



TASKS

Project Bank

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Managing a Successful Computing Project-1-0-Spring

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Task 1: Introduction to the Theme

Remote work: It is a work style that allows employees to work outside the traditional offices environment. It is based on the concept that work does not need to be done in a specific place to be carried out successfully but can be done from anywhere. It allows employees to achieve their goals and complete their projects as they like, and they also have the flexibility to design their days and make them live healthy and well. (remote work, 2021)

- Advantages of remote work for Bank: (remote work, 2021)

- 1- Flexible lifestyle: Employees who work remotely can start working early in the day so that they can devote themselves to doing other things, such as going to the doctor, caring for children, and can also take advantage of taking courses and completing their own education.
- 2- Better health and wellness: Employees who work remotely make less effort and high morale, as well as they are less susceptible to diseases and remain healthy and well, with a comfortable and calm feeling and away from work pressure.
- 3- Renewed passion for their job: Employees who work remotely do their work better and in less time, and the employee does not feel bored, and companies offer rewards to motivate them in order to continue and improve the goals and ensure their continuity.
- 4- Higher productivity: This is because the employee focuses on the things required to be accomplished, so no one is distracted and makes an extra effort, which increases productivity.
- 5- Cost savings: Employees save a lot of money that they spend, for example, when they work remotely, they do not need to pay money for transportation in order to go to work. Also,

companies will see a significant decrease in the level of expenses such as they do not need to pay rent, office furniture and other things.

- Cybersecurity issues associated with remote work for bank: (security remote work, 2021)

- 1- Phishing Emails: Attackers can send emails containing malware or viruses to destroy devices slow down the device or remove stored data.
- 2- Weak Passwords: When the employee sets a weak password, he puts himself at risk and puts all the company's data at risk.
- 3- Unsecured Home Devices: When employees work remotely, they use their devices to access the company's network, so it may cause a security problem for the company, so companies have virtual private networks to maintain security and data transmission remains in an encrypted form, which increases security. As well as Wi-Fi printers, they contain many security holes that attackers can exploit.
- 4- Unencrypted File Sharing: When employees work remotely, they need the data stored in the company database, so the data will be transmitted, so the data can be compromised, ransom attacks occur, or for reputation damage.
- 5- Unsecured Wi-Fi Networks: Internet networks are one of the most important things to provide security, because employees think only of devices and forget routers to update and maintain them constantly, because they will contain loopholes.

- Specify what kind of technology tools and guidelines can be utilized to ensure employees' at-home secure use of networks and applications: (security tools, 2021)

- 1- The bank must set the permissions to access the network and make sure of the people who have obtained these permissions in order to prevent unauthorized persons from entering the network, which makes the company in a good state of safety.
- 2- All employees must download antivirus software to protect their devices from viruses, Trojans, worms and spyware, so it prevents damage to the device and provides security for protection.
- 3- Security professionals must discover security vulnerabilities to prevent any disruption to network security and ensure business continuity.
- 4- The bank must sign their data backup storage agreement in order to obtain important data in the event that some data is lost, so backup is used to ensure that the data is preserved.
- 5- Ensure your firewalls are working well in order to manage network traffic and prevent unauthorized access.
- 6- Ensure the company's web security is using HTTPS, which provides a layer of protection.
- 7- Using virtual networks to provide an encrypted connection so that employees can work remotely to access the organization's network securely.

Task 2: Initial Problem Statement

- Initial problem:

After conducting your research and survey. It turns out that there are many problems, vulnerabilities and security threats in the company that affect the company's security greatly, including the following: malicious attacks, ransomware attacks, virus attacks, phishing emails, weak passwords, etc. Thus, these security holes will affect the company's work and reputation, making people unable to give their sensitive information to this company because it is not secure.

- Problem solution:

Therefore, we will create a special program for the organization that all employees download to their devices. When downloading this program, it asks for the username and password to verify the employee. When the program is run, it makes sure that the device contains an anti-virus program, if it does not have it, it will download it automatically in order to ensure the protection of devices and will provide employees with an encrypted connection in order to ensure the protection of data when moving from the devices to the data center such as a virtual private network (VPN), It also sends alert messages to specialists in the event that security vulnerabilities are found those cause problems for the organization in order to find a solution to this gap.

