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AHMEDABAD- 382424



Vishwakarma Government Engineering College, Chandkheda-382424
(Affiliated with Gujarat Technological University, Ahmadabad)

A
Project report
On

FIRE SAFETY

Prepared as a part of the requirement for the subject of
Design Engineering 2A (2150001)
B.E- Semester-V
(Power Electronics Branch)

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2019-20



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CERTIFICATE

This is to certify that the Design Engineering 2A (2150001) Report entitled “FIRE SAFETY” submitted by

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Towards the partial fulfillment in Design Engineering 2A (Power Electronics Engineering) of Gujarat Technological University is the record of work carried out by him under our supervision and guidance. The work submitted has in our opinion reached a level required for being accepted for examination. The results embodied in this Project Work to the best of our knowledge have not been submitted to any other University or diploma.

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ABSTRACT

Safety has become very important constraint for good quality of life. Due to fire hazard it effects human health and create economical losses. In the past due to fire hazard many people die. Because of this unwanted fire hazards. The aim of this study was to examine fire safety measures and their viability in buildings; the required measures are technology based. Buildings should be designed in such a way that occupants can escape by themselves in case of fire. However, case-studies shows that occupants often are found incapable to escape in time and often times undermine precaution measures required to avoid or escape fire. The study methodology was based on incident evaluations and real-life experiments, such as unannounced evacuation drills. The possibilities of virtual reality for studying human behavior in fires are so far hardly adopted by researchers. Nevertheless, since in virtual environments test persons can be faced with the phenomenon of fire in a safe way, the application of a behavioral assessment and research tool in virtual reality is expected to be a valuable supplement on the existing research methods. The study recommended suitable fire safety measures in accordance to best practices after due evaluation of existing fire safety measures as it applies to users and the effectiveness of these measures.

ACKNOWLEDGEMENT

With great pleasure, I take this opportunity to express my deep sense of gratitude and indebtedness to my renowned and esteemed guide **Dr. A. M. HAQUE** Assistant Professor, Department of Power Electronics Engineering, Vishwakarma Government Engineering College, Chandkheda for his consummate knowledge, due criticism, invaluable guidance and encouragement which has enabled us to give present shape to this work.

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1. CANVASES

- **AEIOU SUMMARY:**

1. **ACTIVITY:**

- This section will include the applications of the product such as: shouting for help, mobile communication, climb and run, Jump door, etc.

2. **ENVIRONMENT:**

- This will include the effect of the objects placed in its surroundings such as: hot airs, smoke, crowd, etc.

3. **INTERACTION:**

- This will include the Stakeholders such as: people with people, people with fire control office, etc.

4. **OBJECTS:**

- This section of the canvas includes the equipment used for the production such as: pressure pump, fire sensor, pipe, CO₂ gas etc.

5. **USERS:**

- As usual it will include the people who are associated with the product like people, employees, visitors, workers, etc.

AEIOU Summary :		Group ID : 178372	Date : 06/07/2019	Version : 001
Domain Name : Fire Safety				
Environment : <ul style="list-style-type: none">Hot AirsSmokeCrowd	Interactions : <ul style="list-style-type: none">People With PeoplePeople with Fire Control office	Objects : <ul style="list-style-type: none">Pressure PumpFire SensorPipeCO₂ Gas		
Activities : <ul style="list-style-type: none">Shouting For HelpMobile CommunicationClimb and RunJump Door		Users : <ul style="list-style-type: none">PeopleEmployeesVisitorsWorkers		

