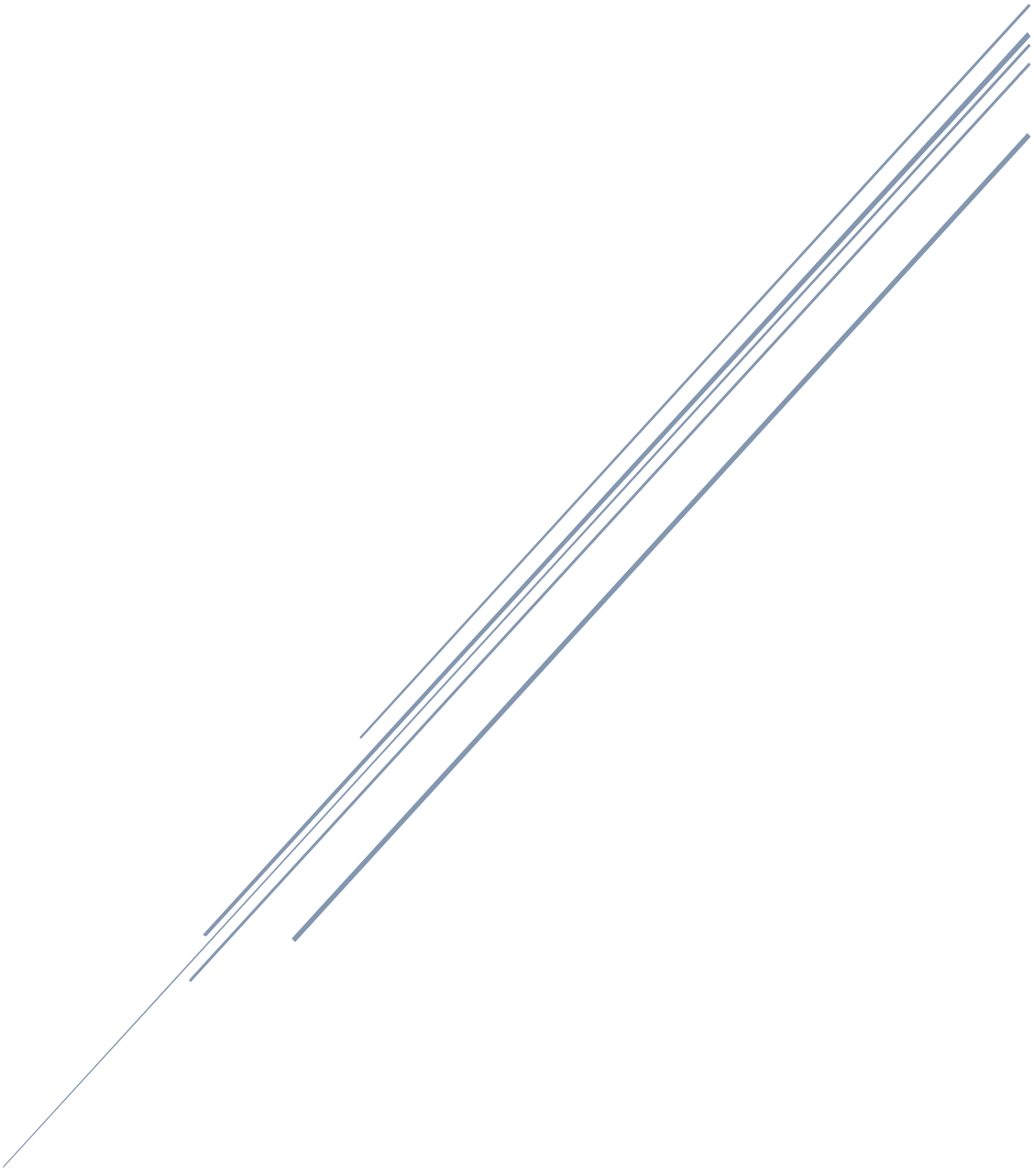
MANAGING A SUCCESSFUL COMPUTING PROJECT



SAW WIN NEW

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Introduction

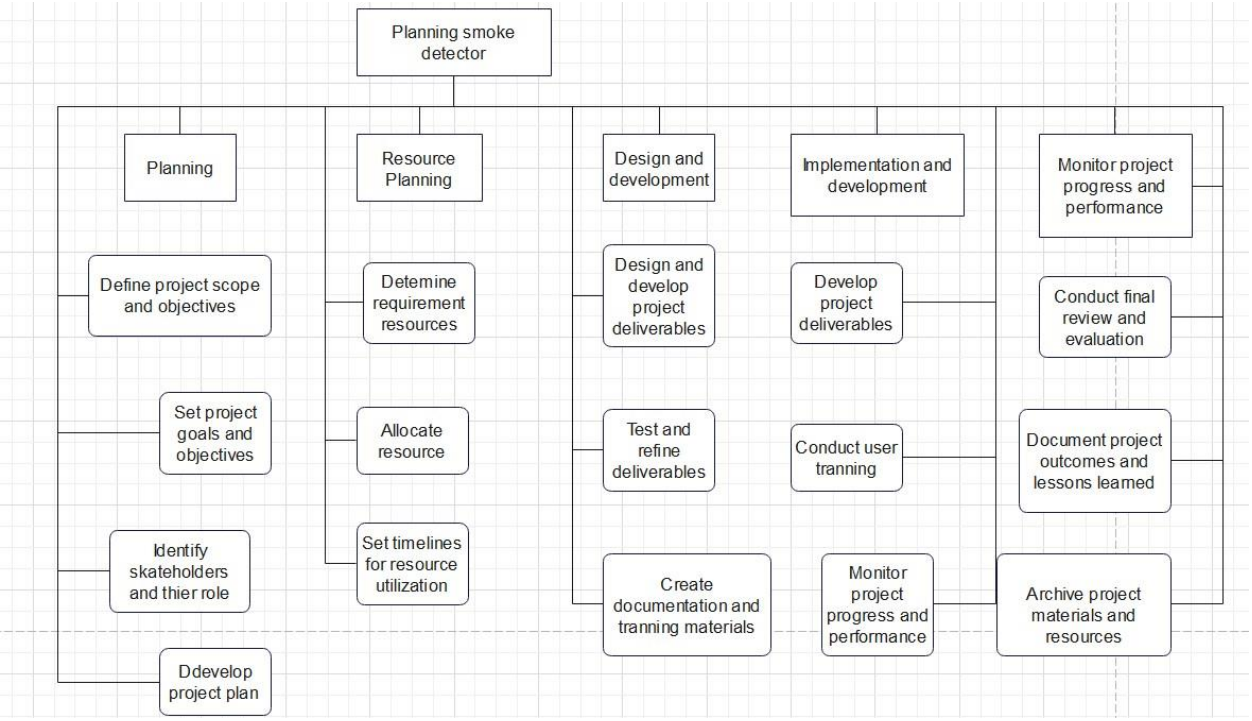
Having smoke detectors as a digital endpoint device impact is a good option since they play an important role in boosting public safety and lowering the number of smoking-related incidents. Smoke detectors are intended to detect the presence of smoke and warn users of the possible hazard of a fire. These are necessary gadgets in homes, workplaces, schools, and other public gathering areas.