- Initial aims and objectives:

The objective of conducting survey and research is to ensure that the company is protected from any security risks that may cause problems that prevent the continuation of works, which causes large financial losses and this makes the visitors unsatisfied with that. Therefore, an organized plan must be developed so that problems are solved before they occur, which makes the company continue its work without interruption. Therefore, a program will be established that provides protection for employees and protects sensitive data while working remotely, which will make the organization expand its goals and make it look at other things.

- Specify the type of the selected organization.

The organization is the bank and it is a financial organization that stores and protects money and grants loans to people and companies and provides other services. Therefore, the bank organization considers that security is an essential matter in their work system in order to protect data and obtain customer confidence and maintain the reputation of the organization and due to the shift of many IT employees to remote work which led to the discovery of new security vulnerabilities that affects their work.

Task3: Research Methodology Part 1

- Research methodologies:

What is research methodology? [research methodology](#)

It is many of the procedures and techniques used to identify, select, process and analyze information on a particular topic and considered a systematic way to solve problems using logical steps, which helps to obtain correct and reliable results and achieve goals.

Compare	Qualitative	Quantitative	Mixed
Definition	It is research that focuses on collecting and analyzing written or spoken information (text data) and is usually used in exploratory research in order to discover a problem that is not clearly defined.	It is a research that focuses on the measurement and testing of numerical data and is used when the research objectives are of a certain nature.	It is mixed methodological research that combines qualitative and quantitative methodologies to combine perspectives to obtain rich results.
Advantages	<ul style="list-style-type: none"> 1- Deeper understanding through confrontation. 2- Easy to organize. 3- Fast turnaround. 4- Greater confidentiality. 5- Quality control. 6- Inductive -derived from specific examples. 7- Text-based (words, pictures or objects). 8- No statistical tests. 9- Time expenditure lighter on the planning end. 10- Are not bound by limitations. 	<ul style="list-style-type: none"> 1- Its objectivity. 2- It relies on concrete numbers and fewer variables. 3- Help to remove biases from the research and make the findings more accurate. 4- Easier to obtain large sample sizes. 5- More cost-effective and faster. 6- Deductive (based on logical analysis of available facts). 7- Statistical tests are used for analysis. 8- Lighter on the analysis phase. 9- More generalizable. 	<ul style="list-style-type: none"> 1- Providing a better understanding of research problems and complex phenomena than any single approach. 2- Display both forms of data jointly. 3- Quantitative and qualitative data can validate each other and create a solid basis for drawing conclusions from evaluations. 4- The results of one method can be used to help develop the use of the other method.
Disadvantages	<ul style="list-style-type: none"> 1- More in-depth information on a few cases. 2- Unstructured or semi-structured response options. 3- largely depends on skill and rigor of the researcher. 4- heavier during the analysis phase. 5- Less generalizable. 6- Sample sizes involved in qualitative research are usually small. 	<ul style="list-style-type: none"> 1- Less in-depth. 2- Fixed response options. 3- Time expenditure heavier on the planning phase. 	<ul style="list-style-type: none"> 1- Conducting mixed methods research is not easy and involves several barriers. 2- They require more work and financial resources. 3- Researchers need to develop a broader set of skills.
Examples	In-depth interviews and focus group (Open-ended questions).	Surveys, observations (Closed-ended questions).	In-depth interviews and focus group, surveys, observation (Open and Closed-ended questions).

- Data collection methods:

1- Interviews.

2- Focus groups and group interviews.

3- Surveys (online or physical surveys).

4- Observations.

5- Documents and records.

6- Case studies.

- Methods and tools of information gathering:

The method I used to collect information and data is a quantitative research method. And the tool I used was Surveys (Closed-ended questions).

- Prepare the survey questions: (Remote work)

1-What age group do you belong to? *

18-20

21-30

31-40

41-50

+50

2-What is your gender? *

Female

Male

Prefer not to say

3-Did you work remotely before?

Yes

No

4-What are the issues or challenges you faced while you are working remotely?

Poor connection

Security challenges

Less focus

5-What are security measures has your company implemented to reduce remote work risk?

