Department of Computer Science Engineering
Shri Ramdeobaba College of Engineering
Nagpur

Smart Mirror With Artificial Intelligence

Guided by:
Prof. Vasundhara Rathod

Project Members:

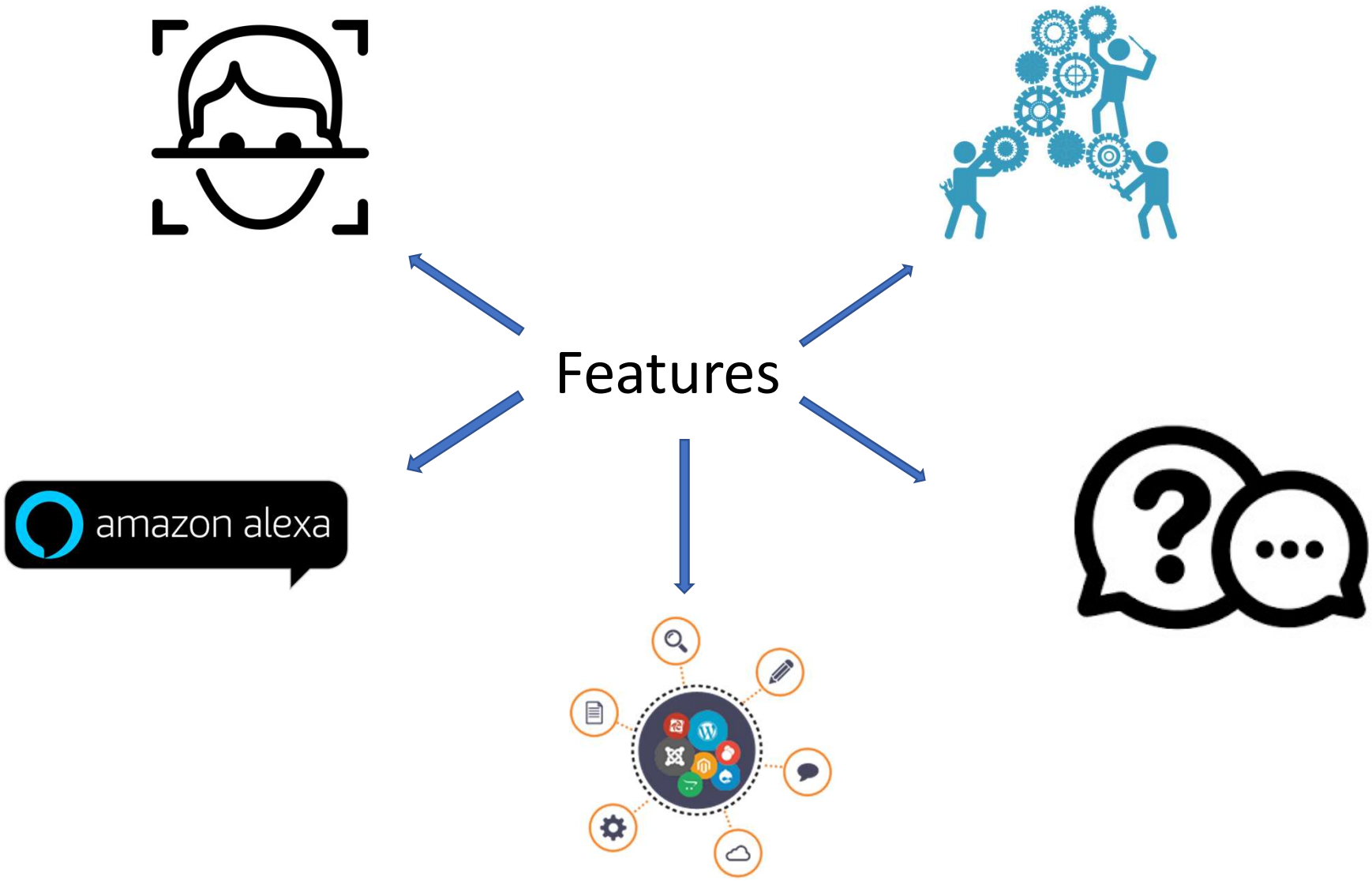
Ankita Singh	76
Bhavika Assudani	03
Isha Bahendwar	77
Nandini Jain	12
Ruchit Bhardwaj	55
Saburi Hindaria	16