The usage of digital endpoint devices has grown dramatically in recent years, as has the number of smoking-related incidents. Many individuals, for example, smoke in their homes while using electronic devices like computers, phones, and tablets. If they fall asleep or neglect to extinguish the cigarette, it might result in a terrible fire.

Installing smoke detectors in homes and public spaces can therefore assist to lower the danger of fires. They can detect the presence of smoke and promptly inform people, giving them ample time to take appropriate action and prevent a fire from spreading.

Task 1

Work break down structure



Smoking detector

A smoke detector is an electronic fire-protection device that detects the presence of smoke as a key indicator of fire and alerts building occupants (Informa Markets, a trading division of Informa PLC., n.d.).

As part of a building's central fire alarm system, commercial and industrial smoke detectors send a signal to a fire alarm control panel. All establishments are required by law to have a smoke detection system (Informa Markets, a trading division of Informa PLC., n.d.).

Home smoke detectors, often known as smoke alarms, emit an audible and/or visual alarm from the detector itself. These might be single battery-powered units or several interconnected hardwired (mains-powered) devices backed up by batteries. The latter must be implemented in all new structures as well as following major renovations (Informa Markets, a trading division of Informa PLC., n.d.).

Why we need smoke detector

In a fire, a few seconds might be the difference between life and death. That is why a correctly fitted smoke detector can help you get started. That is why all houses should have smoke detectors installed. These gadgets can warn you before a potentially fatal fire starts (Vaccaro Group 2023, 2023).

A smoke detector, often known as a smoke alarm, detects smoke, heat, or fire and emits a warning signal (a loud alarm noise). Whether the smoke alarm is situated in the hallway, bedrooms, or industrial levels, Australian law requires smoke alarms to be fitted in commercial and residential rental premises. See why smoke alarms are essential for your company and family home (Vaccaro Group 2023, 2023).

They can safeguard your family if properly maintained.

A properly placed smoke alarm system can avoid additional property damage and, more significantly, loss of life. It's an opportunity to become more proactive around the house for the sake of your own and your loved ones' safety (Vaccaro Group 2023, 2023).

A competent electrician may wire smoke detectors directly into a home's electrical system, which is a cost-effective and expedient approach to install smoke detectors. This saves you from having to replace the battery every 6 months to ensure its functionality (Vaccaro Group 2023, 2023).

They are an early fire detection system.

Smoke alarms detect the presence of smoke early, allowing you and your loved ones to flee to safety or prevent the fire from spreading if it is safe to do so. They're an excellent conversation topic for educating youngsters what to do in the case of a fire and the hazards that fire poses. It's critical that your children understand what to do if a fire alarm goes out, and what better way to start than by showing them how a smoke alarm works? (Vaccaro Group 2023, 2023)

Regrettably, some individuals do not take smoke alarms seriously, or just ignore them. The average battery-powered smoke alarm has a 10-year lifetime. The only thing that can warn you, your family, and your coworkers is a properly installed fire alarm that has been regularly maintained and monitored. Hence, to maintain continuous home safety, make sure you check the batteries in your smoke alarms on a regular basis. Even better, hard-wire a smoke alarm system into your home's mains electricity (Vaccaro Group 2023, 2023).

Installing a smoke alarm should not be put off any longer. Contact the Vaccaro Group now for skilled electrical services covering all of your electrical wiring and installation needs, including hard-wired smoke detection systems (Vaccaro Group 2023, 2023).

Usage of smoke detector in buildings

In structures, smoke detectors detect the presence of smoke and fire. They are an important safety component in every structure and are designed to protect inhabitants from fire hazards. Smoke detectors are often mounted on the ceiling and can be hardwired or battery-powered.

The primary function of smoke detectors is to warn building occupants of a fire. As a fire starts, it emits smoke, which the smoke detector detects. The detector then raises an alarm, alerting the building's residents to escape immediately. This

early warning system has the potential to save lives by providing individuals with adequate time to evacuate the building before the fire gets too hazardous.

Smoke detectors can also be used to notify the fire department. Many smoke detectors are linked to a fire alarm system, which alerts the fire service automatically in the event of a fire. This early signal allows firefighters to respond swiftly and efficiently, perhaps reducing fire damage.

To summarize, smoke detectors are critical building safety measures. They may detect the presence of smoke and fire, inform building inhabitants, and call the fire service. Building owners can assist protect their inhabitants' lives and property by installing smoke detectors.

Task 1

Project aims

The smoke detector project seeks to design and build a device that can detect the presence of smoke in an environment and notify people to the possibility of a fire. The project's goal is to increase fire safety while lowering the danger of property loss and personal injury.

The smoke detector will be intended to be simple to install and operate, with clear operating and maintenance instructions. It will be outfitted with sensors that can detect even trace levels of smoke and will be capable of emitting a loud alert to notify building occupants.

The project will also ensure that the smoke detector is dependable and accurate, with a low chance of false alarms. This will entail thorough device testing and calibration, as well as continuing monitoring and maintenance to ensure that it continues to perform effectively over time.

The overall goal of the smoke detector project is to create an effective and economical solution for detecting and preventing fires, as well as to increase awareness about the need of fire safety in homes and workplaces.

Project objectives

The primary purpose of smoke detectors is to detect smoke in the air and notify people to the existence of a possible fire. Smoke detectors, on the other hand, strive to fulfill a number of secondary goals. These are some examples:

- To determine the minimum number of smoke detectors necessary in a structure, do a detailed examination of fire safety rules and laws.
- To establish the appropriate location and amount of smoke detectors, building variables such as size, occupancy type, and layout must be evaluated.
- To establish the amount of fire threat in the building and whether more smoke detectors are required.
- To make suggestions for smoke detector installation and maintenance to maintain optimal performance.

Smoke detectors' primary goal is to save lives by detecting smoke and alerting people to the existence of a fire. To achieve this goal, however, a multimodal strategy is required, including early detection, prevention, protection, compliance, and education.

Project management plan

The goal of this project management plan is to lay out the stages involved in developing and manufacturing a new smoke detector for home and commercial usage. The project scope, timetable, budget, risk management, and stakeholder management will all be included in this plan. The smoke detector will be userfriendly and cost-effective, while also providing optimal safety for end-users.

Project scope

The goal of this project is to design, develop, and produce a new smoke detector that is simple to install, user-friendly, and affordable. The smoke detector will be built to fulfill the safety standards of both residential and business settings.

Project timeline

The following is the project timeline:

- One week of training

Planning takes 3 weeks, Design and Development takes 10 weeks, and Testing and Quality Control takes 4 weeks.