FIGURE 1: AEIOU SUMMARY CANVAS

1.2 MIND MAPPING:

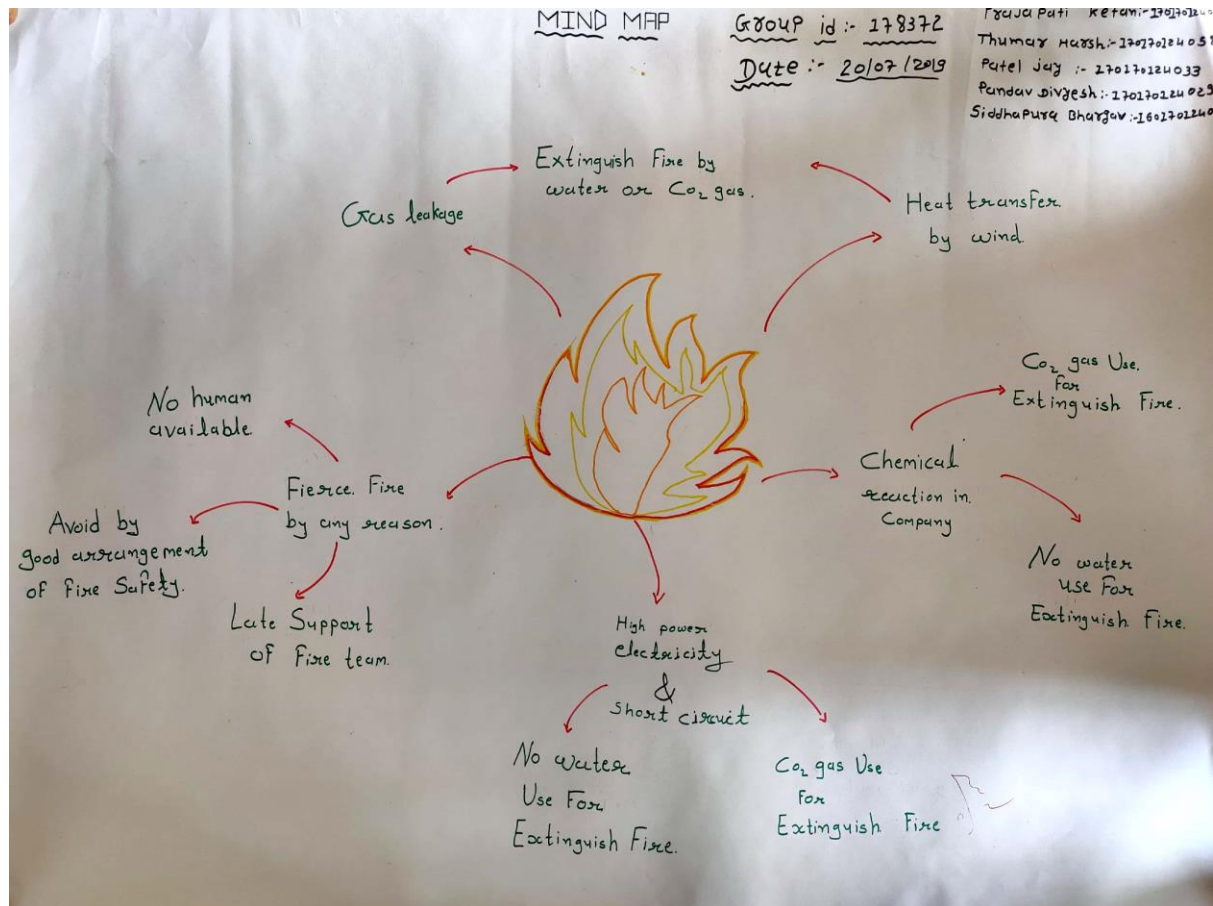


FIGURE 2: MIND MAPPING CANVAS

1.3 EMPATHY CANVAS:

This is the first step of the project or a problem. In this canvas, we will find out what is user? Who is a User? What is Stakeholder? Who are they? And what are the broad stories of their activities?

1. User:

- In this stage, we find various users who are directly or indirectly related to our product
- For Example: people, worker, employees, visitors, etc.

2. Stakeholders:

- Stakeholders are people or an organization with an interest.
- In this stage, we find those users which are directly or indirectly related to the users.
- For Example: people, fire officer, etc.

3. Activities:

- Activities are directly or indirectly related to the stakeholders.
- For Example: mobile communication, shouting for help, run and climbs up, jump door, etc.

4. STORY BONDING:

- **Happy:** student was in tuition classes and fire is occurring by short ckt a student was afraid of that fire alarm rang up. And teacher call to fire office then fire officers was come and extinguish fire.
- **Happy:** Once upon time in forest due to global warming fierce fire was occurred but after some time rain was showers and the fire went out.
- **Sad:** In once upon time in tuition classes many students are available for study and fire problem occur by short ckt and teacher call to fire office but due to traffic in city the fire officer not come at that time place right time, so lot of student are die.
- **Sad:** once upon time in amazons forest due to warming problem fire war occurred and lot of trees burned and due to fire environment O_2 and O_3 are reduce and so many problems are created.

Design For Fire Safety		Design By	
Date 20/07/2019		Version 001	
USER People Workers Visitors Employees		STAKEHOLDERS People Fire officers	
ACTIVITIES mobile communication Shouting For Help Run and climb up and jump door			
STORY BOARDING HAPPY Students Was in Tuition classes and fire is occur by short ckt Students Was Afraid at that time fire alarm rang up. And teacher call to fire office Then fire officers was come and extinguish fire.			
HAPPY Once upon time in forest due to global warming fierce fire was occur but, After some time rain was showers and the fire went out.			
SAD Once up on time in school in tuition classes many students are available for study and fire problem occur by short ckt and teacher call to fire office but due to traffic in city the fire officers not come to at that place right time. so lot of students are die.			
SAD Once upon time in Amazon forest, due to global warming problem fire was occur and lot of trees are burn and due to fire in environment O_2 & O_3 are reduce and so many problem are created.			

FIGURE 3: EMPATHY CANVAS

1.4 IDEATION CANVAS

This canvas consists of the ideology behind the user, so in this canvas some brief ideas are expressed. People section consists of persons related to user technically and similar persons may relate to user. Then we divided activities in social & technical and try to find out the importance of each activity and situations & location regarding are find out related to each.

PEOPLE:

- Visitors
- Workers
- Employers

ACTIVITIES:

- Climb up and jump doors
- Mobile communication
- Shouting for help

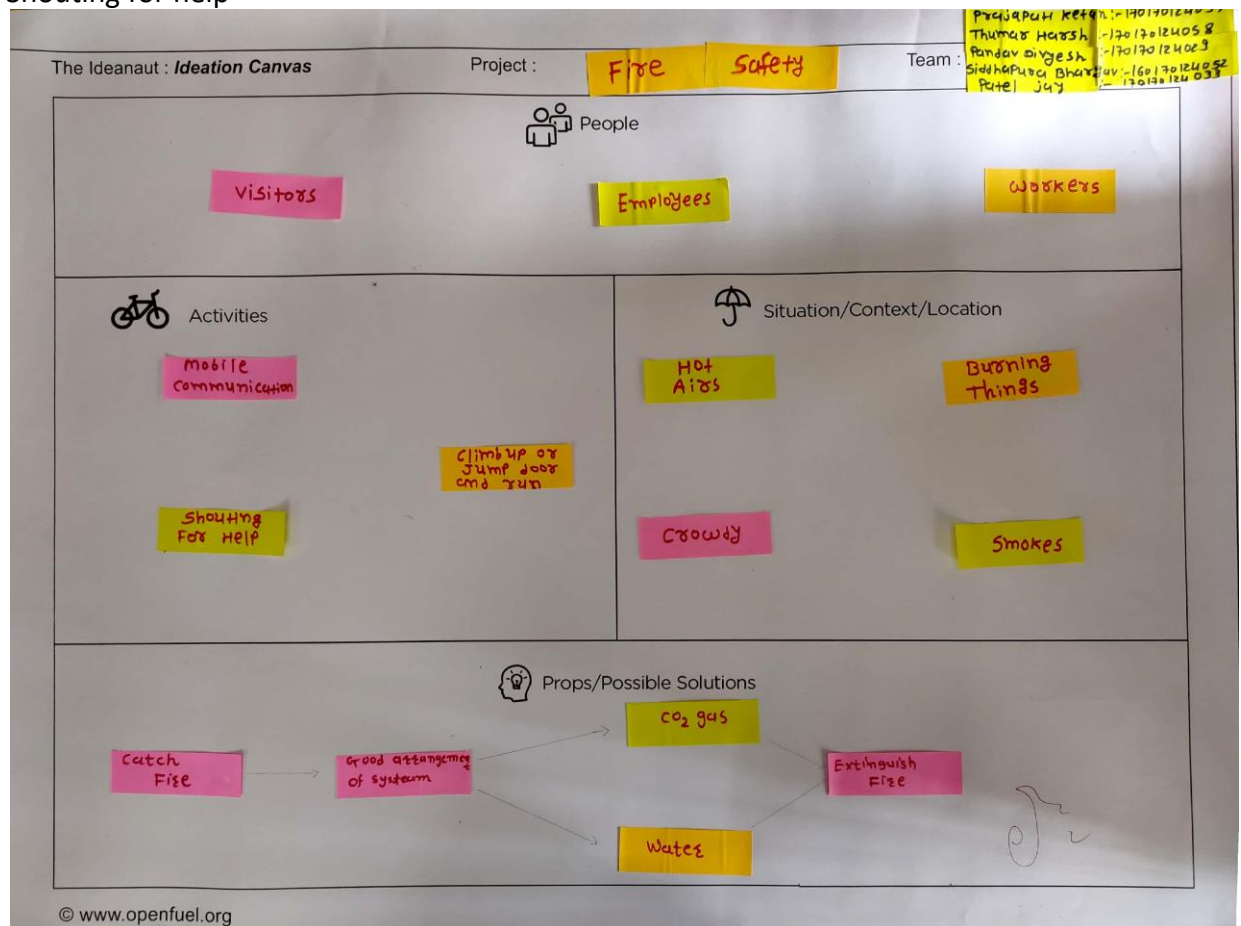


FIGURE 4: IDEATION CANVAS

SITUATION:

- Hot airs
- Burning things
- Crowdy
- Smokes

1.5 PRODUCT DEVELOPMENT CANVAS:

PURPOSE:

- To avoid fire accident.

PEOPLE:

- The most basic users are employers, workers and visitor.

PRODUCT FEATURES:

- Save people control fire and alert people for fire.

PRODUCT FUNCTIONS:

- Automatic, CO₂ gas relies, control fire.

CUSTOMER REVALIDATION:

- Safety
- Low cost

REJECT, REDESIGN, AND RETAIN:

1. Reject – pressure of CO₂
2. Redesign – good material pipe
3. Retain – safety

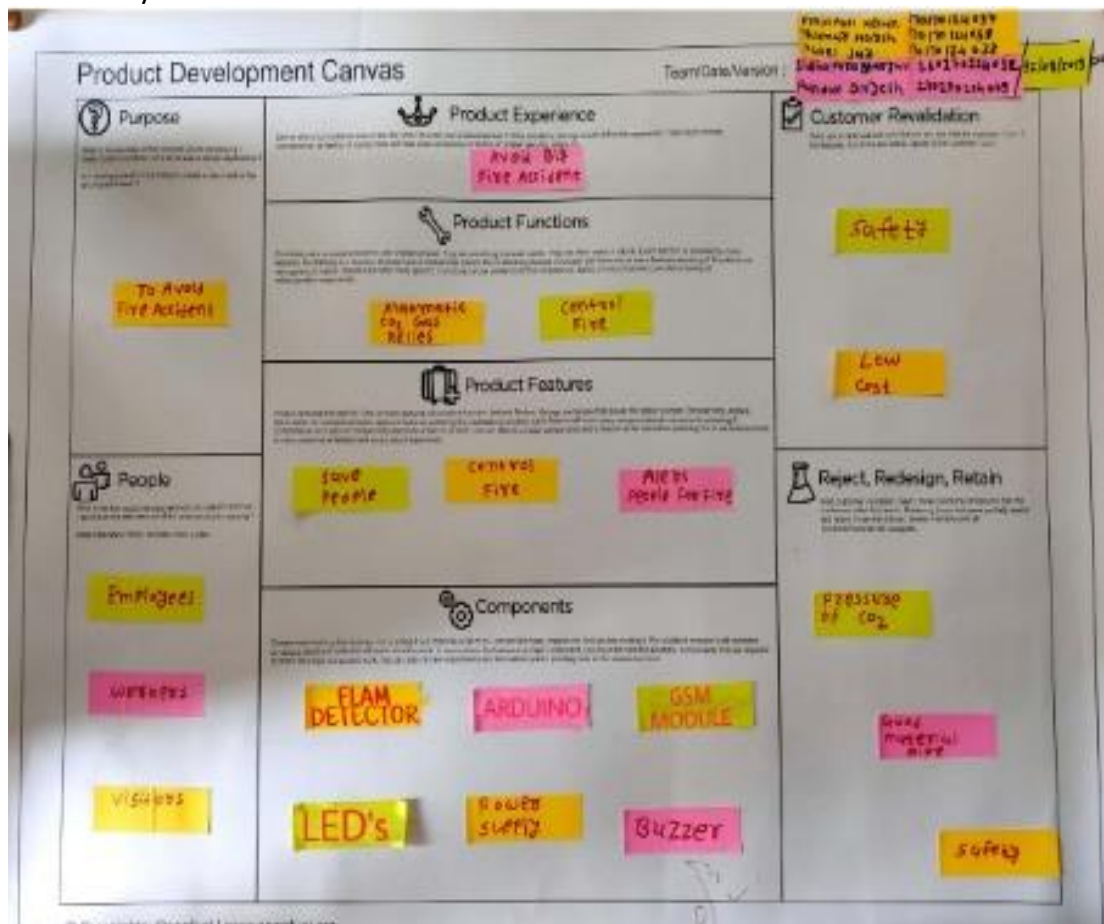


FIGURE 5: PRODUCT DEVELOPMENT CANVAS

2. PRIOR ART SEARCH

2.1 SUMMARY PAPERS AND ITS CONCLUSION:

Type 1: Fire safety

www.google.co.in/patents/EP2520837A1?cl=en

App. - Filed 05-May-2011 - Published 07-Nov-2012 - [Rubio José Pablo Prat](#) - [Air Products and Chemicals, Inc.](#)

The present invention relates to a valve for closing the flow path of a gas that is combustible or capable of supporting combustion in the event of a fire. In certain embodiments, the invention relates particularly to a valve for closing the flow path of oxygen in an oxygen administration apparatus. The present invention further relates to an oxygen administration apparatus incorporating the valve

Type 2: Fire-fighting safety system

App. - Filed 24-Jun-1997 - Published 02-Sep-1998 - [廖泽云](#) -

[康泽\(天津\)科技有限公司](#)

The **fire-fighting** safety system has communication equipment; automatic radio fire alarm equipment; control center computer network connected to fixed panel in ...

The fire-fighting safety system has communication equipment; automatic radio fire alarm equipment; control center computer network connected to fixed panel in control center to control fixed stations; fire-fighting group fixed stations and fire-fighting user stations. It features that the communication equipment is concentrated radio network and the control center computer network has vectorially electronic map and fire-fighting force data bank. The present invention has large capacity, high alarm rate, compatible wired and radio communication system, low false alarm rate and high reliability.

Type 3: Fire/life safety system operation criteria compliance ...

www.google.co.in/patents/US5950150

Grant - Filed 08-Sep-1997 - Issued 07-Sep-1999 - [Steven J. Lloyd](#) - [Lloyd; Steven J.](#)

A system and method for operational criteria compliance verification of **fire/life safety** systems and components whose operation, maintenance and testing are ...

A system and method for operational criteria compliance verification of fire/life safety systems and components whose operation, maintenance and testing are established by predetermined operational criteria, such as industry standards and fire/life safety codes. The system comprises at least one sensor for sensing at least one parameter of or resultant indicator of one or more fire/life safety system components pertinent to operational criteria compliance verification of the fire/life safety system. A recorder records and date/time

stamps data from at least one sensor. The system verifies the operational criteria compliance and generates an operational criteria compliance verification report based upon the sensor data. The system in its preferred form verifies compliance with fire/life safety codes and generates a code compliance verification report based on these codes and associated industry standards. These reports can be electronically forwarded to the owner, insurer, or Management Company at any time, or automatically forwarded on a scheduled basis for "normal" reporting. These reports further can include maintenance and notification summaries that document components that require attention depending on the nature of the problem. In the event of "trouble" conditions requiring immediate resolution, real-time notification to appropriate entities can also be accomplished

Type 4: Fire safety clothing with automatic positioning function

www.google.co.in/patents/CN105749441A?cl=en

App. - Filed 19-Dec-2014 - Published 13-Jul-2016 - [赵康柱](#) -

[西安博康中瑞船舶设备有限公司](#)

The invention belongs to the technical field of **firefighting** equipment, in particular relates to **fire safety** clothing with an automatic positioning function. The fire ...