Email scanning

Phishing testing

Encryption testing

Vulnerability scanning and penetration testing

6-What are the biggest threats to bank security in your opinion?

The use of unencrypted data

Malware

Third-party services

Spoofing

Phishing

7-Do you use VPN?

Yes

No

8-Do you use your personal devices to work remotely?

Yes

No

9- How often do you change your password?

Once a week

Once every two weeks

Once a month

Don't change

10-Are the software applications that you use while working remotely secured?

Yes

No

Not bad

11-Does your organization train its employees on security awareness?

Never

Rarely

Frequently

Continuously

12-Do you think security measures would hinder or slow down your efficiency at work?

No

Yes, making work harder to perform than usual

13- Does your organization enforce any kind of security policy to secure remote work devices for example:

Password policy

VPN

Access policy

Encryption of data

14- Do you feel that cybersecurity is taken seriously in remote work?

Yes

No

15-Has your organization taken any steps to address the security concerns of remote workers?

Yes

No

16-Has your device ever been exposed to a virus?

Yes

No

17-Have you ever been subjected to a ransomware attack?

Yes

No

Don't know

18- How often do you backup your data during remotely work?

Daily

Weekly

Monthly

Never

Research Methodology Part 2:

- Explain which sampling techniques and methods are used in your research.

Sample: It is a group of people who will actually participate in the research, so people are carefully selected in order to represent the group as a whole, and this helps to draw good results and easy to analyze.

Type sampling method:

- 1- Probability sampling: is done by random selection, which means that each person in the population has an opportunity of being selected, allowing strong statistical inferences to be made about an entire group. (Quantitative research)
- 2- Non-probability sampling: It is done by non-random selection, which means that not every individual has an opportunity to be selected, and individuals are selected based on criteria, allowing data to be collected easily. (Qualitative research)

Type probability sampling:

- 1- Simple Random Sampling: In this sample, each person has an equal opportunity to be chosen that includes the entire population and is intended to be an unbiased representation of the group.
- 2- Systematic sampling: This sample is similar to simple random samples, but this sample has easy procedures and is done by assigning a number to each individual and individuals are selected based on regular intervals.
- 3- Stratified sampling: In this sample, the population is divided into subgroups, and the groups are divided according to the characteristics and common traits of the members, which makes the conclusions more accurate.
- 4- Cluster sampling: In this sample, the population is divided into subgroups, but a random group is chosen for data collection and analysis.

Type non-probability sampling:

- 1- Convenience sampling: This sample is the most widely used because it is fast, uncomplicated and economical, it is easy to reach members for the sample, and it is not generalizable.
- 2- Voluntary response sampling: This sample mainly depends on the ease of access, rather than searching for individuals to participate. Individuals volunteer themselves, like an online survey, which is always biased.
- 3- Purposive sampling: This sample is known as a judgmental sample and involves the researcher's experiences to select a sample that is more useful for research purposes.
- 4- Snowball sampling: This sample is used if it is difficult to reach the population to recruit participants through other participants.

I chose the probability sampling method, Simple Random Sampling because I used the quantitative research method, and I sent the questionnaire to the company, so they distributed the questionnaire to the company's members randomly.

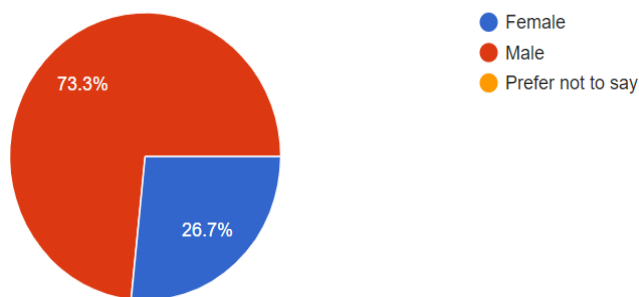
- Analyze the collected data.

The tools you used to analyze the data you collected were Graphical methods: bar chart and pie chart, scatter plot, dot plot, etc.

These are the results of the questionnaire that was presented previously and which I sent to the company for them to fill out.