- Production time is 8 weeks.
- 1-week deployment

Project budget

This project has a budget of $500,000. The costs of design and development, testing and quality control, manufacturing, and deployment will be covered by this budget.

Project risk

The following are the hazards linked with this project:

- Technological risks: Technical challenges may arise throughout the design and development phase. The project team will do extensive study and testing throughout the development phase to reduce this risk.
- Financial hazards include the possibility of going over budget. To avoid this risk, the project team will stick to a fixed budget and closely monitor all spending during the duration of the project.
- Regulatory hazards include the possibility of failing to fulfill regulatory obligations. To reduce this danger, the project team will do comprehensive study and testing to guarantee that the smoke detector complies with all applicable standards.

Project Stakeholders management

This project's stakeholders include the project team, the manufacturer, and the end users. To guarantee that the smoke detector is constructed to the highest standards, the project team will collaborate closely with the manufacturer. The project's progress will be communicated to the end consumers, who will be requested for comment on the final result.

Project documentation

Good documentation is critical to ensuring that all project activities are well documented and easily accessible. The documentation plan outlined below will be implemented:

Upkeep of a project file containing all project-related papers and information.

- The project plan and timeline are updated on a regular basis.
- All project decisions and adjustments must be documented.

Implementation

A smoke detector is a type of electrical equipment that detects smoke and sounds an alarm to warn occupants of a fire. The goal of this project is to design and build a smoke detector circuit utilizing an Arduino microcontroller and a smoke sensor module. The goal is to create a dependable and effective smoke detector that may be utilized in homes, businesses, and public spaces.

Requirement

- Arduino Uno r3 board
- Smoke sensor module (MQ-2)
- LED light
- Buzzer
- 220oms resistor
- Breadboard
- Jumper wires

Design and implementation

- Attach the MQ-2 smoke sensor module to the Arduino board by connecting the VCC and GND pins to the board's 5V and GND pins. Attach the sensor's digital output pin to the board's digital pin 2.
- Attach the LED light to the board's digital pin 3 and the buzzer to the board's digital pin 4.
- Attach a 220 resistor between the LED light and the board's digital pin 3.
- Create the smoke detector circuit code. When smoke is detected, the code should read the output from the smoke sensor module and switch on the

LED light and buzzer. When no smoke is detected, the code should also turn off the LED light and the buzzer.

Evaluation and testing:

Turn on the Arduino and upload the code.

- Blow smoke near the smoke sensor module to test the detector.
- Check to see if the LED light and buzzer turn on when smoke is detected and off when there is no smoke.
- Test the smoke detector in a variety of conditions to guarantee its dependability and accuracy.

Project communication

Communication: Good communication is critical to the project's success. The following communication strategy will be put in place:

- Project meetings are held on a regular basis to discuss progress, concerns, and solutions.
- Reports on project progress to stakeholders.
- Communication with suppliers and vendors should be done on a regular basis.

Project quality

The smoke detector must fulfill all safety requirements and laws, which is a key part of this project. The following steps will be done to assure quality:

- Quality control measures are implemented at each level of the project.
- Testing the smoke detector on a regular basis to guarantee compliance with safety regulations.
- Compliance with all applicable laws and regulations.

Project resources

This project's stakeholders include the project team, the manufacturer, and the end users. To guarantee that the smoke detector is constructed to the highest standards, the project team will collaborate closely with the manufacturer. The

project's progress will be communicated to the end consumers, who will be requested for comment on the final result.

- Appropriate resource allocation for each step of the project
- Frequent resource utilization monitoring
- Identifying and resolving resource constraints
- Monitoring and reporting the condition of resources to stakeholders

Communication management strategies

Communication management strategies	**Objective**	**Target Audience**	**Message**
Project meeting Group A	To introduce the project and its goals	Project team members	Provide and overview if the project including the purpose, scope and expected outcomes
Project meeting with Group B	To ensure project progress and address any issues or concerns	Project team members	Review project status, discuss any issues, and plan for upcoming activities
Stakeholder engagement plan	To keep stakeholders, inform and engaged throughout the project	Stakeholders (e.g.; customers, supplies, and installation0	Communication project progress and any changes that may impact stakeholders and solicit feedback and input
Change management plan	To manage any changes to the project scope or requirement	Project team members and stakeholders	Communication any proposed changes the rationale for the change and the potential impact on the project schedule or budgets
Risk management plan	To identify and manage project risks	Project team members and stakeholders	Communicate any identified risks, the likelihood and potential impact of each risks, and the plan to mitigate or manage each risk.

Status report	To provide regular updates on project progress	Project team members and stakeholders	Provide a summary of the project status including progress against milestones, upcoming activities, and any issues or risks
Project closeout meeting	To review project outcomes and lessons learned	Project team members and stakeholders	Review project outcomes and lessons learned, discuss any opportunities for improvement, an celebrate project successes

The intricacies of the project, the stakeholders engaged, and the communication requirements and preferences of the project team and stakeholders will, of course, influence the specific strategies and messages.

Schedule of Milestones:

- The first milestone is a market research study (2 weeks)
- Milestone 2: Prototype smoke detector (12 weeks)
- 3rd milestone: testing report (14 weeks)
- Marketing strategy is the fourth milestone (18 weeks)
- 5th milestone: Distribution strategy (20 weeks)
- Launch of a smoke detector is the sixth milestone (26 weeks)

