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DIGITAL ASSIGNMENT 2

LEAN STARTUP MANAGEMENT

Presented By:

1:Harsh Vardhan Singh (18BME0030)

2:Lakshya Mishra (18BME0096)

3:Shashank Shukla (18BCE2522)

Presented To: Prof Jose S

Question 1. Design a modular kitchen for visually challenged people. (15marks)

Ans:

Introduction:

More than 2 million people in the India are living with sight loss that impacts their day-to-day life. Of this number approximately 360,000 are registered with their local authority as sight impaired or severely sight impaired, meaning they have severe and irreversible sight loss. Visual impairment can affect anyone at any age for a number of different reasons. Older people are more likely to experience sight loss, with one in five people aged 75 and over, and one in two people aged 90 and over living with vision problems. Equally, about 2.5 per cent of people over the age of 75 are living with both visual impairment and dementia.

On the other hand, there are almost 25,000 children with sight loss in the INDIA – equivalent to two in 1,000 children – and as many as half of these are likely to have other disabilities. In addition, there are other groups in society that are more predisposed to visual impairment. For example, people from black and minority ethnic communities are at greater risk of some of the leading causes of sight loss and nearly two thirds of people with sight loss are women. Meanwhile, adults with learning disabilities are 10 times more likely to be visually impaired than the general population. Most worrying, however, is the fact that the number of people in the INDIA with sight loss is predicted to rise significantly due to both the ageing population and an increasing prevalence of key underlying causes of visual impairment, such as obesity and diabetes. Indeed, it is forecast that more than 2,250,000 people in the INDIA will experience sight loss by 2020, with that number expected to be higher than 2,880,000 by 2030 and nearly 4,000,000 by 2050.

Challenges faced by the visual impaired persons:

1:Difficulties with orientation

2: Poor depth perception

3: Issues with locating items within a room, usually due to lack of definition

4: A lack of general confidence due to fear to engage independently in activities or areas of occupational performance in the home.

Literature Survey:

1:Marlina Manaf & Sulaiman(2015): It presented a safe and effective 'Fire Notification System' to accurately notify the hearing impaired groups regarding occurrences of fire. The major contributions are selecting suitable fire alert techniques for hearing impaired people, modelling a fire alert system conceptual model and validate the conceptual model using statistical analysis tool. For future improvement, we should look into areas on improving the application by embedding the Global Positioning System (GPS) technology. Apparently, it will help these people to determine their current position and navigate an accurate evacuation route

2: Akash Taliyan &Pradeep Chauhan(2014): This project has such major components are Android application, website, place an order of an item, light control on the behalf of human body heat and safety sensors. [1] First item will used for cooking when material will come out from the container then the processor will collect the data of used material or left material and user can monitored on android application or on website. All operation will perform by android application or through website. All Data will collect on server and also check the quantity of ingredients is left and will give command to the user for place an order. After receiving the command from the user for place an order system will contact to general store and will give the order.

3- Standar & Hadjakos-(2012):A. Recipe Guidance One major goal of the smart kitchen is to support users by providing guidance for using the different kitchen appliances and for preparing different dishes. In our approach, the guidance is handled by our Methexis8 workflow management system. The workflows are specified using a variant of the well-known XPDL workflow language called XPDL4USE . To illustrate the approach, we take an example where a cooking assistant guides the user through the preparation of a cocktail recipe. Our description of the recipe comprises a series of activities and a description of the context-

events that trigger the transitions in each activity. A transition may, e.g., be triggered when the blender has been used to liquefy an ingredient.

B. Smart Coffee Machine: the augmented coffee machine shown provides access to the device's functionality over the network. An interface on the smartphone acts as an interactive instructor for performing tasks like descaling the coffee machine. The process of descaling is complex and requires actions from the user that cannot be automated, e.g., opening a water tap at a certain time. Thus, the guide displays instructions and uses the sensors integrated in the coffee machine to gathe information about the current state to automatically change to the next instruction. To reduce the burden on the user, the guide also automates actions where possible and notifies the user after the coffee machine has completed a time-intensive task.

4- Iiu. Wu and Lian(2015): In this paper, the design and construction of a kitchen video monitoring system, named "sunshine kitchen" is introduced, which is based on cloud computing and video data analysis and provides services for the public, government, operators and other groups of people. It describes its architecture, data center design, data process methods, and applications with running results. With this project, we can identify the key issues of food safety, such as illegal transaction and behavior, the problem of food resources, and expose key aspects of kitchen environment to the public. We hope this case will be promoted in more places

References:

1:Integrating Vibration Sensing and Non-speech Visualization to Notify Hearing Impaired Students on Fire in a Controlled Situation- Marlina Manaf & Sulaiman(2015).