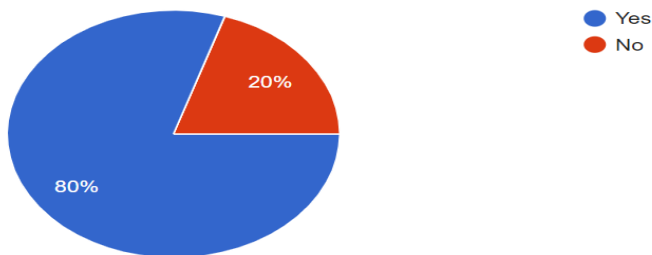
1- Asked them here what your gender is, and we saw that the percentage of males is higher than the percentage of females, and we saw that everyone disclosed his gender.

What is your gender? (11 Male, 4 Female, 0 Prefer not to say)



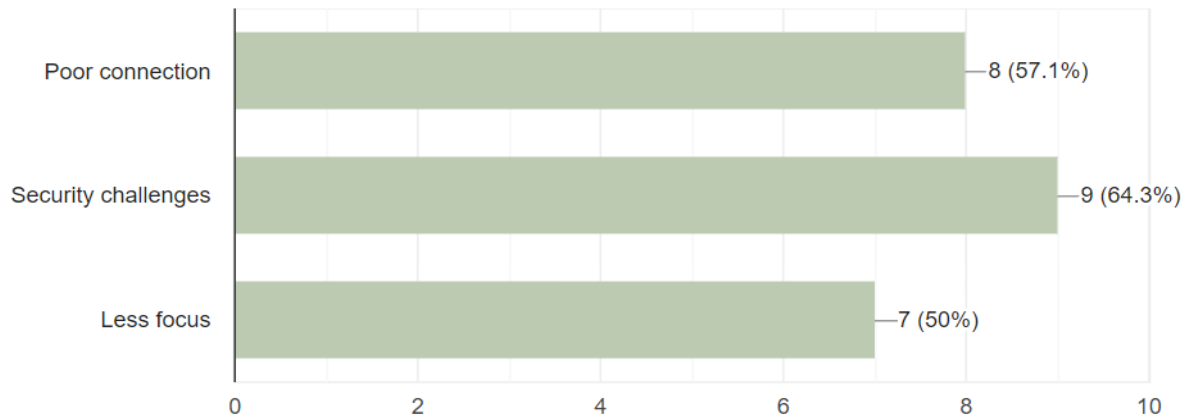
2- Asked them here if they worked remotely before, and we found that the percentage of individuals who worked remotely was greater, and the percentage of people who did not work remotely was a small percentage.

Did you work remotely before? (12 Yes, 3 No)



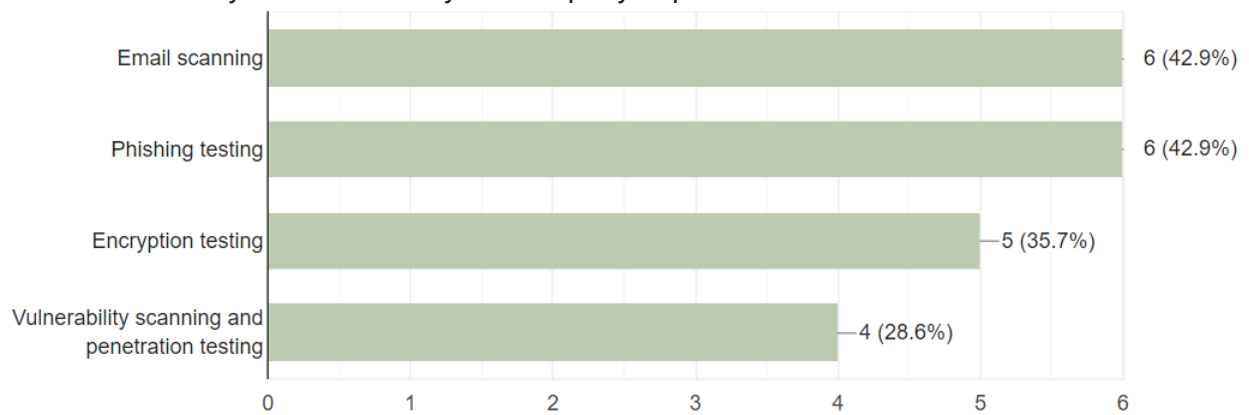
3- Asked them here about the challenges and problems that they faced while working remotely, and the percentages were somewhat close, and this indicates the annoyance of individuals about working remotely and that they have problems working remotely.

