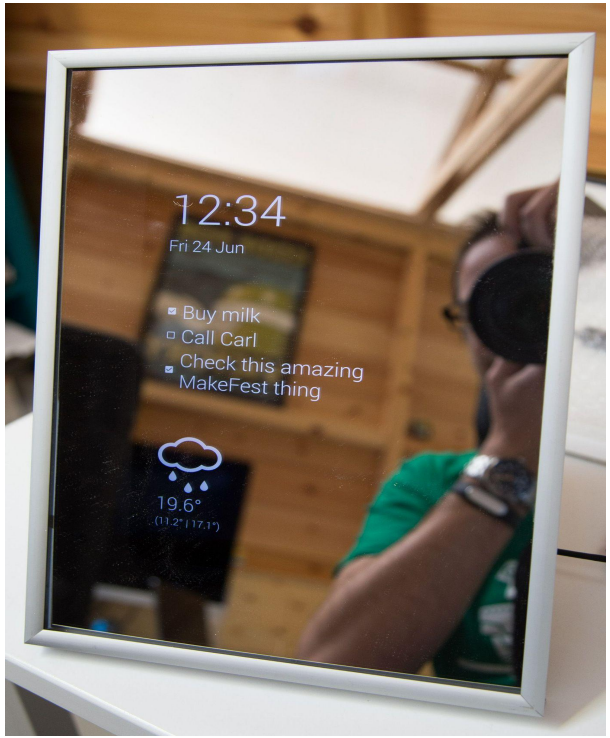
JARVIS MIRROR

By : 1. Mulla, Mehvish (201683918)
2. Devanga A, Vineela (201680186)
3. Bhatt, Balkrishna (201673048)
4. Mathew, Christeena (201631941)
5. Sara Sabu, Angeline (201684974)
6. Pinheiro, Avelin Mary (201648465)

Contents

1. Introduction
2. Project Objective
3. Project Scope
4. System overview and Requirement specification
5. Tools and Technologies
6. High level design (Use Case Diagram)
7. Modules
8. Conclusion
9. References



Introduction

- With developments in science and technology, we are moving toward a more automated and interconnected way of life.
- Rapid technological advancement necessitates the need for home automation projects.
- It's helpful to have a single station from where many widgets like calendar , time , weather or news can be viewed , while at the same time using it in our daily routine.
- Based on our observation people struggle to manage time between organizing their daily schedule on phones and getting ready in front of mirror. As a solution we came up with an idea for next generation mirror - or JARVIS mirror.
- With the JARVIS mirror, we made it possible to get dressed simultaneously by reading the news or checking the weather/maps/time.

Project Objective

- To help people with efficient time management in their day to day life.
- Users will be able to access features like news , calendar, weather etc simultaneously while using mirror just by asking for it .
- The mirror can be used for providing means of entertainment , such as when the user asks "Tell me a joke" which triggers the audio output and displays the text on mirror.
- Provides navigation and calculation of time for travel based on geographic location.
- Improves clothing retail chains by using innovative technology such as smart mirror fashion technology.

Project Scope

- Provides user-mirror interaction
- Empowers disabled persons to easily access essential requirements from a single interactive device.
- Using augmented reality to offer the user wardrobe and hairstyle suggestions.
- Displaying maps using Google Maps API key.
- Additionally, the JARVIS mirror can be upgraded to show social media and online browsers. By including a motion sensor in the mirror, we can improve both speed and usability.

System Overview

“Jarvis Mirror” comprises of below points as a system:

A) Electron: It is a user interface that will be able to see while performing some certain activities.

B) Google Speech Recognition: Speech recognition is the ability to identify entities and intents in a user spoken language and convert them to a machine-readable format.

C) Wit.ai: It is a platform for developers for Natural Language Processing. User can easily use this mirror and need the internet connection
Major Constituents of system:

Google Speech Recognition: to convert speech to text and vice-versa.

Electron: For user interface that will interact with the user for some information.

