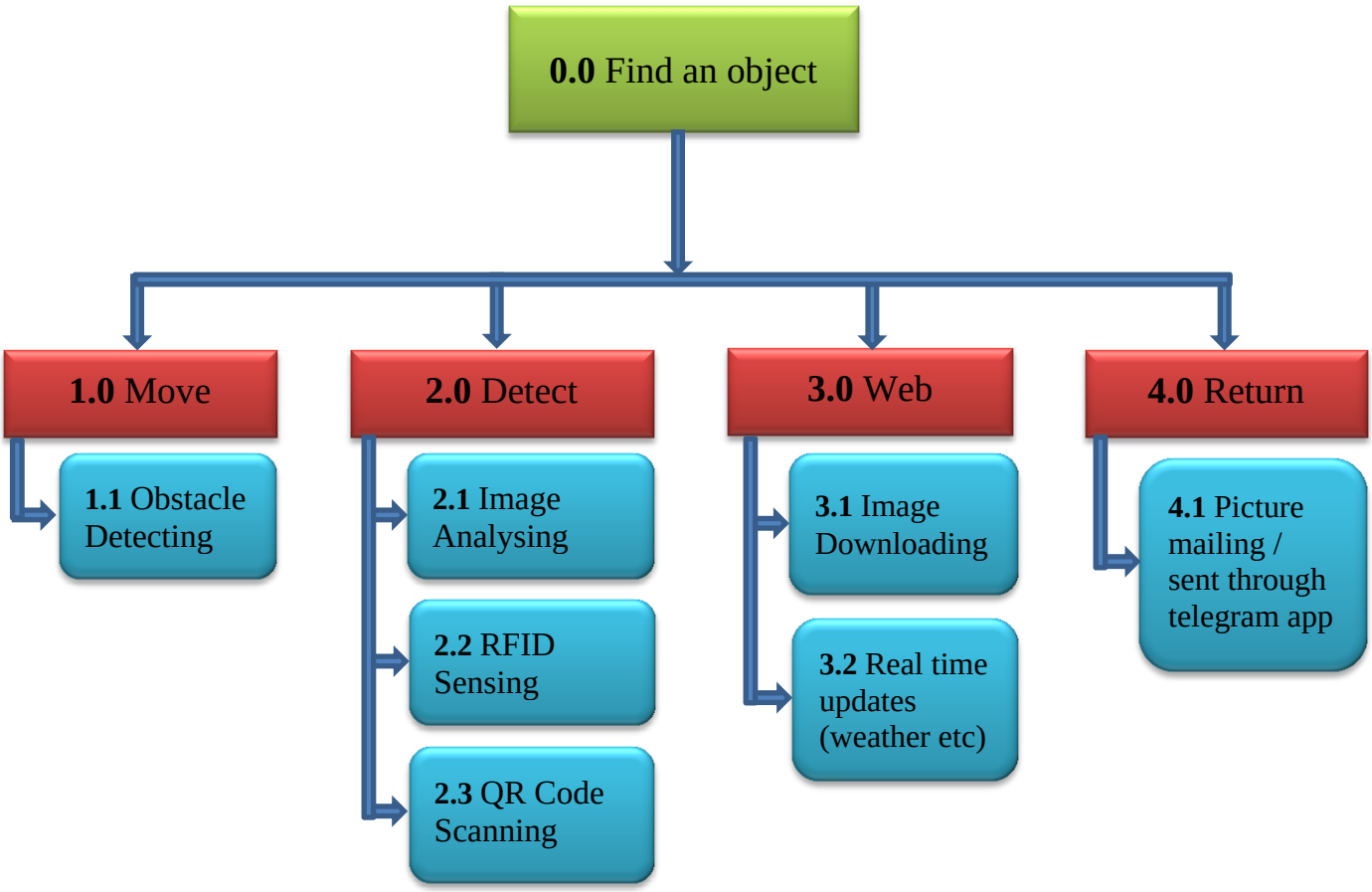

Important points to note

2.1: Image analysing to be done primarily using the OpenCV library in python.

2.2: RFID Sensing and differentiation will be attempted using UHF RFID cards.

3.1: Image downloading will be done to assist in image comparisons. Libraries such as Selenium and Beautiful Soup may be used.

3.2: Real time updates such as current weather may be obtained using libraries such as Selenium.

4.1: The location of the bot may be conveyed through a pictured mailed or messaged to the user.

Procurement

Below is a list of equipment that we require for this project. We plan to collect these items either from online sources (like Amazon or Flipkart) or from places like Nehru Place and Lajpat Rai Market.

Equipment already owned:

- Raspberry Pi
- Bluetooth Module
- Power Bank
- SD Card
- Breadboard
- Jumper Cables
- Ultrasonic Sensor

Equipment needed:

- Tires (Approx. 700 Rs)
- RFID Cards (500 Rs for 20 Cards)
- Servo Motor (Approx. 200 Rs)
- Logitech C270 HD Webcam (1255 Rs)
- 4 Motors (Approx 600 Rs)
- L 293D Motor Controller (340 Rs)

The prices mentioned above are estimates from online sources

Risks

- **Image Analysis** may be erroneous at times leading to the bot moving past the required object.
- Sensing of **RFID** of an object will be difficult when two objects are placed close together.
- Reading of **QR codes** will be impossible unless the code is on the outside of the objects. Also, depending on the intensity of light, reading of the codes may be difficult.
- **Web Scraping** may not give us the required results but the results could give similar images after some time thus making the comparison with the real object a problem.
- If the **Object Detection** algorithm fails to identify the presence of an object in front of the bot, it may collide and damage the hardware.