What are the issues or challenges you faced while you are working remotely?



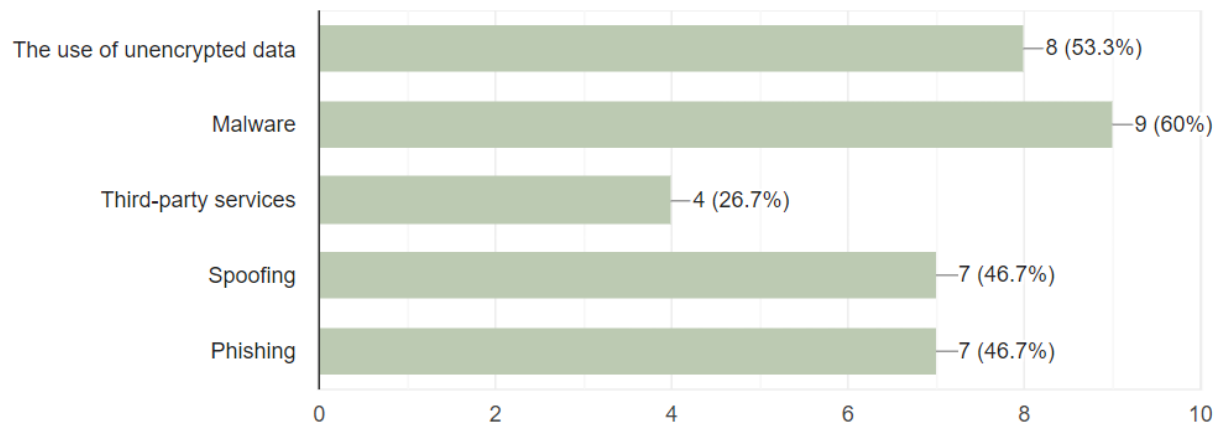
4- Asked them here about the procedures that the company uses to reduce risks while working remotely, based on the ratios, and we found that the company is working to find the causes of the security problems it suffers from, so it seeks to provide protection.

What are security measures has your company implemented to reduce remote work risk?



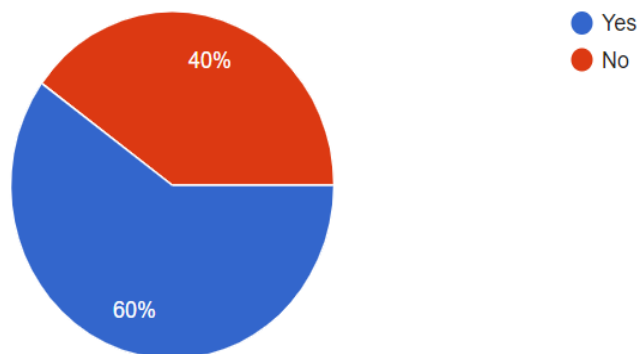
ratios are close and this indicates that the company suffers from many problems and differs in relation to the severity of the risks and their damage to the company.

What are the biggest threats to bank security in your opinion?



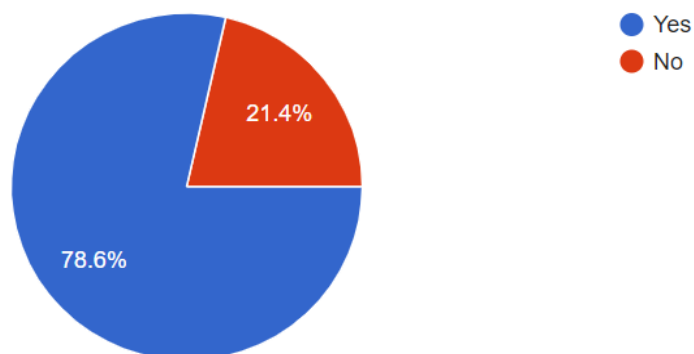
6- Asked them here if they use VPN, and we found that nearly half of the people who work in the company use VPN, and this indicates that the company seeks to provide protection for individuals who work remotely.