The invention belongs to the technical field of firefighting equipment, in particular relates to fire safety clothing with an automatic positioning function. The fire safety clothing comprises a safety belt, a battery compartment and a positioning communication module, wherein the safety belt is arranged on the fire safety clothing; the battery compartment and the positioning communication module are arranged on the safety belt; the positioning communication module is provided with an information receiving module and an information sending module; the information receiving module is electrically connected with a single-chip microcomputer; the single-chip microcomputer is electrically connected with the information sending module; the battery compartment is electrically connected with the positioning communication module and is used for supplying electric energy to the information receiving module, the information sending module and the single-chip microcomputer during work. The fire safety clothing with the firefighting equipment, disclosed by the invention, is capable of automatically receiving related position information in a communication network and sending the related position information, and is capable of automatically communicating with a communication control centre network

Type 5: Supertall building core tube construction safety fire ...

www.google.co.in/patents/CN101876209A?cl=en

App. - Filed 13-Jun-2010 - Published 03-Nov-2010 - [姚晓东](#) - [中天建设集团有限公司](#)

The invention discloses supertall building core tube construction safety **fire protection** system and device, comprising a construction elevator standard section...

The invention discloses supertall building core tube construction safety fire protection system and device, comprising a construction elevator standard section and a core tube inner platform, wherein the construction elevator standard section is connected with a crawling ladder and is connected with a safety fire protection channel framework at the same side with the crawling ladder, the safety fire protection channel framework is fixedly connected to the core tube inner platform, the upper side, the lower side, the left side and the right side of the safety fire protection channel framework are provided with checked steel plates in which fire-resistance plates are arranged, and the construction elevator standard section is connected with the safety fire protectant channel framework through an engaged channel. The invention effectively solves the technical problem of safety escape of constructors on a work layer when breaking out a fire during supertall building core tube construction and ensures the life safety of the constructors; meanwhile, the invention can realize the effective control on safety fire protection in the supertall building core tube construction, ensure the safety management of the supertall building core tube construction, and improve the safety management level and the integrated benefits of the supertall building core tube construction.