Requirement Specification

The Jarvis mirror will be run through a system that takes in the data from the various devices and peripherals which in turn are used to provide the user with the information that are needed by user. The general hardware specifications for this system are provided below:

RAM: 4 GB

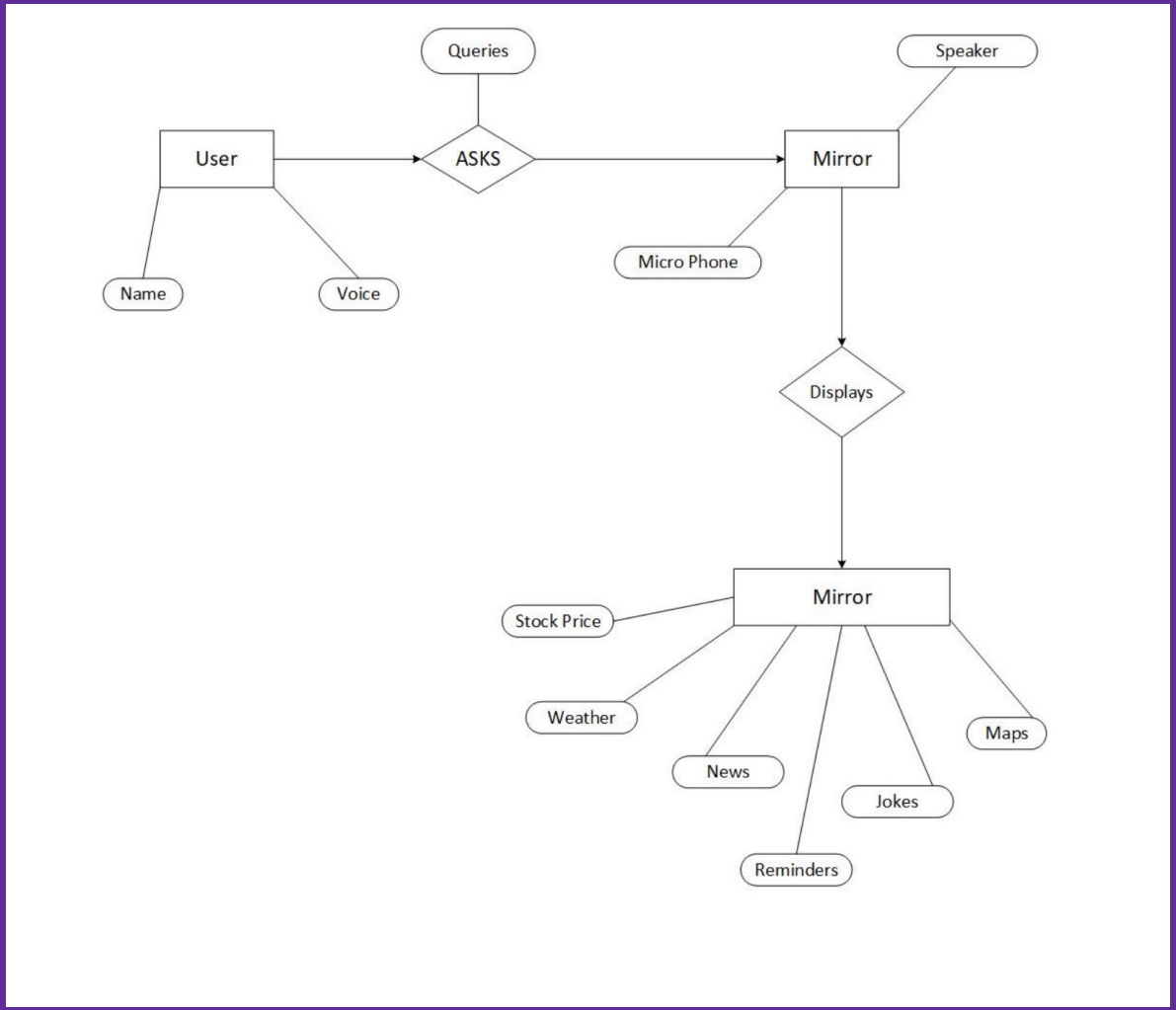
Processor: 2.8 GHz Intel Core i3

Power: Full charge (4579 mAh)