Do you use VPN? (9 Yes, 6 NO)



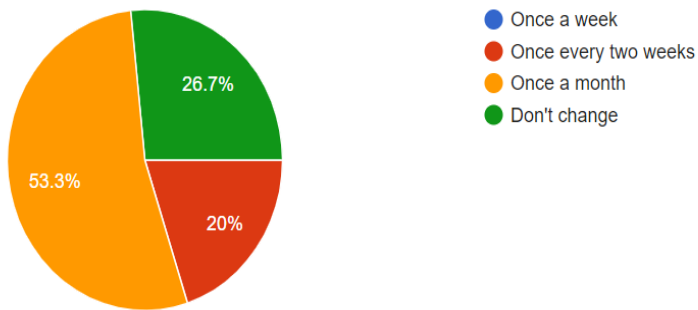
7-Asked them here if they use their personal devices while working remotely, and we found that there is a large percentage of individuals who use their devices, and this indicates that the company does not provide special devices for all individuals who work remotely, but rather for a small group of people, and this makes there are risks to the company's data, because not all Personal devices are well protected.

Do you use your personal devices to work remotely? (11 Yes, 4 NO)



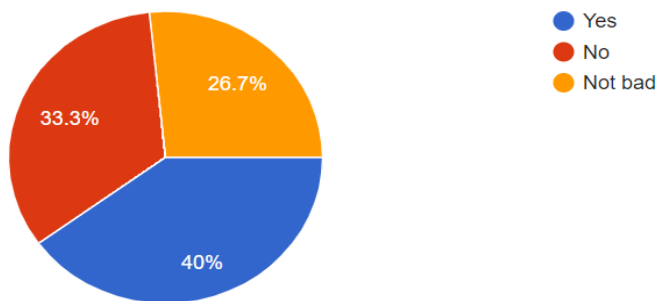
8-We asked them here how often they change the password, and we renewed that there is a large group that changes the password, but at certain intervals, and we found that almost a quarter do not change the password, and this causes security problems and makes the hacker able to know the password.

How often do you change your password? (0 once a week, 3 once every two weeks, 8 once month, 4 don't change)



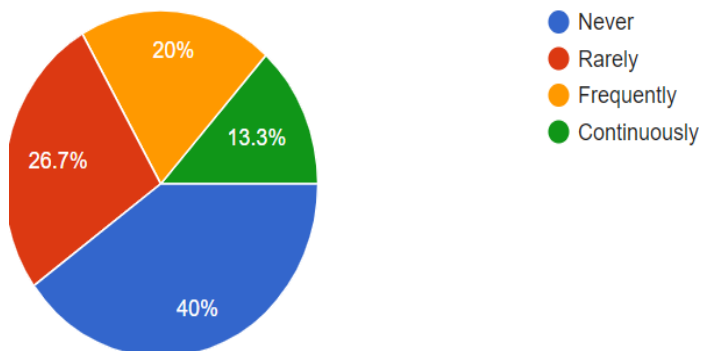
9- Asked them here, are the applications that you use to work secure, and we found that in the applications they use there are some security vulnerabilities, but they are not significantly harmful to the company.

Are the software applications that you use while working remotely secured? (6 Yes, 5 No, 4 Not bad)



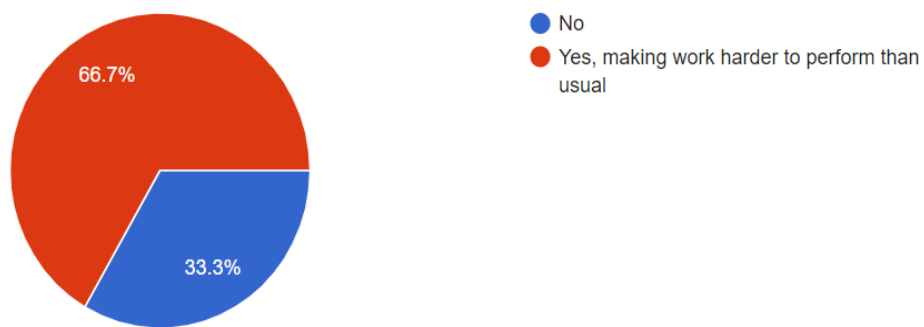
10- Asked them here if the company conducts training to educate employees on security, and we found that, given the lineage, the company does not do a lot of training to educate its employees, and this causes problems for the company and financial losses.