3. PRE-DESIGN

3.1 LEARNING NEED MATRIX:

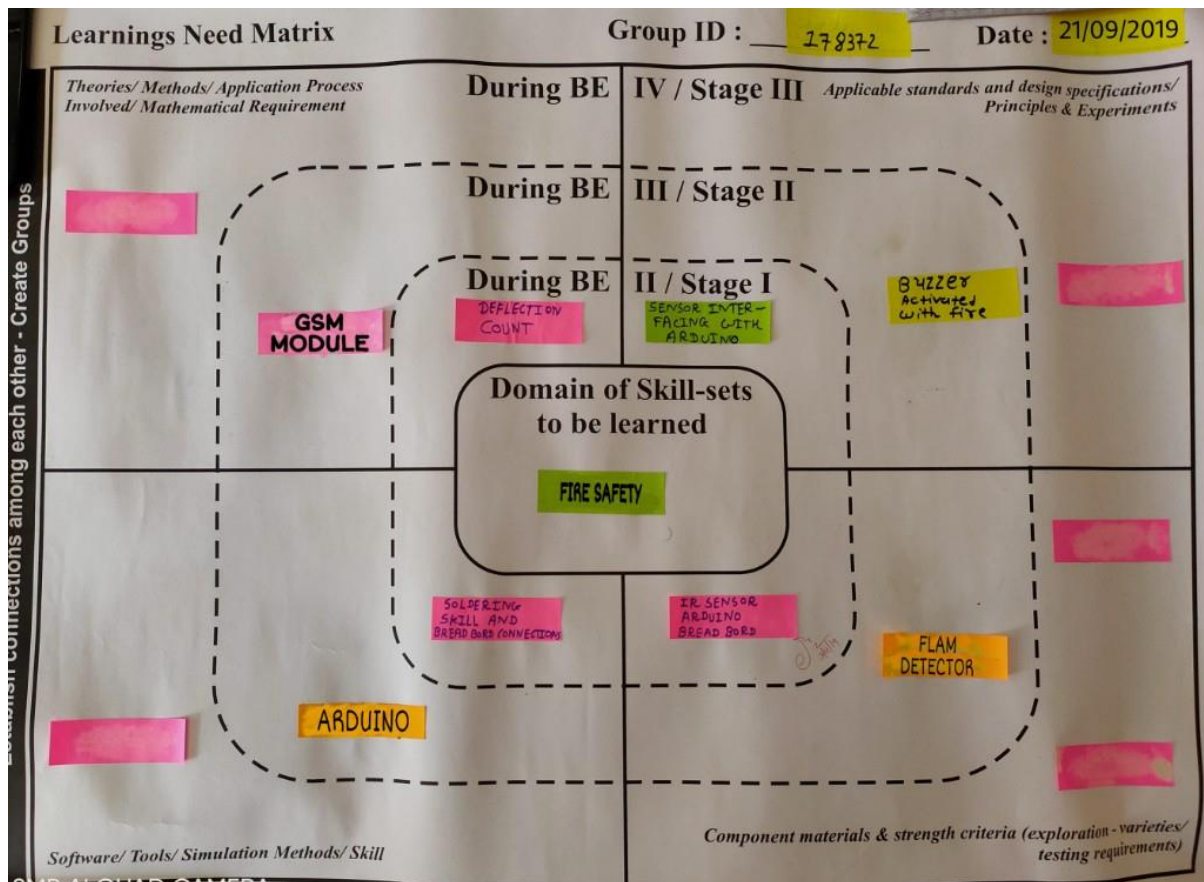


FIGURE 6: LEARNING NEEDS MATRIX

3.2 PROTOTYPE:

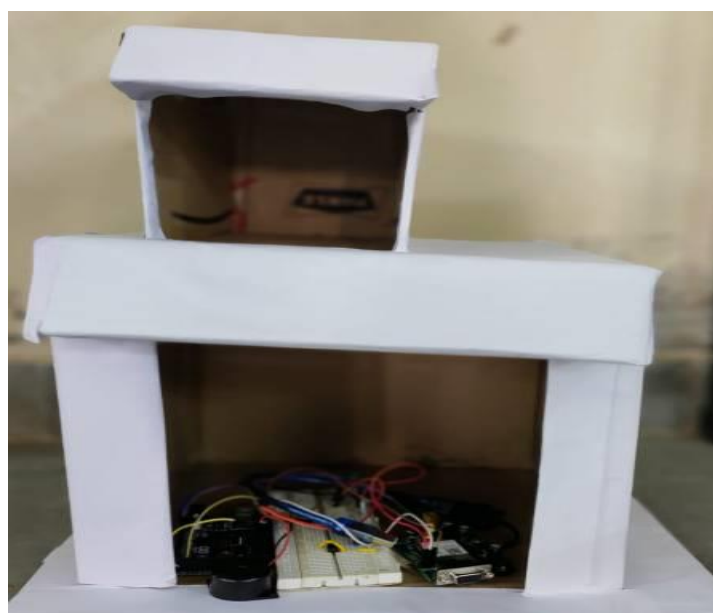
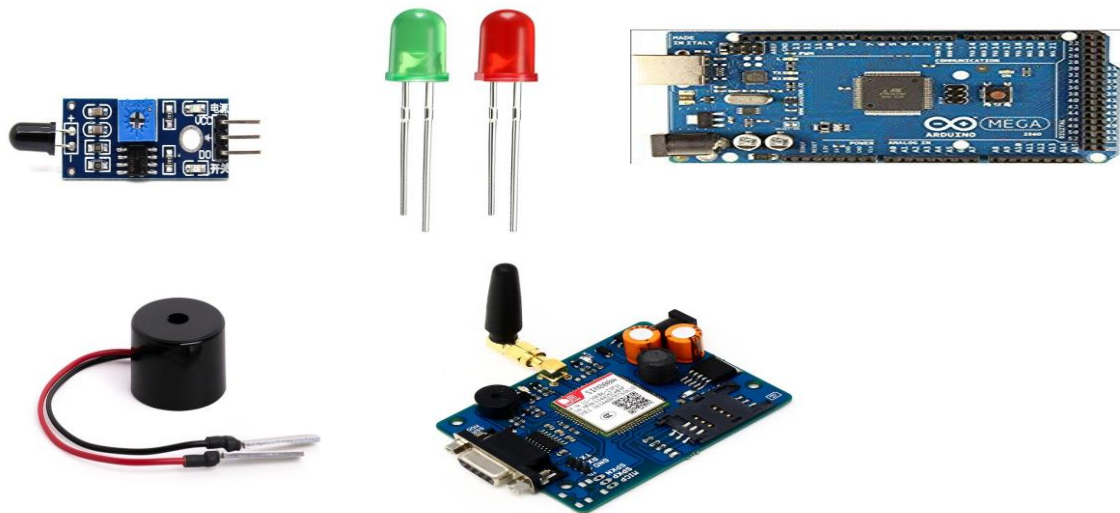


FIGURE 7: PROTOTYPE

3.3 COMPONENTS:



- (1) **FLAM DETECTOR:** -It is use for sensing a fire.
- (2) **LED'S:** -It is use for indication purpose.
- (3) **ARDUINO:** -It is use for controlling the system by programming.
- (4) **BUZZER:** -It is use as an alarm.
- (5) **GSM MODULE:** -It is use for communication purpose.

3.4: CIRCUIT DIAGRAM:

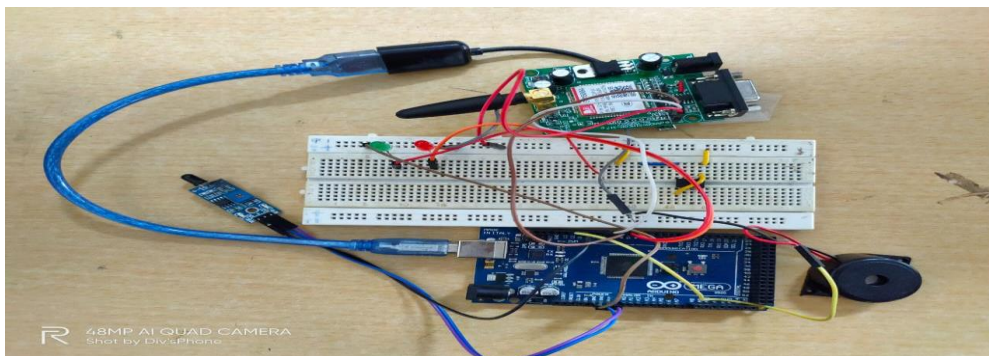


FIGURE 8: CIRCUIT DIAGRAM

3.5 WORKING:

When fire occur in the goduan flame sensor sense the fire flame flame sensor connected to the Arduino Mega and the flame sensor send the signal to the Arduino Mega the Arduino Mega connected to 5volt voltage supply the Arduino accept the signal and Arduino send the pulse voltage to the buzzer the buzzer is connected to the Arduino pin12 and buzzer outputting the beep voice which humans can hear easily at the same time Arduino send the signal to the GSM SIM800A module the module is connected to the Arduino Mega pin RXtoRX TXtoTX GNDtoGND the in GSM SIM800A the SIM CARD is added so as the working principle of GSM module the GSM dialing call to the numbers which one is goduan main leader's number and one is fire station number and also send the auto text to both number the project is officially working like this.