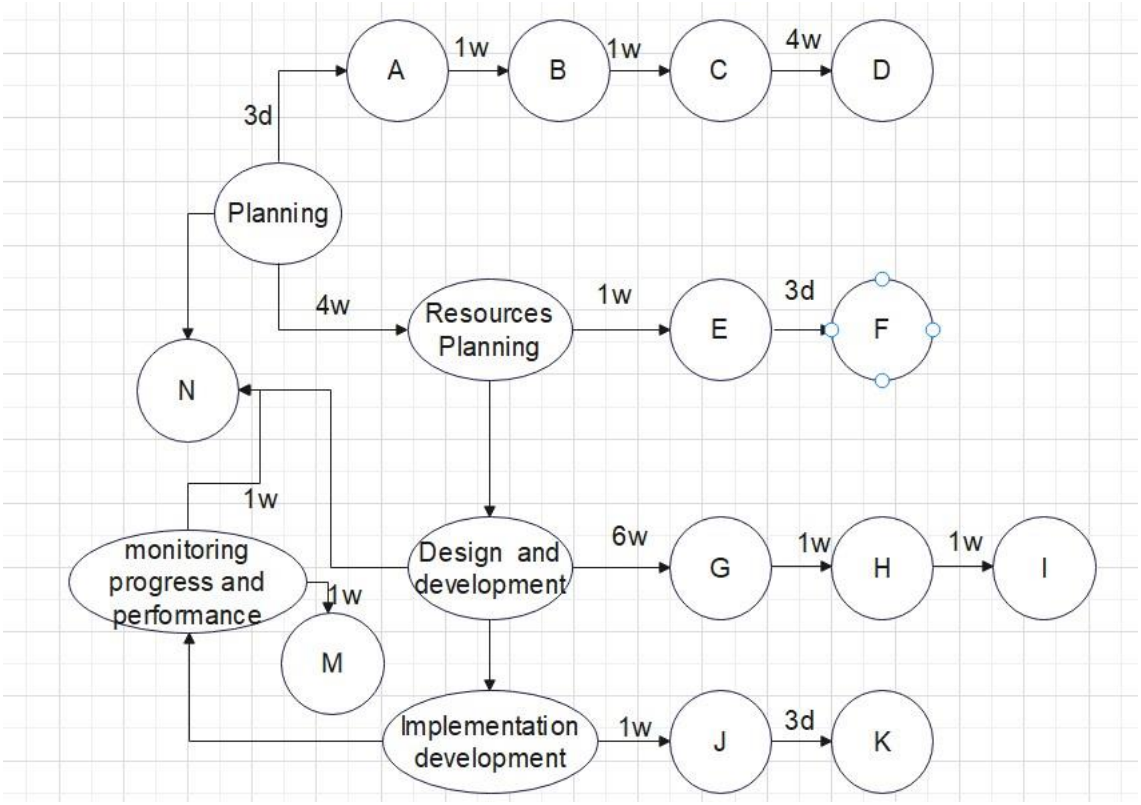
Project schedule

Title	Task name	Activity	duration	start	finish
Panning	Define project scope and objectives	A	3 days	Tue 2/28/23	Thu 3/2/23
	Set project goals and objectives	B	1 week	Fri 3/3/23	Thu 3/9/23

	Identify stakeholders and their roles	C	1 week	Fri 3/10/23	Thu 3/16/23
	Develop project plan	D	4 weeks	Fri 3/17/23	Thu 4/13/23
Resource planning	Determine requirement	E	4 weeks	Fri 4/14/23	Thu 5/11/23
	Allocate resource	F	1 week	Thu 5/11/23	Wed 5/17/23
	Set timelines for resource utilization	G	3 days	Thu 5/18/23	Mon 5/22/23
and Design development	Design and develop project deliverables	F	6 weeks	Tue 5/23/23	Mon 7/3/23
	Test and refine delivery	H	1 week	Tue 7/4/23	Mon 7/10/23
	Create documentation	I	1 week	Tue 7/11/23	Mon 7/17/23

	tanning materials				
Implementation and development	Develop project deliverables	J	1 week	Tue 7/18/23	Mon 7/24/23
	Conduct user training	K	3 days	Tue 7/25/23	Thu 7/27/23
Monitoring progress and performance	Conduct final review and evaluation	M	1 week	Fri 7/28/23	Thu 8/3/23
	Document project outcomes and lessons	N	1 week	Fri 8/4/23	Thu 8/10/23

Network diagram



Task 2

Aims and objectives of the research:

Determine the primary elements influencing customer choices while purchasing smoke detectors.

- To identify the most significant qualities that customers seek in smoke detectors.
- To assess consumer awareness and understanding of smoke detectors.
- To evaluate the effect of pricing on customer purchasing decisions.

Qualitative research method

No	Questions	Feedback 2	Feedback 3	Feedback 4

1	What do you think of my project?	Project is good for the building and more secure about fire so I think its worth the budget to spend on this building.	It is good but some of us want to smoke within the building so it is not good for us to walk to outside of building instead of smoking inside.	It is good and secure for people in the building.
2	Do you think the project will work in case of fire or someone light up the cigarettes?	Yes, project will work but we can call the fire department in case of fire and I am sure they will come as soon as they can so I don't think	I think it is too expensive	We need more maintenance for more security
		we need to use this budget on this building for smoke detector.		

3	How is our maintenance?	Maintenance is good but I think we need to do maintenance more often so in the case of emergency, we will feel secure knowing the project work and it will save us.	Everything is good and I feel so secure in case of fire.	Too expensive
4	How can we do it better?	Lower the budget and develop faster	This is the best for me	Use more budget and make more sure smoke detector.
5	Do you like our design and placements of smoke detector?	Yes, Design are good and placement are ok for the right amount of attachment of smoke detector.	Design are hard to notice but not big or small enough for smoke detector	Hardly recognizable

Quantitative research method

Survey Questions	Strongly agreed,1	Agreed,2	Neutral,3	Disagrees,4	Strongly Disagreed,5

Does project improve the building and people safety?	100%	82%	60%	5%	3%
Do you think the project will work in case of fire or someone light up the cigarettes?	50%	34%	25%	2%	0
Speed of detection of smoke is fast enough to alarm people?	90%	78%	98%	11%	4%
Can we do better than this?	80%	75%	34%	23%	12%
Do you like our design and placements	90%	86%	56%	12%	0

of smoke detector?					

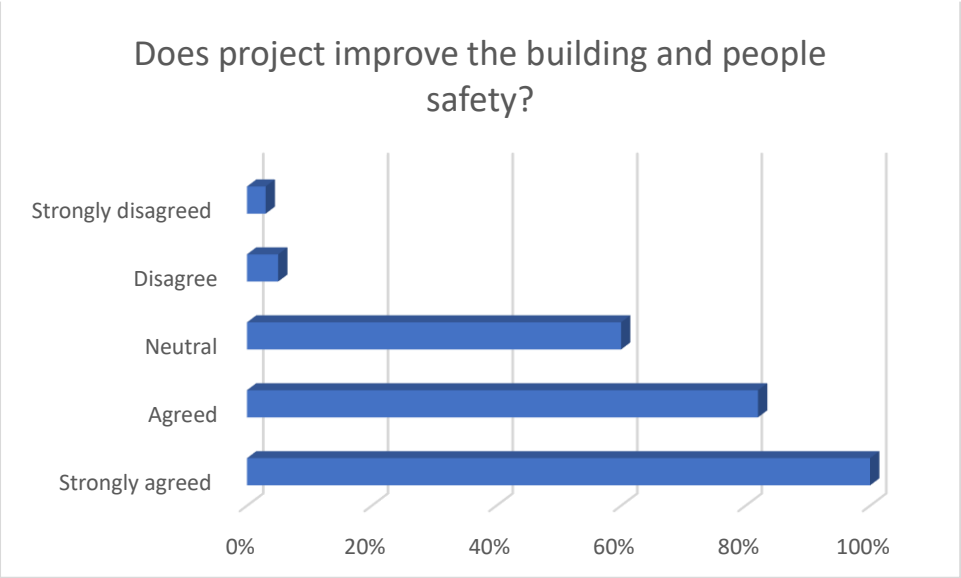


Figure: 1.1 Does project improve the building and people safety

Figure: 1.2: Do you think the project will work in case of fire or someone light up the cigarettes