2: Smart Kitchen with New Measurement, Web and Application Based with Affordable Design- Akash Taliyan &Pradeep Chauhan(2014)

3: A Smart Kitchen Infrastructure-Standar & Hadjakos-(2012)

4: Design and Construction of Sunshine Kitchen System based on Cloud Computing and Video Data Analysis -liu. Wu and Lian(2015)

Concepts-

Option 1-Bluetooth HC-05 with breadboard, arduino and buzzer

Option 2-(We are using)- Nodemcu ESP8266 wifi module, blynk app, piezo buzzer, jumper cables

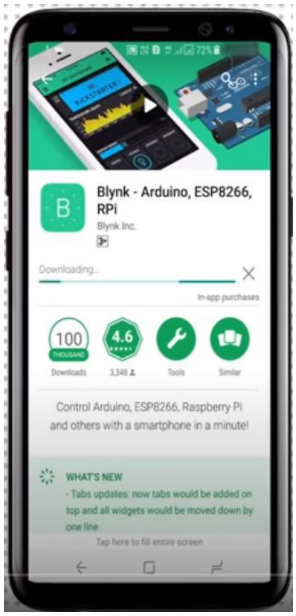
Concept used-

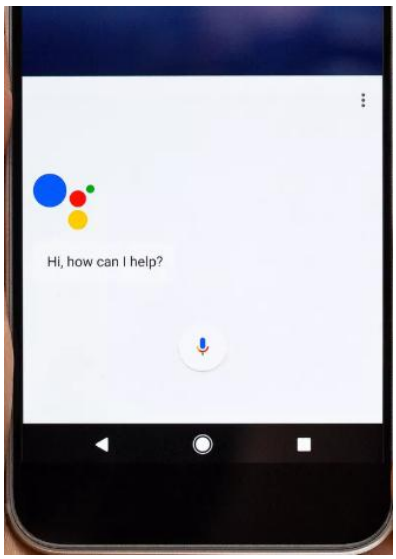
Life will be easy for those who are visually impaired when they can easily navigate to their required drawers in their kitchen.

Our android application is totally hustle free, anyone can use it. When smart modular kitchen will be set up, our app will be fed with the information of what item is stored in what module. Any person can just say name of required item and module containing that item will start beeping which can be easily navigated by visually challenged people.

Items-

1) **Applications**- Android application will be using google assistant and an extra application know as BLYNK which is used to notify to hardware that which buzzer we want to beap.





A) BLYNK- Blynk is a new platform that allows you to quickly build interfaces for controlling and monitoring your hardware projects from

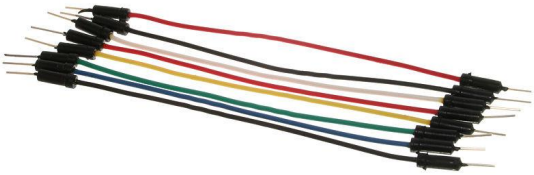
your iOS and Android device. After downloading the Blynk app, you can create a project dashboard and arrange buttons, sliders, graphs, and other widgets onto the screen. NODE MCU wifi module is controller using Blynk.

B) Google Assistant- Google Assistant is Google's voice assistant. When it launched, Google Assistant was an extension of Google Now, designed to be personal while expanding on Google's existing "OK Google" voice controls. It is used to convert voice into text and sends information to BLYNK app using IFTTT.

2) <u>Hardware requirements-</u>

A) Jumper wires and normal cable wires-

Jump wire (also known as jumper wire, or jumper) is an electrical wire, or group of them in a cable, with a connector or pin at each end (or sometimes without them – simply "tinned"), which is normally used to interconnect the components of a breadboard or other prototype or test circuit, internally or with other equipment or components, without soldering.

