded what what companies or departments I will be choosing to collaborate with yet.
My group in the winter semester will include	My partner will be David.
50 word problem statement	Having this camera will eliminate the need to physically be present in a specified location to be aware of what is happening. You will be able to open an app to have a live stream.
100 words of background	Technology is only getting more powerful. This leads to the need of more storage space and memory to operate these powerful pieces of technology. When it comes to surveillance, you want to be as efficient as possible. Media files do take up a lot of space and does so very quickly. In order to keep a surveillance system up and running there needs to be a structure employed that keeps the most important files and gets rid of the rest. The type of structure that is placed should factor in the way files are stored and move. For example: Saving files locally on a hard drive or directly to a server. Thus, having a bad system could cost the user more money or the loss of important data.

Current product APA citation	Surveillance System and Security Camera System Storage: Hard Drive Guide | Seagate. (n.d.). Retrieved September 14, 2017, from http://www.seagate.com/ca/en/tech-insights/video-surveillance-security-camera-system-hard-drive-storage-guide-master-ti/ The History of Video Security Cameras [Infographic]. (2012, January 16). Retrieved September 14, 2017, from https://www.supercircuits.com/resources/blog/the-history-of-video-security-cameras
Existing research IEEE paper APA citation	Battaglia, F., & Iannizzotto, G. (2012). An open architecture to develop a handheld device for helping visually impaired people. IEEE Transactions on Consumer Electronics, 58(3), 1086–1093. https://doi.org/10.1109/TCE.2012.6311360 Wu, J., Law, M. K., Mak, P. I., & Martins, R. P. (2016). A 2- µW 45-nV/#x221A;Hz readout front end with multiple-chopping active-high-pass ripple reduction loop and pseudofeedback dC servo loop. 1 IEEE Transactions on Circuits and Systems II: Express Briefs, 63(4), 351–355. https://doi.org/10. 1109/TCSII.2015.2504944
Brief description of planned purchases	$50 - Raspberry Pi 3 (with power supply)$25 - USB Cam$10 - Pan/Tilt Bracket$15 - Servo(x2)
Solution description	My proposal is to build a surveillance camera that will be able to move in 2 dimensions. A flexible automated device with the ability to take snap shots and or record video clips that will be stored in the cloud. It will be coupled with a mobile device application giving the user full control of the camera and its settings. The mobile application will include the ability to control what is stored to the cloud. It will be a more affordable product alternative to other devices with similar functionality.