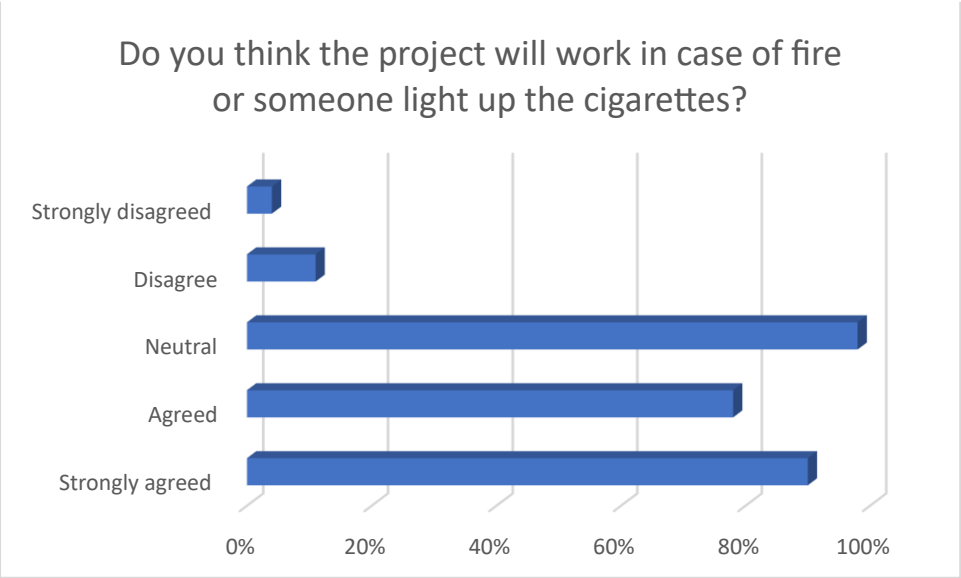


Figure: 1.3 Do you think the project will work in case of fire or someone light up the cigarettes

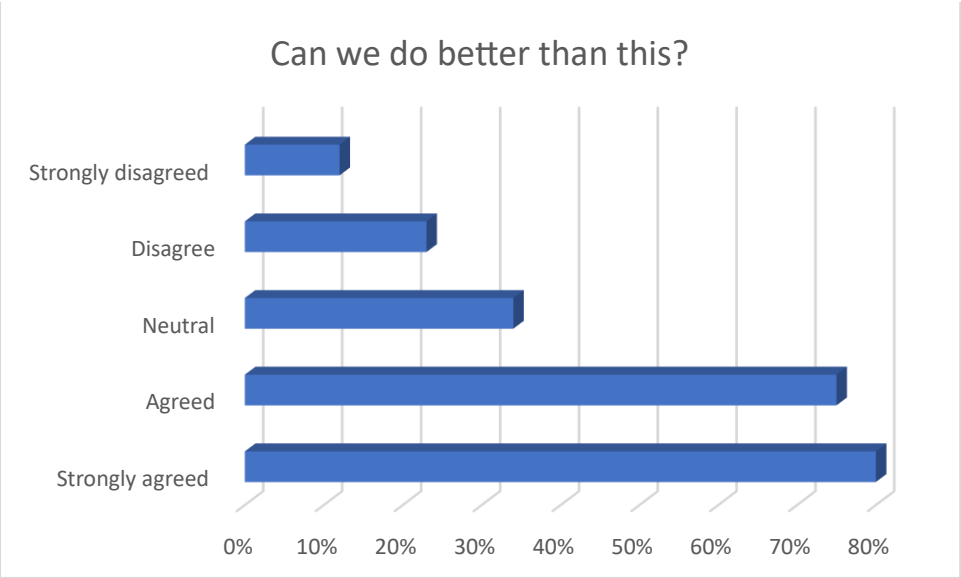


Figure: 1.4 Can we do better than this

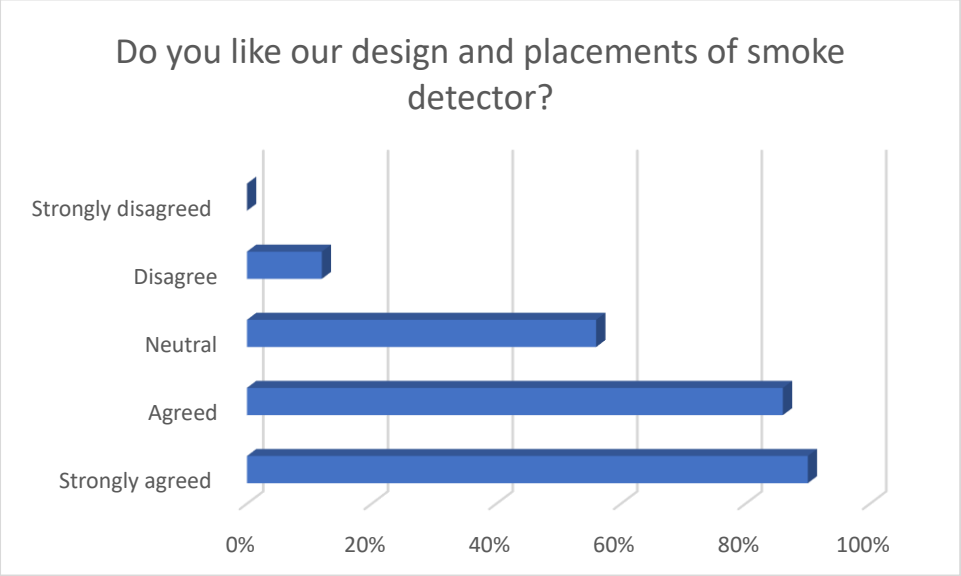


Figure: 1.5 Do you like our design and placements of smoke detector

According to the quantitative survey form, the most of the feedback depend on these title

Title	Benefits	Cons

Amount	Right amount of smoke detector in building to make	Coast a lot of electric bills
	people in the building feel secure	
Budget	Have good quality of products due to expensive budget	Use more than should be use for normal building budget
Performance	Detect fast for smoke and alarm fire detector	Use more water and this product will not work if there is no electricity
Products	Barely noticeable	none

Accuracy and reliability

To collect descriptive data regarding people's experiences and perceptions of smoking detectors, qualitative research approaches such as focus groups, interviews, and observations are employed. These strategies can be used to generate fresh ideas and investigate difficult situations that cannot be measured. Yet, because sample sizes are often small, findings acquired through qualitative research methodologies may not be generalizable to the greater population.

Quantitative research approaches, on the other hand, such as surveys and trials, try to assess and quantify certain factors connected to smoking detection. These approaches produce accurate and statistically significant results that may be extrapolated to larger populations. These may, however, fail to represent the nuanced and complicated nature of people's experiences and perceptions of smoking detectors.

Both qualitative and quantitative research approaches have advantages and disadvantages in terms of accuracy and dependability. It is critical to select the correct approach based on the research topic, data type, and research objectives.

