

We considered many potential constraints for our Smart Bird Feeder, the following were the main points we feel will give us the most trouble.

Economically, we are on a low budget; the solution should be restricted to reasonably cheap hardware such as Raspberry Pi and free-of-cost software tools like OpenCV. This would mean we will need to choose cost-effective solutions that meet our needs for performance. While this is a limitation, working on simpler and cheaper hardware will present a challenge that will be beneficial to be able to solve in terms of our personal learning.

Most importantly we have to keep the ethical considerations in mind when it comes to the requirement for the system to act responsibly, with regard to both interaction with wildlife and the data acquisition process. We have to consider the environmental impact of our hardware in terms of power consumption and other factors by making responsible design choices to minimize negative impacts.

Our project does present some security and legal concerns as well. As we will be using the users location, there may be concerns of using the users location. We will definitely need to make sure we are only using the location for the specific needs of our project and ensure that the location will be used legally and not used against the users in any way. Another concern that relates to security and legal is the use of the camera. The app will require permission to use the camera on whatever device is hosting the app. For the same reasons as location, we must make sure that the camera is only providing data that we strictly need for the app and we are not using anything else.

All these different constraints shape the direction and decisions in the development of this project.