Does your organization train its employees on security awareness? (6 Never, 4 Rarely, 3 Frequently, 2 Continuously)



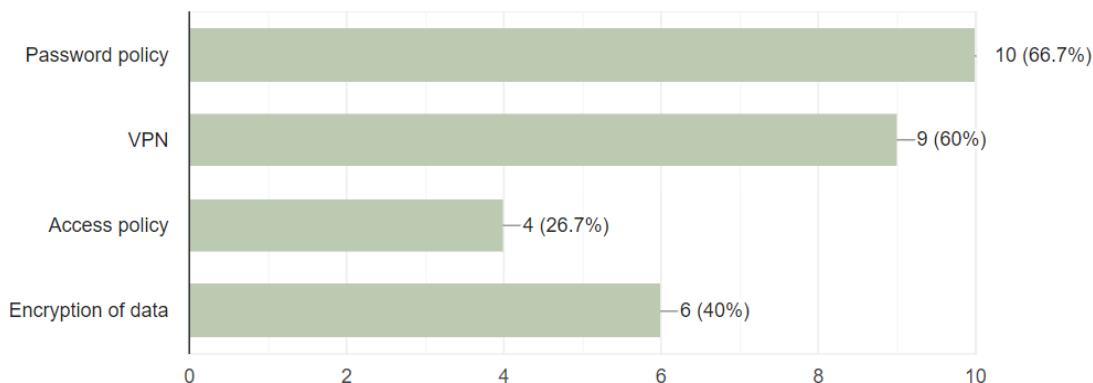
11-Asked them here if they think that the security measures will hinder or slow down their efficiency in work, and we found that the main reason people do not follow the security measures is that it takes a lot of time and this is what makes them not take these measures.

Do you think security measures would hinder or slow down your efficiency at work? (5 No, 10 Yes)



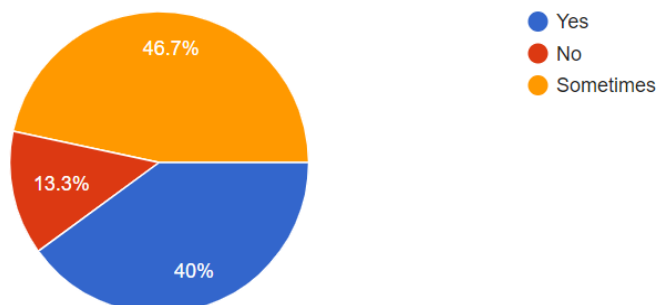
12-Asked them here whether the organization imposes any kind of security policy to secure remote work devices. We found that the company already implements many policies to provide protection, and this indicates that the company seeks to protect information.

Does your organization enforce any kind of security policy to secure remote work devices for example?



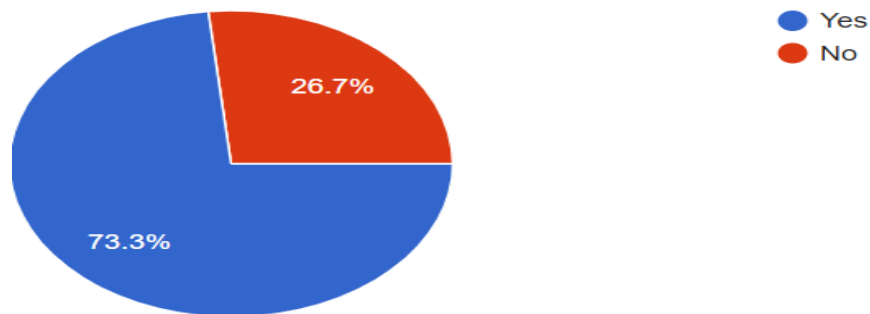
13-Asked them here if cyber security is taken seriously in remote work, and we found that employees are lenient regarding cyber security, and this indicates that the company did not impose a penalty on lenient people, and this causes harm to the company.