Contents

Problem Definition

Significance

- Information on the go
- Lot of our time is whiled away doing the general chores and getting ready
- Scenario – when you come in front of your mirror to get dressed and your own personal AI is at your disposal for a series of tasks and updates that you demand from it.
- Your customized newsfeed, weather updates, and a plethora of services in the go.


Features
amazon alexa

Planning

- Two Variants
    - Raspberry Pi Static Smart Mirror
    - AI Equipped Smart Mirror
- Objective : AI Equipped Smart Mirror
- Process Flow

Design Phase Details

Preliminary Design Prototype

Weather 

Time:

1:20 pm

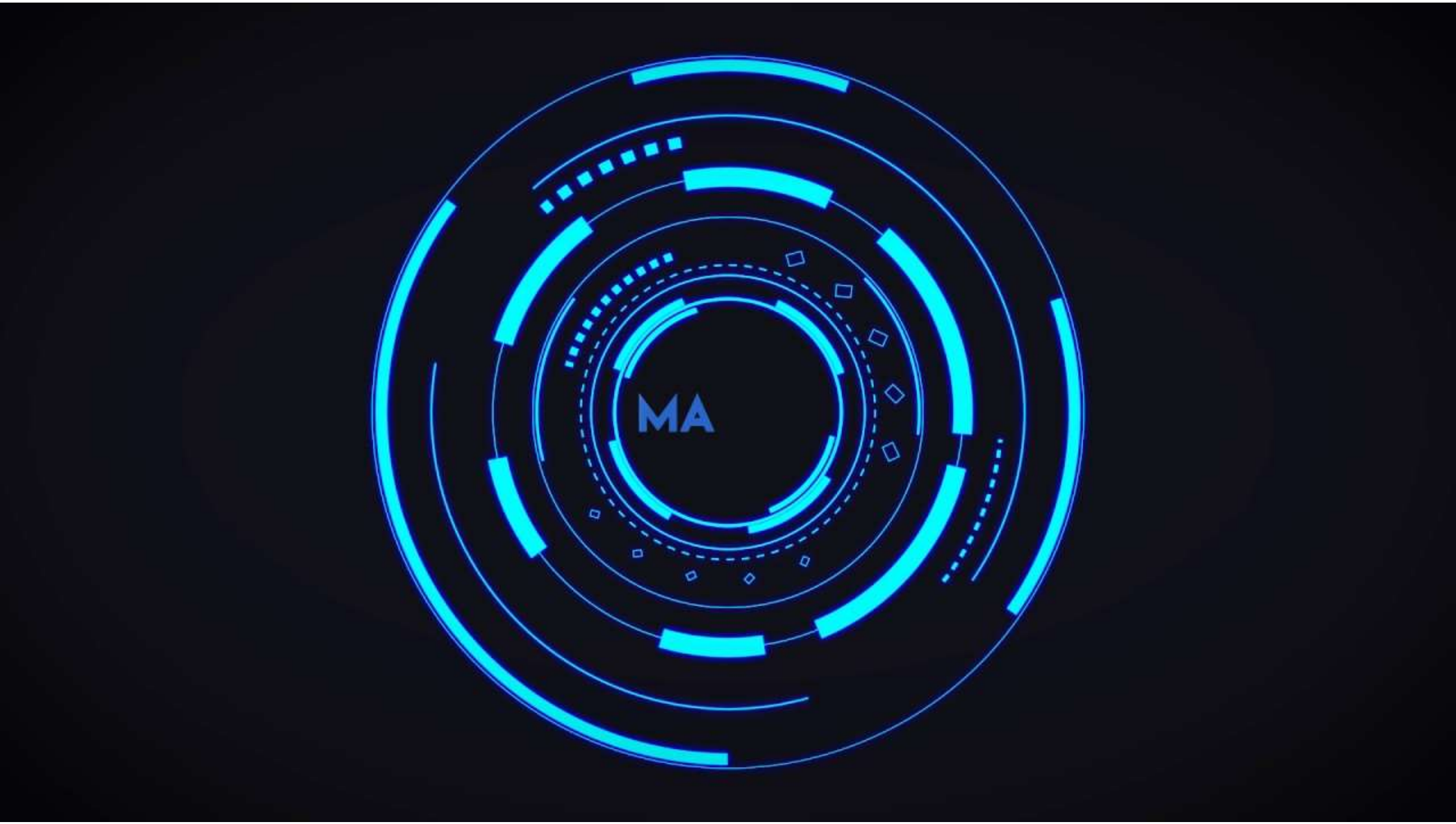
Date:

March 6, 2018

News:

(From Various Sources)

Final Design Prototype


MA

Weather

Time:

1:20 pm

Date:

March 6, 2018

Good Morning, John!

News:

(From Various Sources)

Answers to various asked questions

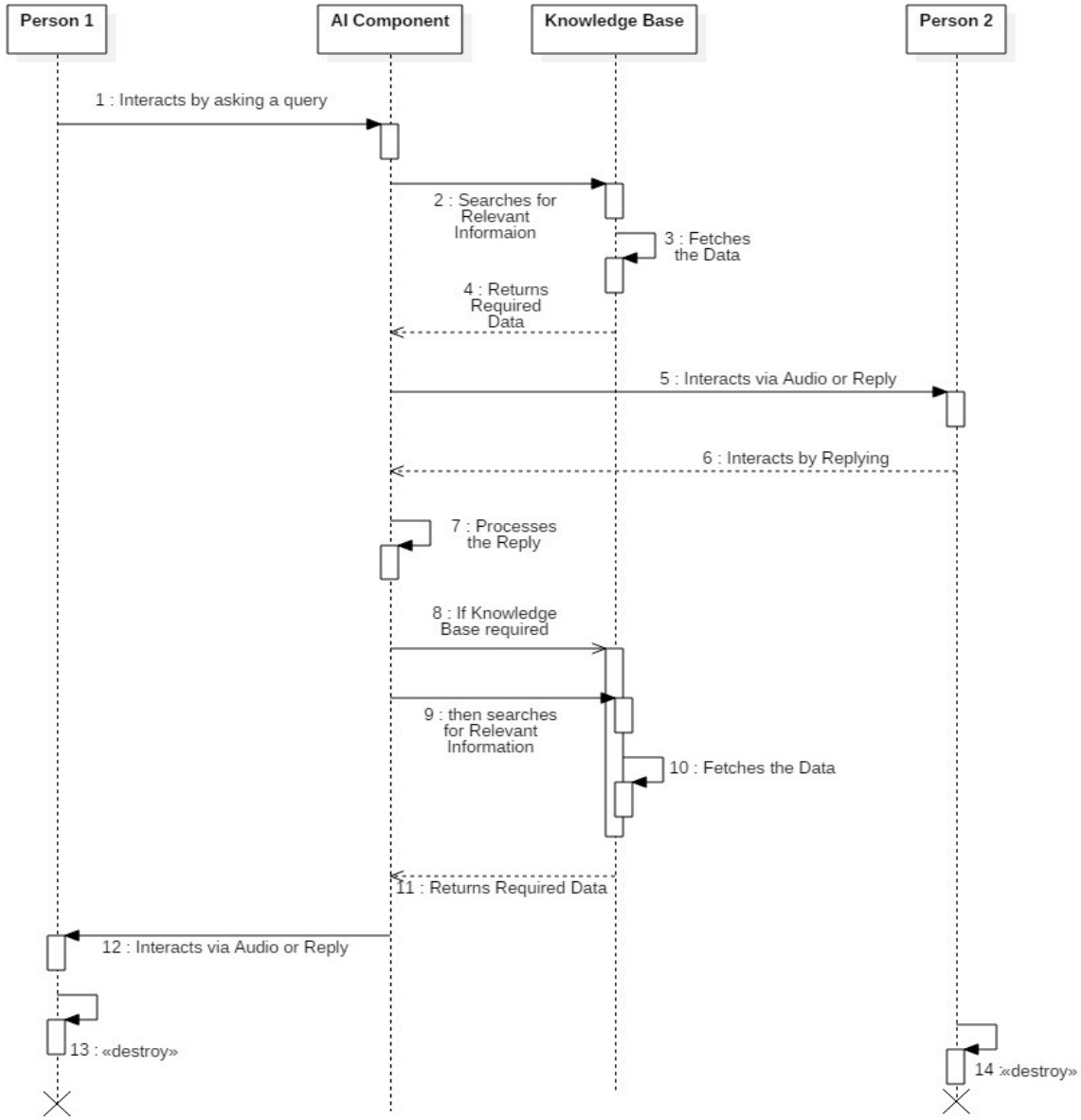
Future Prospects

- Integration with Amazon’s Alexa
- Alexa – lacks feature of display as of yet.
- Information displayed on the smart mirror in addition to verbally telling it.
- Chances are that user might miss important details.