USB 3.0

Microphone,Speaker & Camera

E-R DIAGRAM


Queries
Speaker
User
ASKS
Mirror
Name
Voice
Micro Phone
Displays
Mirror
Stock Price
Weather
News
Jokes
Reminders
Maps

Tools and Technologies

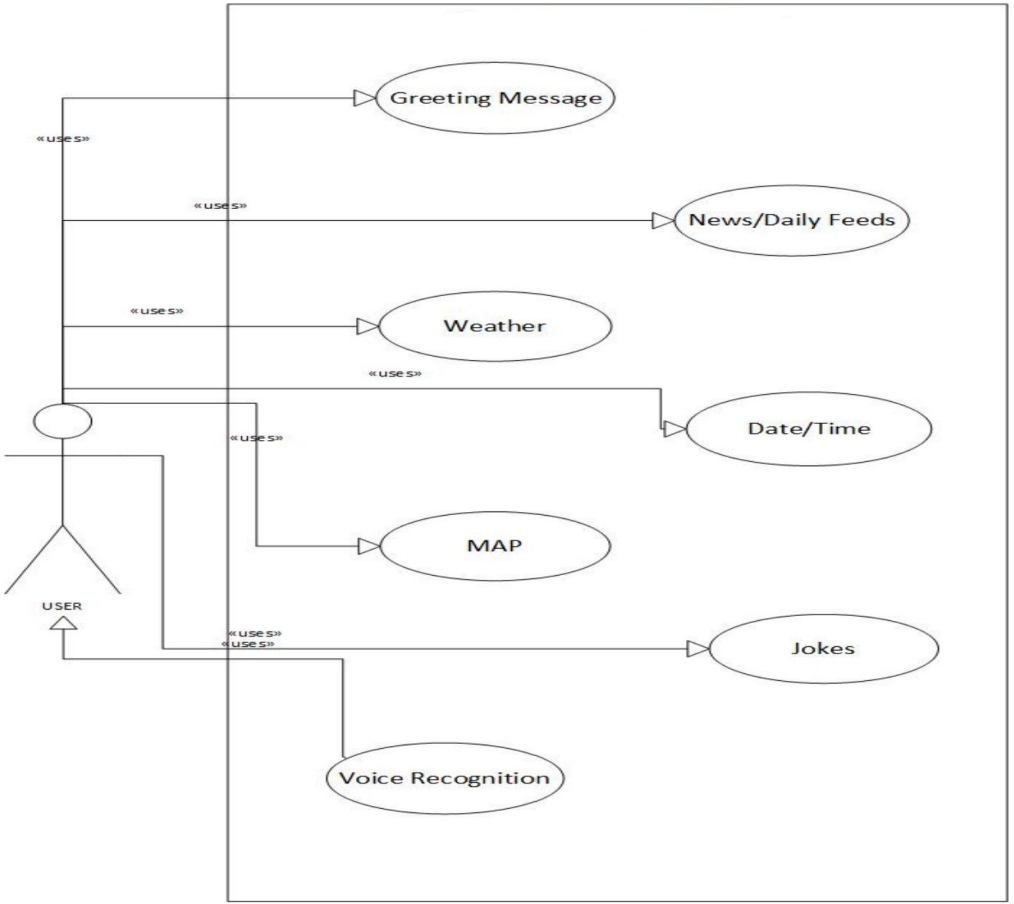
Tools:

- A LCD screen
- An Acrylic Sheet
- A network adapter(for Wi-Fi)Wood frame(boards)
- HDMI-to-VGA-adapter(depending on if your screen has HDMI or not)
- Speaker
- Microphone

Technologies:

- Speech Recognition
- Electron
- Wit.ai
- Google APIs
- Python and IDE

High Level Design (Use Case Diagram)



Use Case Diagram

Modules

- Electron is the user interface for interacting with the mirror , such as while giving commands like “Tell Me A Joke” , the mirror indicates that is listening and detecting.
- Joke: When the user asks the mirror “Tell Me A Joke” it will fetch the joke feeds that will appear on the top list and the joke will be displayed on the mirror as well as the speaker will broadcast the joke and the user will be able to hear it.