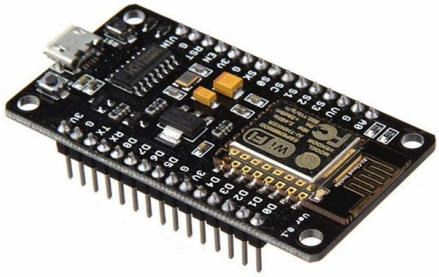


B) Piezo Buzzer-

Piezo buzzers are simple devices that can generate basic beeps and tones. They work by using a piezo crystal, a special material that changes shape when voltage is applied to it. If the crystal pushes against a diaphragm, like a tiny speaker cone, it can generate a pressure wave which the human ear picks up as sound. Simple change the frequency of the voltage sent to the piezo and it will start generating sounds by changing shape very quickly!

C) Nodemcu ESP8266 wifi module-

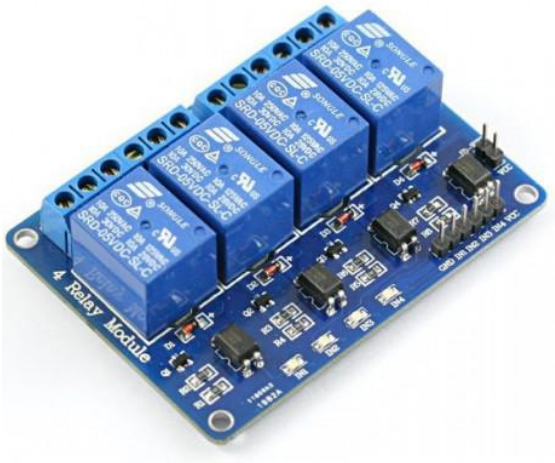
NodeMCU is a low-cost open source IoT platform. It initially included firmware which runs on the ESP8266 Wi-Fi SoC from Espressif Systems, and hardware which was based on the ESP-12 module. It can be connected to various devices and created wifi spot and those devices can be controller using apps like blynk and using wifi of android mobile phone.



D) Relay Module-

The relay module is a separate hardware device used for remote device switching. With it you can remotely control devices over a network or the Internet. Devices can be remotely powered on or off with commands coming from ClockWatch Enterprise delivered over a local or wide area network. You can control computers, peripherals or other powered devices from across the office or across the world.

The Relay module can be used to sense external On/Off conditions and to control a variety of external devices. The PC interface connection is made through the serial port.



E) Power supply-

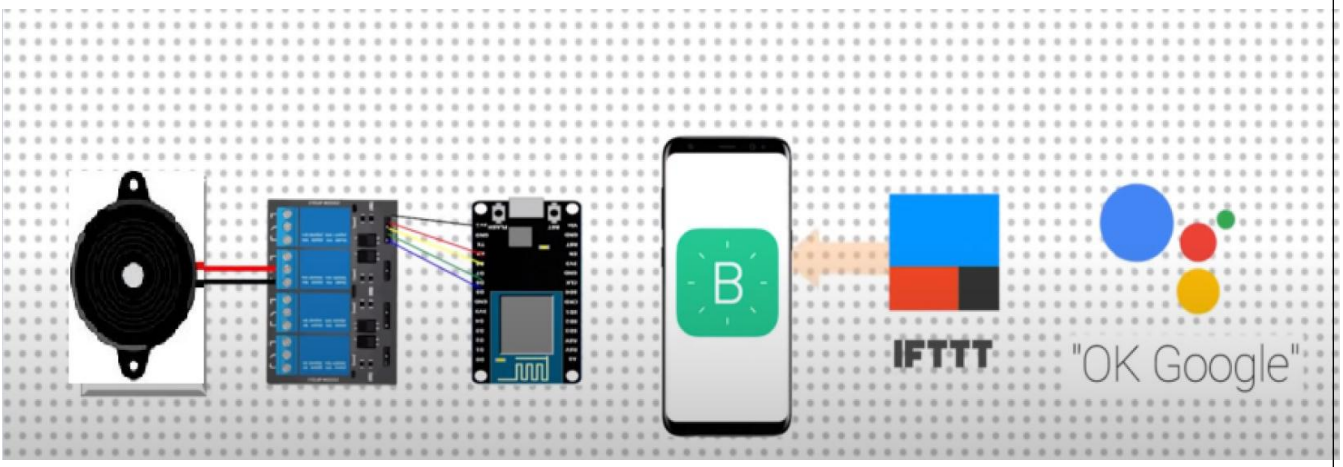
You have 3 possibilities for a power supply of the NodeMCU:

Operate the NodeMCU on the 3.3V input with 2.5V to 3.6V

Operate the NodeMCU on the VIN input pin with a voltage between 7V and 12V

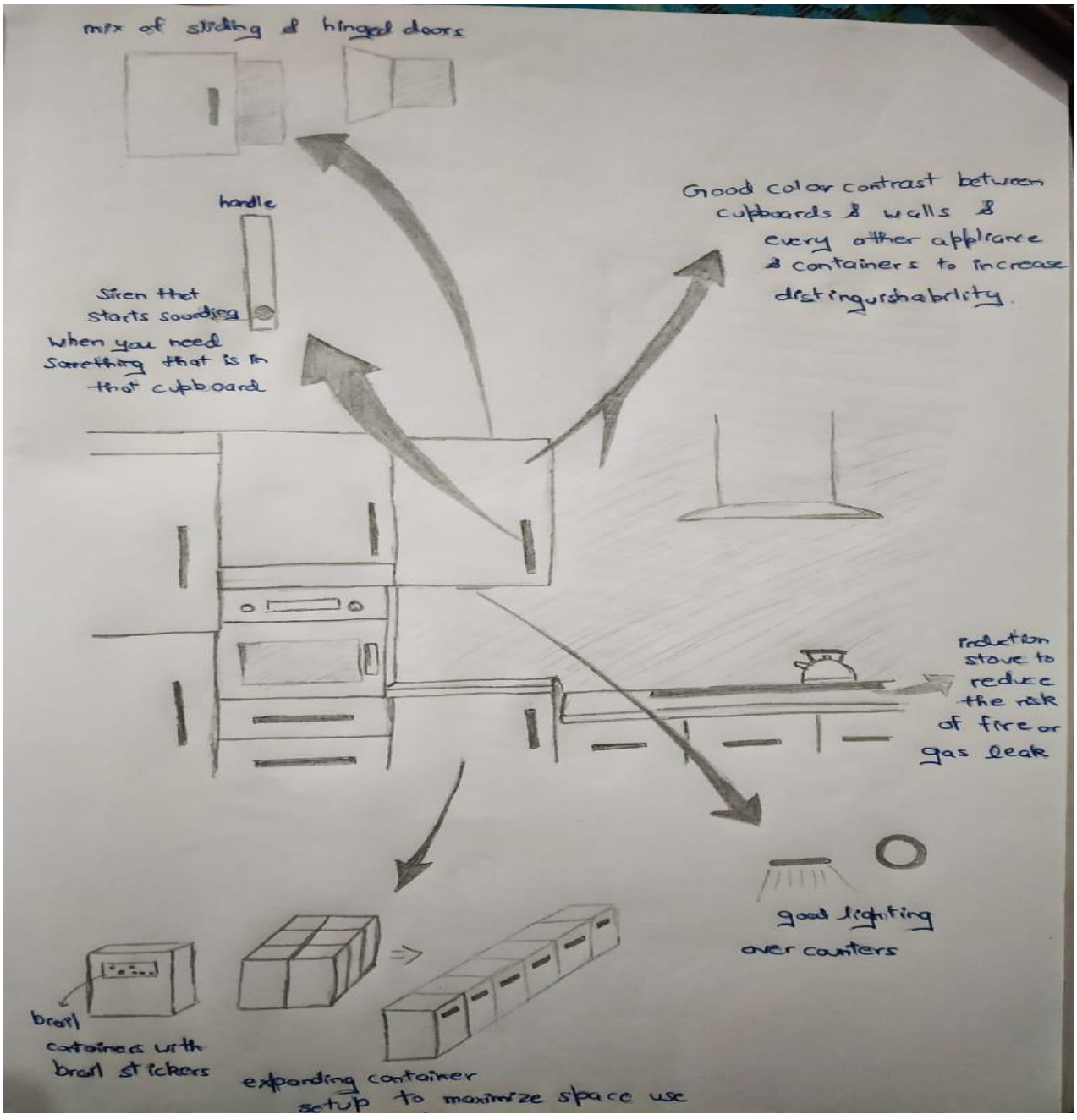
Use a USB cable with 5V. A diode prevents current from the 5V input to the USB connection flows.

The built-in voltage regulator has a maximum power reserve of 300mA for external expansions at 5V input voltage.



F) **IFTT**- IFTTT is the free way to get all your apps and devices talking to each other. If This Then That, also known as IFTTT, is a freeware web-based service that creates chains of simple conditional statements, called applets. An applet is triggered by changes that occur within other web services such as Gmail, Facebook, Telegram, Instagram, or Pinterest.