Overall, combining qualitative and quantitative research approaches in a mixed methods approach can give a more thorough and nuanced knowledge of smoking detectors. Researchers can improve the validity and dependability of their conclusions by triangulating data from numerous sources.

Project management process

Introduction:

Smoke detectors are devices that detect smoke and warn people of a potential fire. Smoke detectors are frequently used to prevent fires in households and business structures. Smoke detector project management is critical to ensuring the safety of persons and property. This paper examines the project management of smoke detector procedures as well as the relevant research approaches used for smoke detectors.

Smoke Detector Process Project Management:

The process of planning, coordinating, and controlling resources to meet certain goals is known as project management. Smoke detector project management entails various stages, including design, testing, installation, and maintenance. Creating a blueprint for the smoke detector and its components is part of the design step. The testing stage comprises determining the efficacy of the smoke detector in detecting smoke and triggering alarms. The installation step entails strategically positioning the smoke detector, while the maintenance stage entails examining and repairing components as needed (FAAST Fire Alarm Aspiration Sensing Technology®, n.d.).

Smoke detector project management must comply to industry standards such as the National Fire Protection Association (NFPA) recommendations. The NFPA recommendations specify the location, installation, and maintenance of smoke detectors. Moreover, smoke detector project management must respect to local construction norms and laws (FAAST Fire Alarm Aspiration Sensing Technology®, n.d.).

The budget, timing, and resources available for the project must all be considered while managing smoke detector procedures. The project manager, for example, must calculate the number of smoke detectors needed for the building as well as the cost of installation and upkeep.

Appropriate research methodologies applied

Suitable Smoke Detector Research Methodologies: Smoke detector research procedures include assessing the efficiency of smoke detectors in detecting smoke and triggering alarms. Laboratory testing, field testing, and statistical analysis are all viable research approaches for smoke detectors (Alvin Sarraga Alon, 2020).

Smoke detectors are tested in a controlled laboratory environment to determine their efficacy in detecting smoke. Laboratory testing include simulating a smoke environment in a smoke chamber and analyzing the smoke detector's reaction time and accuracy (Alvin Sarraga Alon, 2020).

Field testing entails putting smoke detectors through their paces in real-world scenarios to see how well they detect smoke. Installing smoke detectors in buildings and evaluating their efficacy in detecting smoke and triggering alarms is what field testing entails (Alvin Sarraga Alon, 2020).

To evaluate the effectiveness of smoke detectors, statistical analysis entails examining data acquired from laboratory and field testing. The sensitivity, specificity, and false alarm rate of smoke detectors are all evaluated statistically (Alvin Sarraga Alon, 2020).

Conclusion:

The right research methodology for smoke detectors, as well as project management of smoke detector procedures, are crucial in maintaining the safety of persons and property. Smoke detector project management must correspond to industry standards as well as local construction laws and regulations. Laboratory testing, field testing, and statistical analysis are all viable research approaches for smoke detectors. The ability of smoke detectors to detect smoke and trigger alarms is critical in averting fires.

Analyze research and data using appropriate tools for smoke detector

- Statistical analysis: Statistical analysis may be used to analyses smoke detector data. This may include calculating means, medians, and standard

deviations, as well as doing hypothesis tests to see if the data supports specific findings.

- Data visualization: Graphs and charts can be used to graphically portray smoke detector data. This can aid academics in identifying trends and patterns in data.
- Regression analysis may be used to investigate the association between various factors connected to smoke detectors. For example, researchers may use regression analysis to see whether there is a link between the age of a smoke detector and its ability to detect smoke.
- Qualitative analysis is looking at non-numerical data on smoke detectors, such as written or spoken comments from survey participants. This form of analysis can be used to find themes and patterns in data that statistical analysis alone may not reveal.
- Machine learning methods may be used to examine big datasets pertaining to smoke detectors. These algorithms can recognize trends in data and generate predictions, which might be important in building more effective smoke detection technology.

Authenticity to support

When it comes to offering recommendations for smoke alarms, authenticity is critical. Before giving any recommendations, the validity of the product and its characteristics must be checked. Here are some of the reasons why authenticity is so important:

- Genuine smoke detectors are more dependable since they have been tested and certified by authorized agencies. This assures that the product satisfies the necessary safety requirements and performs as expected.
- Quality: Genuine smoke detectors are manufactured using high-quality materials and components, assuring their durability and ability to survive tough circumstances. They are also intended to perform properly and efficiently, providing early alerts in the case of a fire.

- Safety: Genuine smoke detectors are designed to detect smoke and fire threats, offering early warnings to assist individuals in safely exiting the premises. Non-authentic or counterfeit smoke detectors may not operate properly, resulting in a delay in recognizing the hazard, which can be fatal.
- Warranty: Genuine smoke detectors provide a warranty, which ensures that the manufacturer stands behind their device. This provides customers confidence that they are buying a high-quality product that will perform as expected.

Finally, when it comes to smoke detectors, authenticity is critical. Genuine smoke detectors are dependable, long-lasting, accurate, and compatible with safety requirements. People may verify that they are utilizing a safe gadget that will perform as intended in the event of a fire by selecting an authentic smoke detector.

Justify recommendation

Early fire detection

Early fire detection: Smoke detectors detect smoke and inform building occupants before a fire grows too large or deadly. This early notice can allow individuals to flee the premises or take proper action.

Conclusion

1. Early identification of fires is crucial for preserving lives and minimizing property damage.
2. Among the most prevalent early fire detection technologies in use today are smoke detectors and fire alarms.
3. Both residential and commercial structures can benefit from early fire detection systems.

Alert

Smoke detectors have the potential to save lives by alerting people to the presence of smoke and fire. According to the National Fire Protection Association

(NFPA), three out of every five house fire deaths occur in homes that do not have functional smoke detectors.

Conclusion

1. The National Fire Protection Association (NFPA) is a non-profit organization dedicated to reducing the global impact of fire and other risks.
2. The NFPA creates and publishes fire prevention, protection, and response rules and standards that are widely used and referenced by business, government, and the general public.
3. To increase awareness and knowledge of fire safety principles and practices, the NFPA provides training and instruction to fire safety experts, first responders, and the general public.

Property protection

Property protection: Smoke detectors can assist avoid major property damage by alerting the fire service as soon as feasible. Homeowners can save thousands of dollars in repair costs by doing so.

Conclusion:

1. Smoke detection is an important part of property protection since it provides early warning of probable fires and allows for prompt response and intervention.
2. Smoke detectors are readily accessible and reasonably priced, making them a practical and cost-effective choice for property owners wishing to improve fire safety and protection.
3. There are numerous varieties of smoke detectors available, including ionization and photoelectric detectors, each with their own set of advantages and disadvantages, and property owners should examine their individual needs and requirements when deciding which type is ideal for their home.

Function

Several states and towns mandate homeowners to have functional smoke detectors installed in their houses. Noncompliance with these regulations may result in fines or other legal penalties.