- Information retained on screen for some time.

Methodology

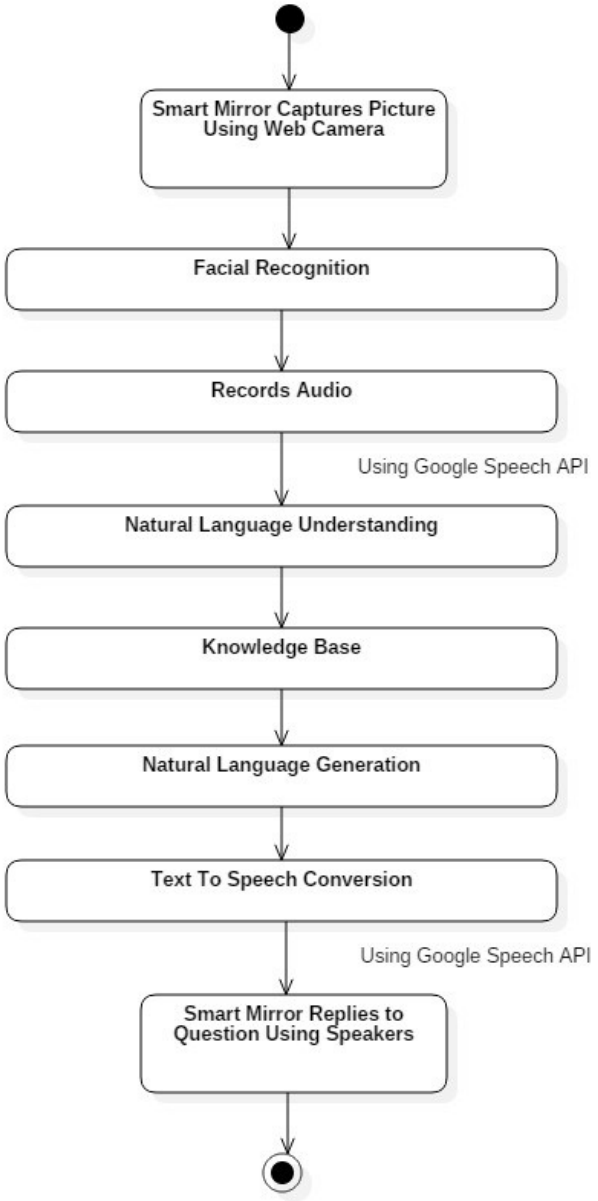
Process Flow

- The User asks a question to the mirror.
- The webcam installed up top recognizes runs a quick facial recognition
- Mirror – greets – understands question
- Interpretation by Mirror – asked to observe the weather.
- Gathers information
- Responds (What is the mirror going to say)
- Makes a sentence – Weather is great
- Says it and displays on the mirror.