Modules

- JARVIS! : This is the module that will detect that the user wants to ask something, so when the user will stand in front of the mirror the user says the hot keyword “JARVIS!” and the mirror will find that user wants to ask something and it will respond to him/her by greeting him/her with “Good Morning Tony” and such.
- Maps: This is the module in which when the user asks for the navigation the mirror will display the maps of specific types like “Hybrid”, “Terrain” and “Satellite”. The mirror will also display the map of specific city.

Modules

- Stock Price: In this module, the user will be able to fetch the stock price whenever he needs it. It will fetch the basic stock price as well as for display different cases scenarios like “High”, “Low”, “Open” and “Close”.
- Weather: In this module the user will be able to fetch the weather. The weather will be available for every specific city. The user will be able to fetch the forecast for the next three to seven days.

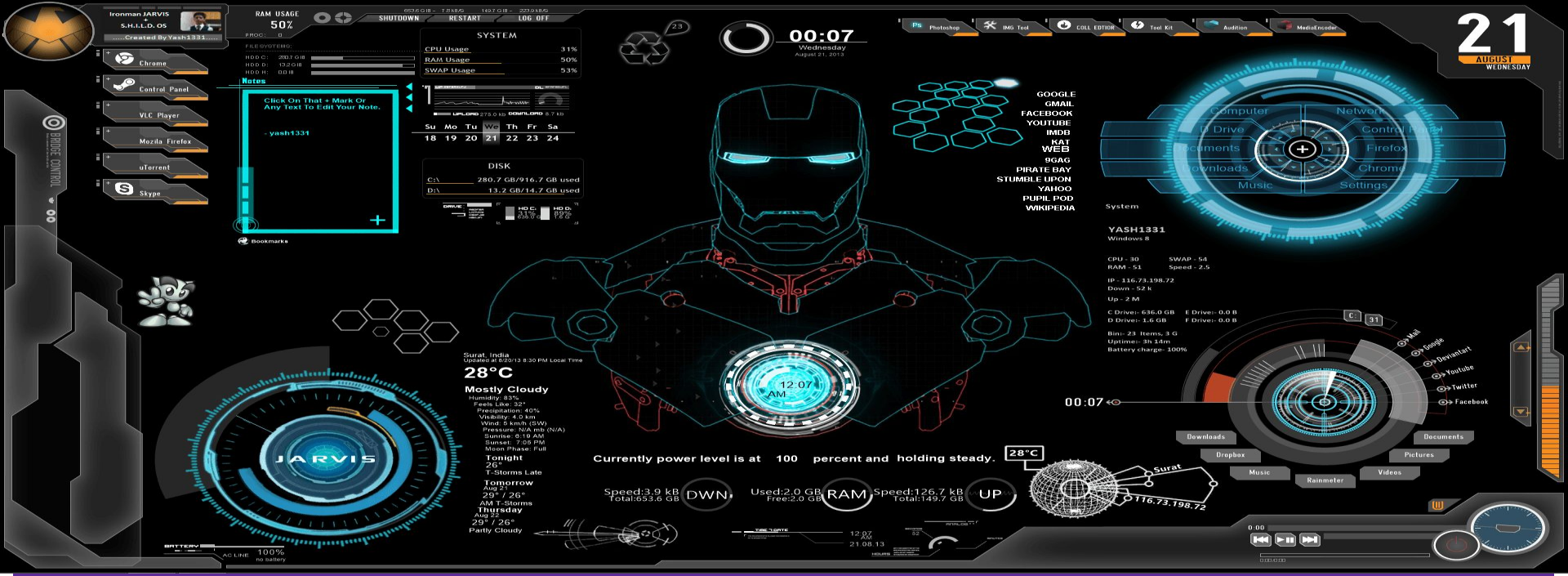
Modules

- Currency Converter: In this module the user will be able to convert currencies. When the user asks the mirror for any particular conversion like “GBP To Euro” , the result would be displayed on the mirror and the corresponding audio would be relayed.
- Reminders: One can ask the mirror to display reminders for any day, following which the reminders would be displayed on the mirror and the same would be conveyed through the mic.