Conclusion:

1. Placing smoke detectors in a home is an important part of fire safety and protection since it provides early notice of potential fires and allows for prompt intervention and reaction.
2. Appropriate smoke detector placement is crucial to their efficacy in detecting smoke and potential fires, and property owners should carefully examine where their detectors should be placed depending on criteria such as ceiling height and room layout.
3. Smoke detectors should be put on every level of a home, including basements and attics, as well as in all bedrooms, living rooms, and common areas.

Installation

Smoke detectors are simple to install and maintain since they do not require any specific expertise or tools. Frequent testing and battery changes can guarantee that they are always operational.

Conclusion:

1. Smoke detectors must be properly maintained to guarantee its efficacy in detecting smoke and possible fires and giving early warning and protection.
2. Smoke detectors should be examined on a regular basis, according to the manufacturer's recommendations, to verify that they are working correctly and the batteries are still functional.
3. To ensure that smoke detectors are constantly active and providing optimum protection, property owners should change the batteries at least once a year or as instructed by the manufacturer.

Overall, installing smoke detectors in every room of your home is strongly suggested to safeguard the safety of your family and property.

Task 4

Reflect on the value of undertaking research to meet stated objectives and own learning and performance

Doing research to satisfy the stated objectives of a smoke detector project is critical for the project's success as well as the safety of the property and its inhabitants. Research aids in understanding the many types of smoke detectors available, the factors that influence their performance, and the optimum installation and maintenance techniques.

Doing research as the project manager of a smoke detector project aids in making educated judgments about the selection of smoke detectors, as well as their installation and maintenance. The study also aids in identifying project risks and obstacles, as well as formulating ways to address them.

Furthermore, conducting research aids in the improvement of one's learning and effectiveness as a manager. It improves comprehension of fire safety concepts and the significance of smoke detectors in safeguarding lives and property. Research also aids in the development of critical thinking and problem-solving abilities, both of which are required for the proper management of smoke detector projects.

Risks

- Risks to the Project's Schedule - There is a chance that the project may be delayed owing to unanticipated circumstances such as supplier delays, regulatory issues, or labor shortages. To mitigate this risk, the project team should design a realistic project timetable, regularly monitor progress, and implement contingency measures in the event of delays.
- Financial risks include the possibility that the project may go over budget owing to unforeseen expenditures or changes in scope. To mitigate this risk, the project team should create a clear budget and cost estimate,

continuously monitor spending, and make necessary modifications to stay under budget.

To summarize, research is critical for the success of smoke detector projects as well as the safety and protection of property and its people. It also aids in the advancement of one's knowledge, abilities, and performance as a manager, resulting in better decision-making and project management.

Performance review

Your capacity to take initiative and ownership of your job was one of your primary skills. You continually went above and beyond in studying the most recent technologies and methodologies, assisting us in developing a superior product. Your industry understanding enabled us to make sound judgments, and your contributions to the design process were vital.

Your communication abilities were also outstanding. You were always proactive in delivering team updates and keeping us updated on any concerns or bottlenecks that surfaced. Your ability to communicate complicated technical concepts in a clear and straightforward manner was much appreciated and contributed to a collaborative and productive work environment.

Your attention to detail and dedication to quality were visible throughout the process. You tested the product thoroughly to ensure that it satisfied all safety norms and laws. Your dedication to quality aided us in producing a product that we can all be proud of.

Overall, your work on the smoke detector project was outstanding, and I feel you contributed significantly to its success. Your passion, experience, and commitment to quality have been helpful to the team, and I eagerly await your contributions on future projects.

Risk assessment

Risk	likelihood	impact	Mitigation strategy
False alarm	moderate	Moderate	Install a smoke detection system that is less susceptible to
			environmental influences like cooking smoke or steam that might result in false alarms. Teach the building's tenants how to operate the system and handle phony alerts.

System failure	low	high	Test and maintain the system often to make sure it is operating correctly. To guarantee that the system keeps running in the event of a power outage, install a backup power source.
Inadequate coverage	Moderate	Moderate	Do a comprehensive inspection of the structure to locate any potential smoke detection gaps,
			such as wide open places or tall ceilings. Add more smoke detectors, or think about sprinkler systems or other fire protection alternatives.

Occupant injury	low	high	Aim to install and maintain smoke detectors in accordance with regional building rules and standards. Regularly practice fire drills and instruct residents on how to leave the building in an emergency.
Delayed response time	moderate	high	Make sure smoke detectors are put in the proper places to catch fire and smoke early. Test the system frequently to
			make sure it is operating correctly.

Malfunctioning equipment	low	moderate	Invest in smoke detection equipment from reliable vendors, and make sure it is working correctly by doing routine maintenance and testing.

Logbook

Project Title:Smoke detector		
Date: 28/ 02/ 2023		
Update on weekly research/tasks achieved		
Points to consider:		
What have you completed?	Planning the smoke detector and define scope and objectives	
Did you fulfill task requirements?	Yes	
Are you on track and within deadlines set?	yes	
Did you need to make any changes to your project management plan?	No	
Any risks and/or issues identified?	Yes	
Points to consider:		
Did you identify risks/issues with a lack of skills required for undertaking research/tasks?	No	
Did you identify any additional risks/issues that have an impact on the project management plan	yes	
Problems encountered		
Points to consider:		
What barriers did you face?	Technical difficulties: Hardware, software, and electronics design knowledge are all necessary for smoke detector projects. Technical difficulties might include integrating different components, developing the circuitry, and making sure the detector complies with the necessary standards.	Resources needed for smoke detector projects: staff, financing, and equipment are frequently in high demand. It can be difficult to effectively manage these resources.
How did you overcome them?	To aid with challenging technological issues, hire or consult with professionals in relevant technical fields.	Create a thorough project plan that details the resources needed, then distribute those resources as effectively as you can. To complement resources, think about outsourcing or collaborating with other businesses or contractors.
New ideas and change of project direction		
What have I learnt about myself this week?		
Points to consider:		
How did I feel when I had to deal with tasks/problems?	I feel like I am learning life lesson for my future self through risks and mistakes and how to handle problems while during this	
Did I find it useful to complete the tasks?	Yes	
How well have I performed? What did I contribute?	I performed the best.	
What can I improve on next week?	Learn to think about consequences before planning	
How might this learning apply in the future?		
Tasks planned for next week		
Points to consider:		
Which tasks are priority?	Planning and design and development	
Have you set aside sufficient time for completion?	yes	
Project plan status to date (on, ahead, behind)	ahead gatheringrequirements	

Gnat chart

Planning smoking detector project

		Planning smoking detect	**33 days**	**Tue 2/28/23**	**Thu 4/13/23**	**100%**		
✓		Define project scope and objectives	3 days	Tue 2/28/23	Thu 3/2/23	100%	GUSTO and DAW THIRI WIN	
✓		Set project goals and objectives	1 wk	Fri 3/3/23	Thu 3/9/23	100%	GUSTO and DAW THIRI WIN	3
✓		Identify stakeholders and their roles	1 wk	Fri 3/10/23	Thu 3/16/23	100%	DAW THIRI WIN	4
✓		Develop project plan	4 wks	Fri 3/17/23	Thu 4/13/23	100%	DAW THIRI WIN ar	5
		CompletePlanning Smoke Detector	0 days	Thu 4/13/23	Thu 4/13/23	0%		