IMAGE OF THE CONCEPT:



Conclusion:

Increasing safety during daily activities is the main goal when designing a kitchen for a client with sight loss. In particular, the risk of falls must be minimised with the right lighting and contrast. One fall can strip them of the confidence to engage independently in activities or areas of occupational performance that they had previously enjoyed. The perceived risk becomes extremely great and the fear of accidents can lead to inactivity, social isolation and occupational deprivation, which can ultimately result in a negative impact on health and wellbeing. Modifying rooms in the home is about making positive changes to stop this from happening and encourage those with sight loss to engage in activities that are meaningful to them, such as cooking. Nonetheless, it is important to remember that there is no one standard kitchen design for every person and the main point is to adapt the room in a way that supports the user's existing routine while increasing visual acuity. Above all, it is critical to keep things as logical as possible but make sure it is the visual impaired person logic and not your own.

Parts and Preparatory Cost Analysis

1:Jumper wire and normal cable wires: 800rs

2:Relaymodule : 600rs

3: Nodemcu8206: 1000rs

4:Powersupply Batteries: 1500rs

5: Piezobuzzers: 1200rs (5)

6: Braille printed plates: 500rs

7: Kitchen hardware: 7000rs

8:Blynk app: no cost, free on play store

GRAND Total 12,100 Rs

Question 2. Critically analyze Eatonomist – 2014 and Taskbob – 2015 and present your views 5 marks

Ans 2:

Eatonomist

Startup Analysis-

Food-Tech Startup Eatonomist-

Founders- Anisha Dhar, Nupur Khanna

Headquarter: Gurugram

Launched: 2014

Category: Food and Beverage

Closed in: 2016

Idea- Eatonomist startup was an online gourmet food delivery prepared in their own kitchen focusing the healthy meal by delivering the right amount of the calorie in the food, counted in the range between 300 to 500 calories. Over 100 curated Indian and International gourmet recipes were available. A calorie counted gourmet healthy meal planner helping people to lead a happy and healthy lifestyle. Their menu included sandwiches and desserts besides a range of Indian and International foods.

Reason Of Failing- Eatonomist spends a huge amount on its branding like the advertisement; they spent a very large amount on it. Lack of funds headed the startup towards the end. The startup was developing well but the lack of funds ceased the path of the success and the start-up ended. the reason behind failure was unsustainable business models and the poor unit economics.

Taskbob:

Company profile:

Taskbob becomes the first startup to wrap up its operations in 2017. Founded by IIT-Bombay graduates Khare and Abhiroop Medhekar in November 2014, Taskbob connected users to pre-screened professional servicemen to fix household appliances such as washing machines, air conditioners, computers and refrigerators.

The startup initiate with a vision of creating happy households. The startup assists instant, high-quality home services for customers while driving higher productivity for servicemen. The primary aim of the startup is to address three of the biggest customer pain points: delays, poor quality and lack of price transparency. In short, Taskbob was a complete range of solution for home & beauty services at your house to offer a hassle free & convenient urban lifestyle.

It had also acquired Zepper, a Bengaluru-based home services startup. The company, which had raised its last round of funding in February 2016, competed with the likes of UrbanClap and HouseJoy. It claims to have served over 1.5 lakh orders in the past two years.

Reason Of failure:

Even though the company was able to create a significant difference in the customer service providers and teams lives but it was unable to build scalability and profitability. It was not able to compete with its competitors like Urbanclap etc.

They definitely showed their capability and pitched their idea in front of the investors that's how they were able to raise the funding, but they lack in sustaining their business on a long-term basis. After that funding, they required to execute a proper strategy on the basis of their business demand where they lacked severely in proper planning of the business strategy. They failed to set a viable business in Mumbai area. Their strategy formation went wrong, lack of business strategy and most of all they weren't able to use their funding in the right track to sustain their business. Market research, competitor analysis, understanding of market challenges within the industry, customer demands and requirements, psychoanalysis of the customers and market trends some basic aspects of the business that are most important to be studied well but they failed in this.

Work Distribution:

1:Harsh Vardhan Singh(18BME0030):Literature Survey,Cost analysis of Modular Kitchen and analysis of the startups

2:Shashank Shukla(18BCE2522):Introduction and Working of modular kitchen with current market scenario and analysis of startups.

3:Lakshya Mishra(18BME0096):Design of modular kitchen according to the needs and different views.