Conclusion

References

- http://blog.litstudios.com/index.php?/archives/14-Interactive-Mirror.html
- http://www.tofsen.se/articles/30/revolutionizing-your-bathroom-experience
- http://www.extremetech.com/computing/94751-the-new-york-times-magic-mirror-willbring-shopping-to-the-bathroom
- http://www.cybertecturemirror.com/main.php?id=home
- http://www.engadget.com/2010/10/13/cybertecture-mirror-reflects-our-fantasies-looksset-to-become/
- http://www.theverge.com/2012/5/10/3013168/seraku-android-mirror-prototype-hands-on
- http://www.youtube.com/watch?v=uF0NSUmxFYA
- http://blog.seattlepi.com/microsoft/2010/11/05/the-guts-of-microsofts-kinectsensor/
- http://www.cpelectronics.co.uk/


Ironman JARVIS + S.H.I.L.D. OS
.....Created By Yash1331.....
RAM USAGE
50%
SHUTDOWN
RESTART
LOG OFF
Chrome
Control Panel
VLC Player
Mozila Firefox
uTorrent
Skype
SYSTEM
CPU Usage 31%
RAM Usage 50%
SWAP Usage 53%
Notes
Click On That + Mark Or Any Text To Edit Your Note.
- yash1331
Bookmarks
Su Mo Tu We Th Fr Sa
18 19 20 21 22 23 24
DISK
C:\ 280.7 GB/916.7 GB used
D:\ 13.2 GB/14.7 GB used
00:07
Wednesday
August 21, 2013
Photoshop
IMG Tool
COLL EDITOR
Tool Kit
Audition
MediaEncoder
21
AUGUST
WEDNESDAY
GOOGLE
GMAIL
FACEBOOK
YOUTUBE
IMDB
KAT
WEB
9GAG
PIRATE BAY
STUMBLE UPON
YAHOO
PUPIL POD
WIKIPEDIA
Computer
Network
Control Panel
Firefox
Chrome
Settings
Music
Downloads
Documents
System
YASH1331
Windows 8
CPU - 30
RAM - 51
SWAP - 54
Speed - 2.5
IP - 116.73.198.72
Down - 52 k
Up - 2 M
C Drive:- 636.0 GB
D Drive:- 1.6 GB
E Drive:- 0.0 B
F Drive:- 0.0 B
Bin:- 23 Items, 3 G
Uptime:- 3h 14m
Battery charge- 100%
Mail
Google
DeviantArt
Youtube
Twitter
Facebook
00:07
Downloads
Dropbox
Music
Rainmeter
Videos
Pictures
Documents
Surat, India
Updated at 8/20/13 8:30 PM Local Time
28°C
Mostly Cloudy
Humidity: 83%
Feels Like: 32°
Precipitation: 40%
Visibility: 4.0 km
Wind: 5 km/h (SW)
Pressure: N/A mb (N/A)
Sunrise: 6:19 AM
Sunset: 7:05 PM
Moon Phase: Full
Tonight
26°
T-Storms Late
Tomorrow
Aug 21
29° / 26°
AM T-Storms
Thursday
Aug 22
29° / 26°
Partly Cloudy
JARVIS
12:07 AM
Currently power level is at 100 percent and holding steady.
Speed:3.9 kB
Total:653.6 GB
DWN
Used:2.0 GB
Free:2.0 GB
RAM
Speed:126.7 kB
Total:149.7 GB
UP
28°C
Surat
116.73.198.72
BATTERY
AC LINE
100%
no battery

Thank U ;-)