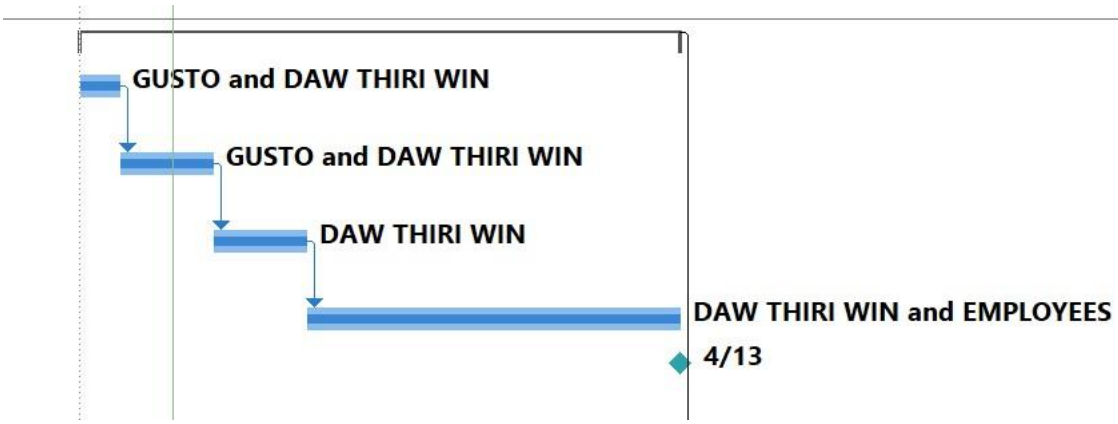


Figure 1.0: Planning tasks for 33days in total and results

Resources planning

		Resource Planning	**27 days**	**Fri 4/14/23**	**Mon 5/22/23**	**86%**		**2**
		Detemine requirement	4 wks	Fri 4/14/23	Thu 5/11/23	80%	ADMIN TEAM FROM COMPANY	
		Allocate resource	1 wk	Thu 5/11/23	Wed 5/17/23	100%	ADMIN TEAM AND	9
		Set timelines for resouceUtilization	3 days	Thu 5/18/23	Mon 5/22/23	100%	EMPLOYEE and DAW THIRI WIN	10
		CompleteResourcePlan	0 days	Mon 5/22/23	Mon 5/22/23	0%		

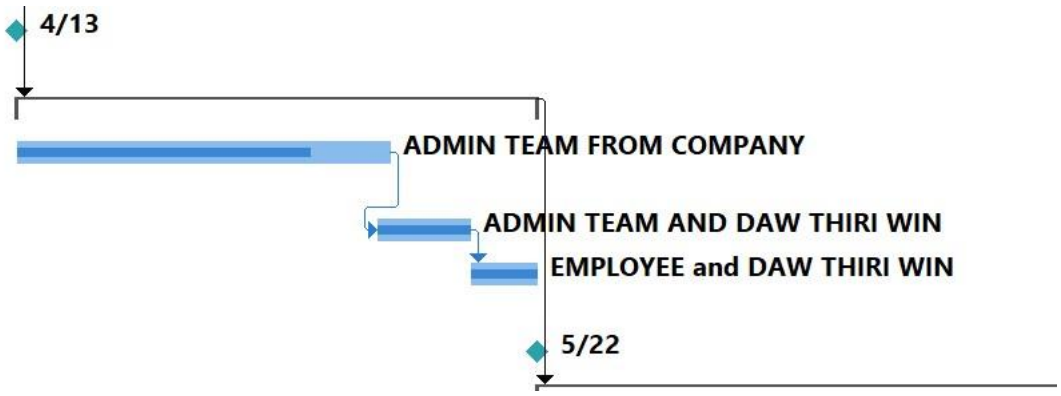


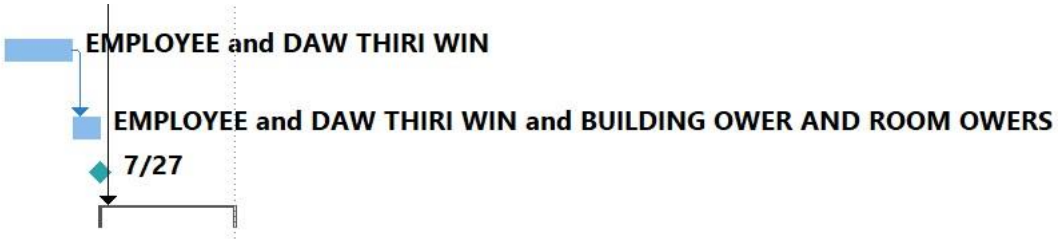
Figure 1.1: resource planning for 27 days in total and the results

Design and development

		Design and development	40 days	Tue 5/23/23	Mon 7/17/23	0%		8
		Design and develop project deliverables	6 wks	Tue 5/23/23	Mon 7/3/23	0%	EMPLOYEE and DAW THIRI WIN	
		Test and refine deliver	1 wk	Tue 7/4/23	Mon 7/10/23	0%	EMPLOYEE and DA	14
		Create documentation trainning materails	1 wk	Tue 7/11/23	Mon 7/17/23	0%	EMPLOYEE and DAW THIRI WIN	15
		CompleteDesingDevelc	0 days	Mon 7/17/23	Mon 7/17/23	0%		

Figure 1.2: design and development for 40 days in total and the results

Implementation and development



		Implementation and development	8 days	Tue 7/18/23	Thu 7/27/23	0%		13
		Develop project deliverables	1 wk	Tue 7/18/23	Mon 7/24/23	0%	EMPLOYEE and DAW THIRI WIN	
		Conduct user trainning	3 days	Tue 7/25/23	Thu 7/27/23	0%	EMPLOYEE and DA	19
		CompleteImplementat	0 days	Thu 7/27/23	Thu 7/27/23	0%		

Figure 1.3: Implementation and development for 8 days for total and the results

Monitoring progress and performance

		Monitor project progress and	10 days	Fri 7/28/23	Thu 8/10/23	0%	18
		Conduct final review and evaluation	1 wk	Fri 7/28/23	Thu 8/3/23	0%	EMPLOYEE and DAW THIRI WIN
		Document project outcomes and lessons	1 wk	Fri 8/4/23	Thu 8/10/23	0%	GUSTO and DAW THIRI WIN 23
		CompleteMonitorProje	0 days	Thu 8/10/23	Thu 8/10/23	0%	

Figure 1.5: Monitoring progress and performance for 10 days in total and the results

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