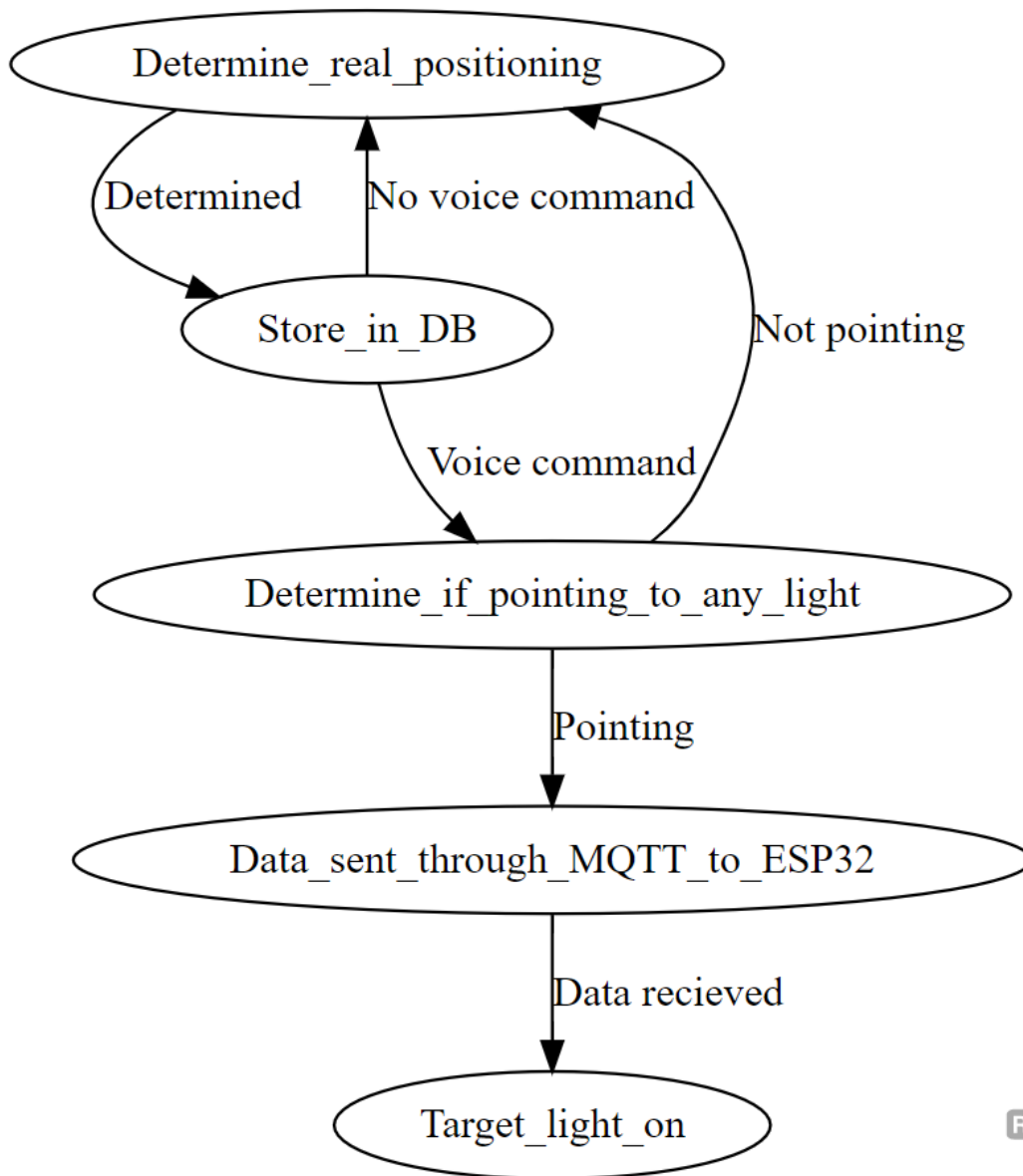


Finite State Machine Diagram



Description:

States:

- Determine_real_positioning
- Store_in_DB
- Determine_if_pointing_to_any_light
- Data_sent_through_MQTT_to_ESP32
- Target_light_on

Events:

- Determined
- No voice command
- Not pointing
- Voice command
- Pointing
- Data received

Transitions:

- Determine_real_positioning -> Store_in_DB
- Store_in_DB -> Determine_real_positioning
- Store_in_DB -> Determine_if_pointing_to_any_light
- Determine_if_pointing_to_any_light -> Data_sent_through_MQTT_to_ESP32
- Data_sent_through_MQTT_to_ESP32 -> Target_light_on

The Finite State Machine works as follows:

- The Google API, utilizing TensorFlow and Pose Net models, will be continuously registering the coordinates of the various keypoints.
- When a voice command is issued, one of the node functions will determine the real coordinates of the wrist and elbow keypoints. The other function will calculate the distance between the keypoints and determine if the result corresponds to a desired pointing position.
- If a pointing position is found, the MQTT node within Node Red will send a message to the ESP32 in order for it to turn on the corresponding LED.