4. INTRODUCTION TO CONCEPT/IDEA

Safety has become very important constraint for good quality of life. Due to fire hazard it effects human health and create economical losses. In the past due to fire hazard many people die. Because of this unwanted fire hazards, we can try to reduce it by our project. The aim of this study was to examine fire safety measures and their viability in buildings; the required measures are technology based. so, for our project we can visit a many site and observed a fire safety. After observation we can get idea about lower loss when fire is occurred. So, we can think our concept about lower loss.

concept-" When the fire breaks out, the buzzer buzzes and a call and message goes to the fire office and manager."

4.1 LITERATURE SURVEY:

At this time, we use only fire alarm so without hearing alarm sound by any person do not call to fire office. And also, at mid night, if fire is occurred, we can't get information about the fire. So, if we can use our project system, we can save our big loss and life.

4.2 GROUP PHOTO:



FIGURE 9: GROUP PHOTO

4.3 APPRECIATION OF PROJECT IN MEDIA:

अब आग लगाने पर स्वतः फायर ब्रिगेड में कॉल, एसएमएस, लोकेशन पहुंचेगा

सूरत की ट्यूशन क्लासेज आगजनी दुर्घटना की खबरियों का अध्ययन कर वीजीईसी विद्यार्थियों का इनोवेशन

नई एडवांस फायर सेफ्टी अलार्म सिस्टम की विकसित

अहमदाबाद. छह महीने पहले सूरत के तशशिला कॉम्प्लेक्स में ट्यूशन क्लासेज में आग लगने से 20 विद्यार्थियों की मौत की घटना का पुनरावर्तन रोकने की अहमदाबाद के चारखेड़ा इलाके में स्थित विश्वकर्मा सरकारी इंजीनियरिंग कॉलेज (वीजीईसी) के पावर इलेक्ट्रॉनिक्स ब्रांच के विद्यार्थियों ने



नई एडवांस फायर सेफ्टी अलार्म सिस्टम विकसित की है। इसका वर्किंग मॉडल भी तैयार कर लिया गया है।

यह अलार्म गोदाम, होटल, हॉस्पिटल, मॉल जैसे स्थलों पर अचानक आग लगने पर यह स्वतः फायरब्रिगेड को एसएमएस के जरिए, फोन कॉल के जरिए सूचना देगी। इतना ही नहीं, जिस जगह आग

लगी है उसका लोकेशन भी सिर्फ तीन से पांच सेकेंड में फायरब्रिगेड में भेजेगी।

इस सिस्टम को प्रोफेसर डॉ.ए.एम.हक के मार्गदर्शन में वीजीईसी के पांच विद्यार्थियों ने विकसित किया है। इन विद्यार्थियों में से एक केतन प्रजापति ने बताया कि सूरत की तशशिला कॉम्प्लेक्स के ट्यूशन क्लासेज में आग लगी तो

तत्काल फायरब्रिगेड के मदद के लिए नहीं पहुंच जाने के चलते कई विद्यार्थियों की जान चली गई थी। इसी घटना के चलते इस सिस्टम को विकसित करने का विचार आया।

छात्र भार्गव सिद्धपरा ने बताया कि इस नई एडवांस फायर सेफ्टी अलार्म सिस्टम में आईओ मेगा, जीएसएम मॉडमूल एवं फ्लेम सेंसर का उपयोग किया गया है। इसके जरिए फायरब्रिगेड एवं जिस जगह आग लगी है उस इमारत के मैनेजर को ऑटोमेटिक कॉल, एसएमएस पहुंचता है। जिससे तत्काल मदद पहुंचने में मदद मिलेगी।

इसी टीम के छात्र हर्ष दुमर ने बताया कि यह सिस्टम ज्यादा महंगी नहीं है। इसे 1500 रुपये में ही विकसित किया गया है, ताकि इसे आसानी से कोई भी व्यक्ति लगा सकता है। टीम के सदस्य जय पटेल ने बताया कि इस सिस्टम को गोदाम,

होटल, हॉस्पिटल, दुकान, मॉल वगैरह कई जगहों पर भी उपयोग में लिया जा सकता है, जहां आग लगने का खतरा रहता है। छात्र दिव्येश पांडव ने कहा कि यह सिस्टम मौजूदा फायर अलार्म सिस्टम से ज्यादा एडवांस है। इसे और भी ज्यादा बेहतर बनाने की संभावना है। तत्काल मदद पहुंचाने में मिलेगी मदद

विद्यार्थियों की ओर से विकसित की गई इस एडवांस फायर अलार्म सिस्टम के जरिए घटनास्थल तक तत्काल मदद पहुंचने में मदद मिलेगी। क्योंकि आग लगने पर किसी व्यक्ति के नहीं बल्कि खुद सिस्टम के माफिक ही सर्विस भेजा जाएगा, जो आग लगने पर घुआ उठते ही उसके तीन से पांच सेकेंड में मैनेजर भेज दिया जाएगा।