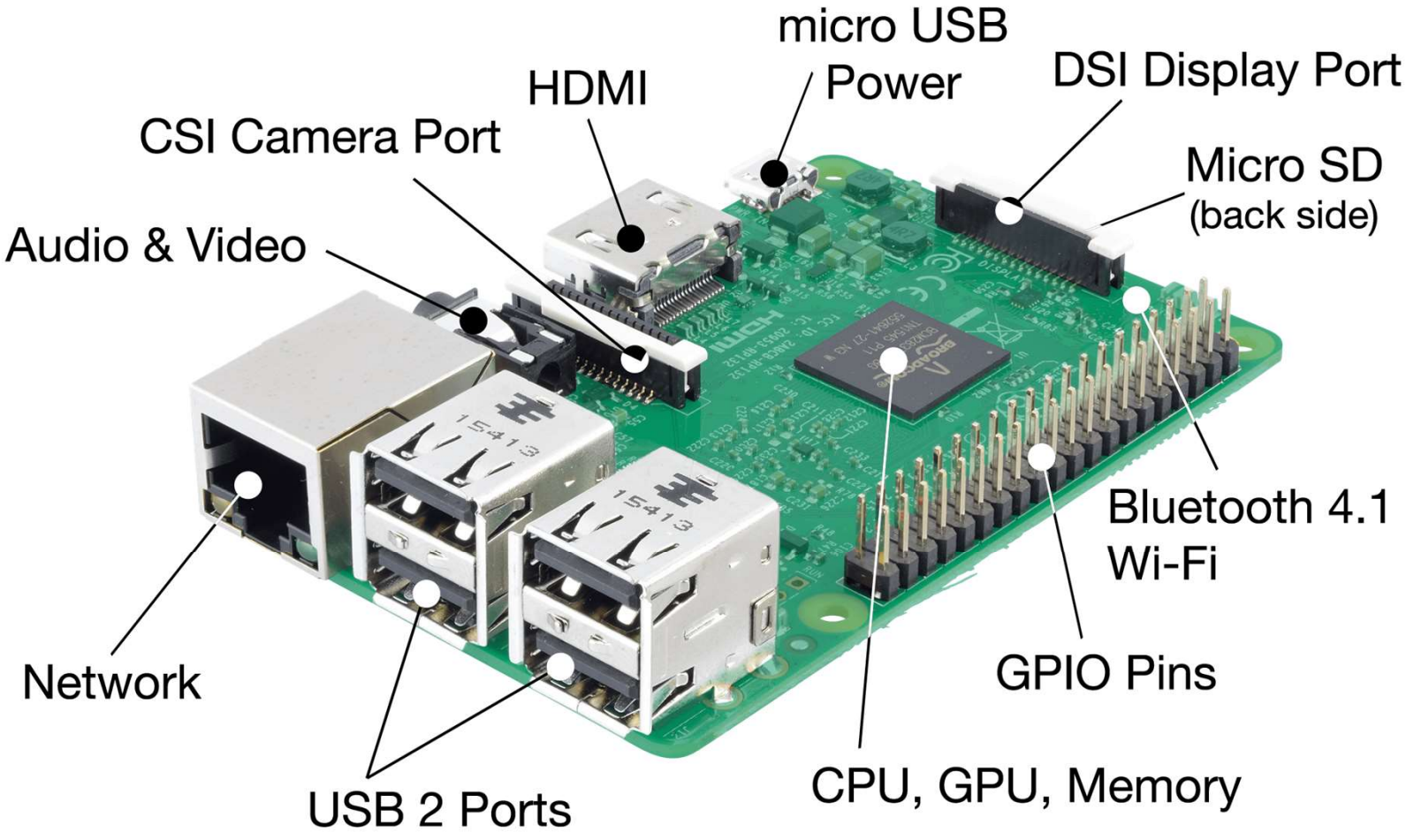
Activity Diagram

- Knowledge Base (About User)
- Webcam (Facial Recognition)
- Google Speech – (Speech To Text)
- Natural Language Understanding
  Text Broken down using Module NLU (Wit.ai)
  Extracts Intent (What's the weather today?
  Weather - Intent)
  Extracts Entities (What's the weather today?
  Today - Entity)
- Reach To internet find information
- Natural Language Generation - creates sentences
- Information to be spoken aloud. Text to Speech (Google Text to Speech)
- Display on mirror

