HARDWARE SPECIFICATIONS

1. Camera module: Raspberry Pi 4CSI done
2. Motor driver - L298N done
3. Raspberry Pi 3B+ with 4 GB RAM pending
4. 32 GB SD Card → as a flash drive done
5. Servo Motor MG995 done
6. Bluetooth speaker → for voice greeting done
7. Connecting wires → for connecting various components done

CAMERA MODULE:

* Camera module v1
* Still resolution: 5 megapixels
* Video modes: 1080p30, 720p60, 640 x 480p60/90
* Sensor: OmniVision OV5647
* Sensor resolution: 2592 x 1944 pixels
* Focus: fixed
* Sensor image area: 3.76 x 2.74 mm
* Field of view (FOV): 41.41 +/-0.11 degrees
* Maximum exposure times (seconds) - 6
* NoIR version available - yes

MOTOR DRIVER: L298N

* Contains two standard H-bridges capable of driving a pair of DC motors, making it ideal for building a two-wheeled robotic platform
* Motor output voltage 5V-35V
* Motor output voltage recommended 7V-12V
* Logic input voltage 5V-7V
* Continuous current per channel 2A
* Maximum power dissipation - 25W
* Connections made (pictorial representation and description)

Servo Motor MG995

* Dimension: 40.7×19.7×42.9mm
* Operating voltage range: 4.8 V to 7.2 V
* Rotational degree: 180º
* Used in the robotic arm where the motor load is huge
* Contains 3 pins: Signal, VCC and ground

SOFTWARE DEPENDENCIES

1. Dlib face recognition → recognition of face
2. OpenCV → Computer Vision and ML software library
3. Programming language → Python