-प्रो.ए.एम.हक, प्राध्यापक, वीजीईसी

FIGURE 10: RAJASTHAN NEWS DATED 06/10/2019

TUESDAY 8.10.2019

City Innovation

आग दुर्घटनाथी जयवा ओब्जि.स्टुडन्टसे फायर सेफ्टी अलार्म सिस्टम जनाव्युं

नाजेतरमां आंतरिक क्रोसवोने प्रदर्शित करवा अने डिजाईन ओब्जिनिथरिंग विषय द्वारा विकसित आर्थिक मानवकेन्द्रित विचारोना मुखवताने वधारवा माटे विविध इंजिनीरी डिस्प्लिन माटे डिजाईन ओब्जिनिथरिंग डे आयोजित करवामां आयवो एतौ. जेमां विषयकमां ओब्जिनिथरिंग क्रोवैजमां ग्रीष्म वर्षमां पांचमां सेमेस्टरमां ओब्जिनिथरिंग विद्यार्थीओ द्वारा 13 प्रस्तुतिओ अंदाजे २४० शिक्षको अने विजुईसी वांडपेग्रामां विद्यार्थीओ द्वारा सराहवामां आवी एली.

प्रोजेक्टमां अन्य स्टूडंट भागवं सिद्धपुराओ ज्ञाप्रव्यु एतुं. आ सिस्टममां अमे आर्टीफो मेगा, क्वासेसअमे मोड्यूल अने इवेम सेन्सरनो उपयोग क्यो छे जे ओटोमेटिक क्रोव अने ओसअमेअसेस (वॉकेशन सावे) फायर ब्रिगेड तथा मेनेजरने आग लाग्याना संदेशो पवोवाइरो. तो भीज तरफ हर्ष दुमरने सिस्टमनी उपयोगिता अने अने विरो ज्ञावतना क्युं जे आ सिस्टमनो टोटल अर्थ १५०० रूपिया थयेव छे अने आ सिस्टमनी मददवी आपवो आगवी बनारा मोटा मोटा नुकसानमां कंट्रोल अंशे घटावे करी शक्यो छीने. ज्यारे जय पटेल नामना स्टूडन्ट ज्ञाप्रव्यु छे. आ सिस्टमने लोटेब, गोड्राउन, हॉस्पिटल अने भोव जेवा स्थलो पर उपयोगमां लई शक्य छे. ज्यारे दिव्येश पांडव नामना स्टूडन्ट प्रोजेक्ट दिसे वपु समझवतना क्युं जे, आ सिस्टममां ओटोमेटिक फायर ब्रिगेडने क्रोव अने वॉकेशन सखित मेसेज ज्ञाप तेवी सुविधा छे. आ सिस्टम भीज प्रोक्टनी सरभाभक्षीमां वधार अंदावास अने नवी टेक्नोलॉजि घरावतौ छावाथी भाविथ्यमां आ सिस्टम भुंनो उपयोगी साबिन थवै. भाविथ्यमां गोड्राउनमां भीम अने छनमां कार्बन ग्रायोक्साईड भरेवी ट्यूबने जटुरियात मुखज वाक्व द्वारा ओवरहेड करीने पछ अपर पार कापु पछ मेजवी शक्य अने प्रकारनो अंकेटेशन आ प्रोजेक्टमां थवै.

अमदावादीनी आग अने कोल...

सुरतनी दुर्घटनाथी घन्स्थापर थर्ष ओब्जिनिथरिंग स्टुडन्ट्स नवुं घनोवेशन क्युं

आ सिस्टममां ओटोमेटिक फायर ब्रिगेडने कोल अने लोकेशन सहित मेसेज ज्ञाप तेवी सुविधा छे

केवी रीते प्रोजेक्ट जनावतानो विचार आयवो? : आ सिस्टमनो विचार ज्यारे सुरतमां तशशिला ट्यूशन क्लासिगमां आग लागी एली तवारे घराओ जथा विद्यार्थीओने आगवी लखाव माटे पवटी मटे न मवता मोचने भेटवा एतौ. आ दु.प.ह. घटना परवी अंदावास फायर सेफ्टी धरावती सिस्टम जनावतानो विचार आयवो.

- केतन प्रजापति, स्टूडन्ट

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Heena : 98246 50780

FIGURE 11: SANDESH NEWS DATED 08/10/2019

4.4 FUTUREPLAN:

- Further implementation in project we can design a fire extinguishing system. In this system we can plant a CO₂ tube's on the ceilings of godaun .when fire is occur the alarm Sense a signal of fire and take a action according to this project (call and message to Manager and fire office), when a fire is reach at certain level the CO₂ tube's valves are open automatically by how many number of sensors are works in godaun. So, the CO₂ gas will release from tubes with pressure of motor and control the amount of fire.

4.5 Reference:

1. <https://en.wikipedia.org › wiki › Fire extinguisher>.
2. <https://www.safetyandhealthmagazine.com › articles › 5549-properly-usin...>
3. https://www.osha.gov/SLTC/etools/evacuation/portable_use.html
4. <https://www.google.co.in/patents/CN101876209A?cl=en>.
5. <https://www.scientificamerican.com › article › what-chemicals-are-used-i>