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| **Group** 8 | **Death Star Image Exfiltration** |
| **Major:** | **Team members:** |
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**Design Functionality**

1. Receive the USB drive with the 100 1024x1024 PNG images

* The provided USB will have 100 PNG images
* 10 of which, will be of the death star with a dark background and a red-circled weakness

1. Software running on the provided Raspberry PI will read the images on the USB

* The Raspberry PI will be able to interpret and load the images

1. Software running on the Raspberry PI will filter out the 10 death star images

* The non death star images will be ignored for the remaining steps

1. Software running on the Raspberry PI will calculate MD5 checksum of the 10 death star images

* This will be used to verify integrity

1. Software running on the Raspberry PI encrypts the 10 death star images

* The transmission of the images must be in an encrypted form

1. The images will be transmitted from the Raspberry PI to a Linux server, on the other side of a physical wall, 5 meters away from the wall.

* The images will be sent over 2.4 GHz frequency

1. The Linux Server receives the images and decrypts them
2. The Linux Server compares the MD5 Checksums and sends them back software running on the Raspberry PI to inform on the status of the transmission… confirm or deny that the images arrived as planned

* The images will be resent if they do not arrive as expected
* This will happen until the integrity of all 10 images is confirmed

1. The Linux Server will crop and isolate the 10 red-circled images to show only the red-circled weaknesses

* The death star images each contain a weakness meaning there are 10 in total

1. The weaknesses will be uploaded to a mobile application (iOS or Android) and publicly displayed

* Weakness images will be uploaded over Wi-Fi
* Thus, the project is complete

See Diagram Below

A screenshot of a computer

Description automatically generated

A diagram of a computer

Description automatically generated