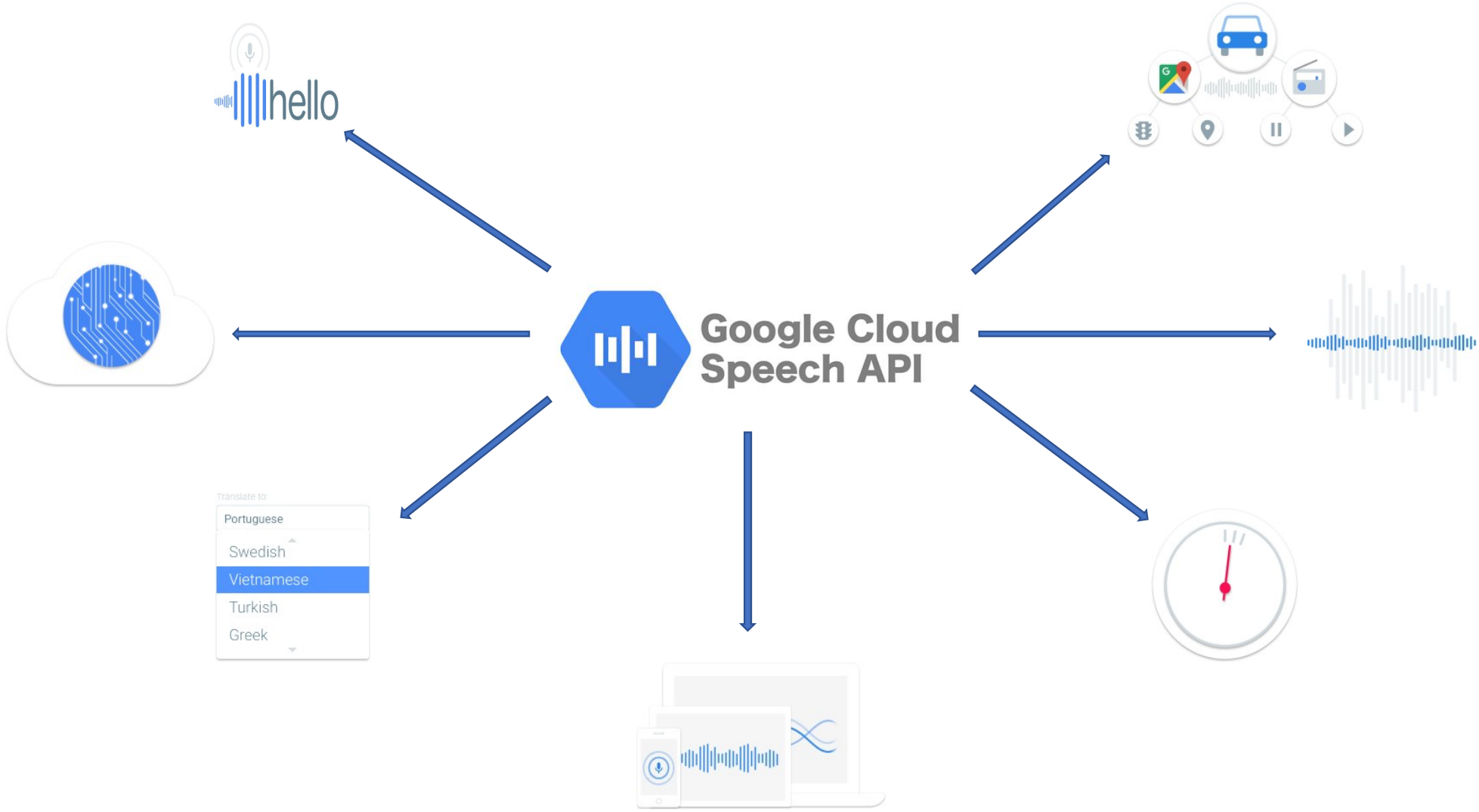


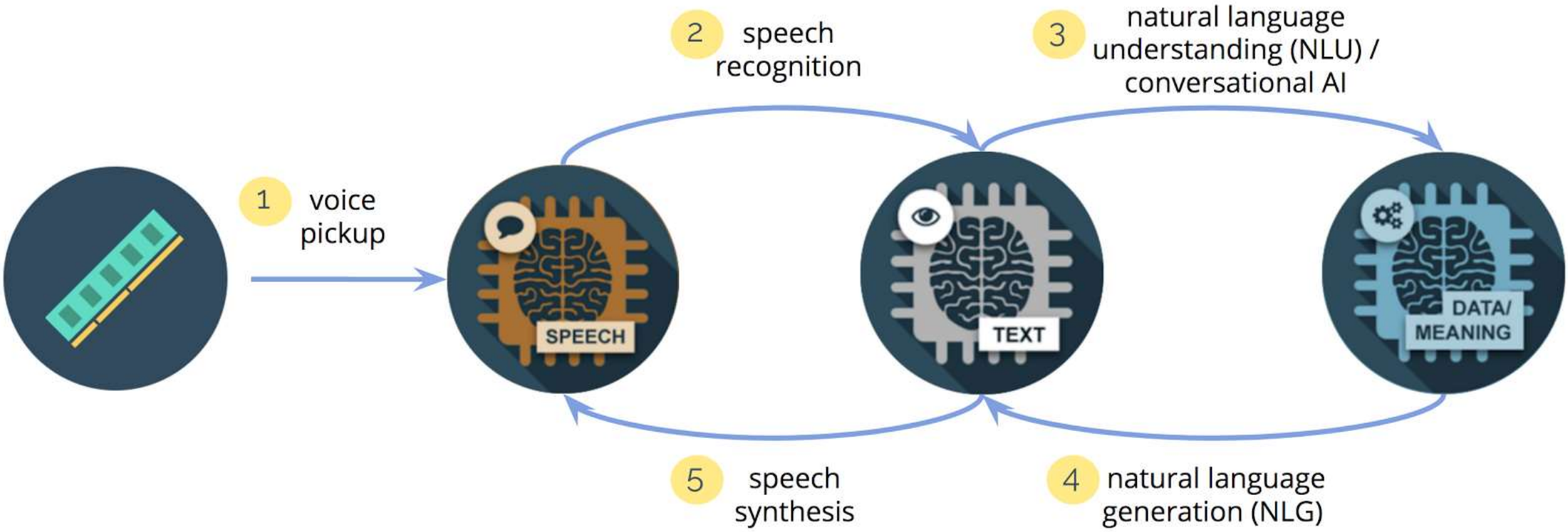
Technologies Used

Raspberry Pi Model B Version 3

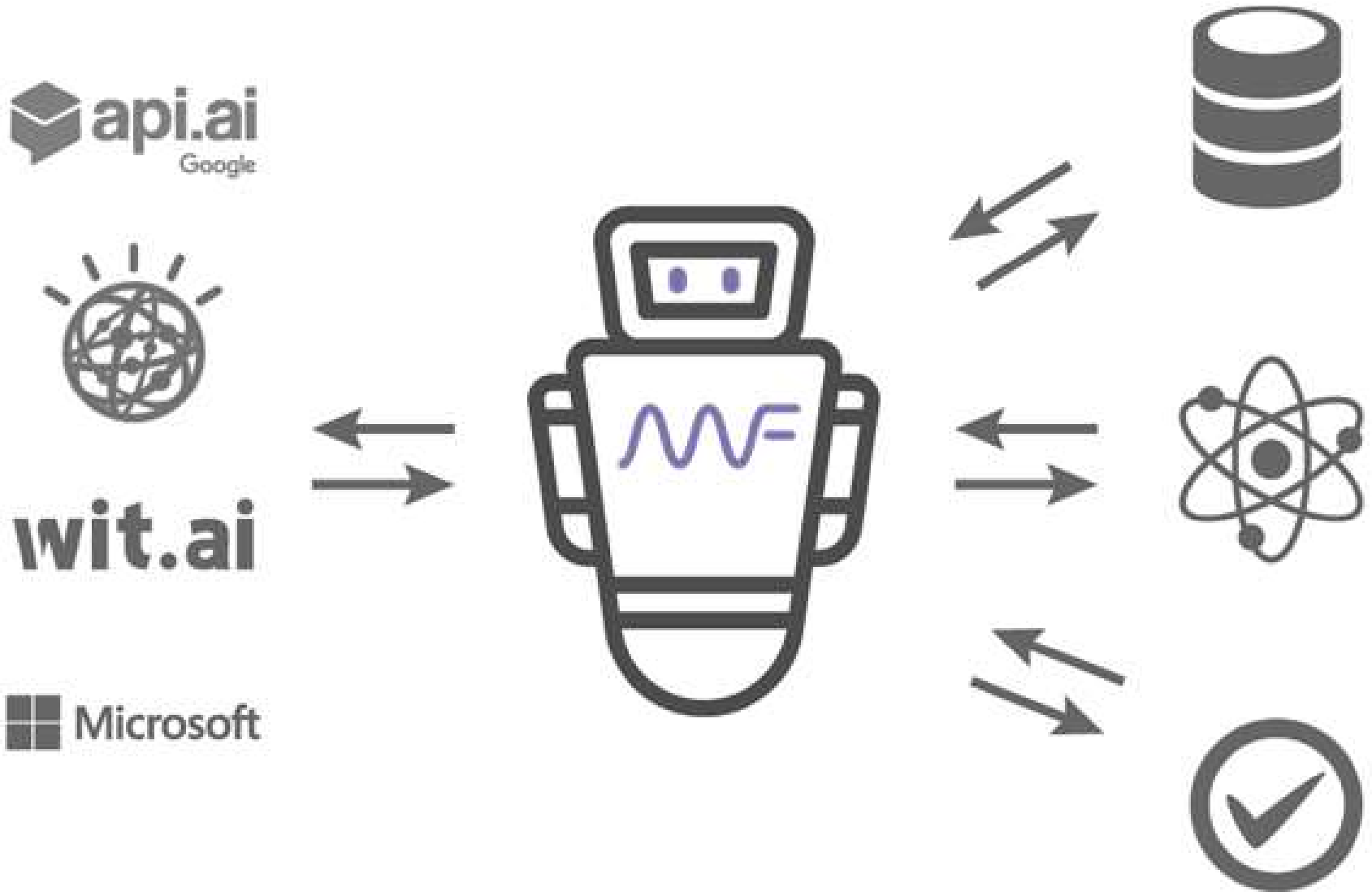


Raspberry Pi 360 Degree View


hello
Google Cloud
Speech API
Translate to:
Portuguese
Swedish
Vietnamese
Turkish
Greek



* There may be substitutions and more complicated functionalities within NLU/conversational AI in the future.


api.ai
Google
wit.ai
Microsoft

Demonstration Screenshot

Thank You