Do you feel that cybersecurity is taken seriously in remote work? (6 Yes, 2 No, 7 Sometimes)



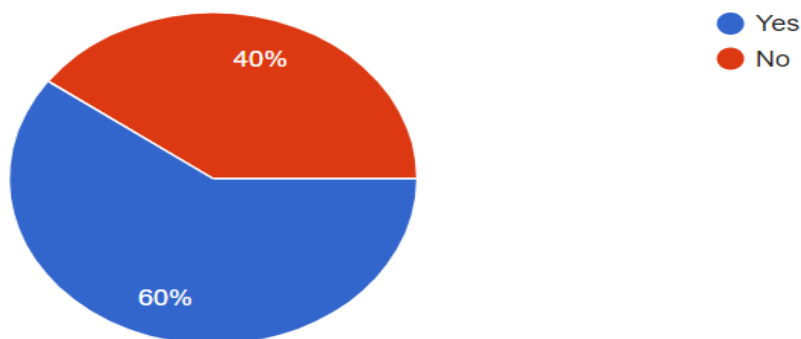
14-Asked them here if the organization took steps to address the security risks, and we found that the company seeks to solve all the security risks that could threaten it.

Has your organization taken any steps to address the security concerns of remote workers? (11 Yes, 4 NO)



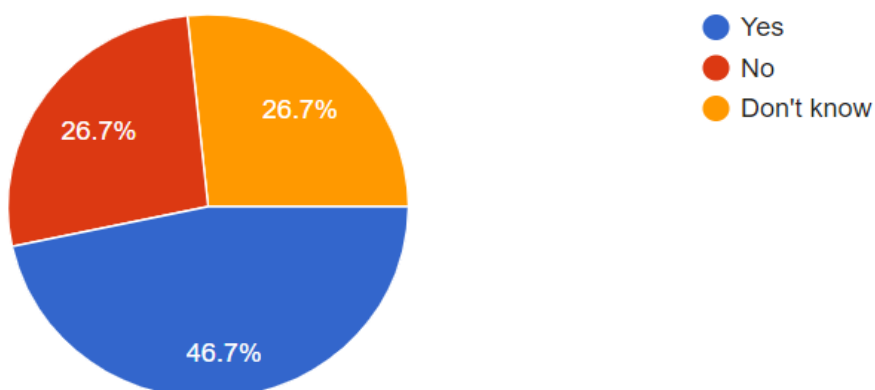
15-Asked them here if their devices were exposed to viruses, and we found that a large percentage have been exposed to the devices, and this indicates that most of the devices are not secured, which causes security problems that threaten the company.

Has your device ever been exposed to a virus? (9 Yes, 6 NO)



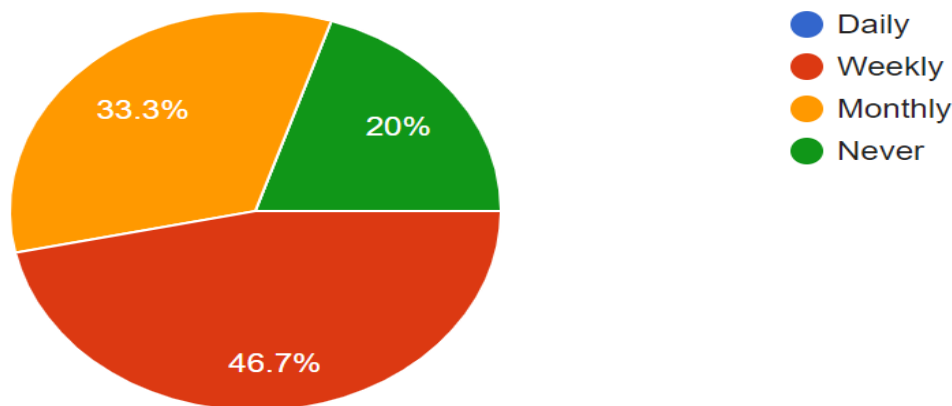
16-Asked them here if they had been subjected to a ransomware attack, and it turned out that almost half of the employees had been exposed to this, and a quarter of them did not know whether they had been attacked or not, and here we make sure that the company does not educate employees and also the company does not provide the necessary protection.

Have you ever been subjected to a ransomware attack? (7 Yes, 4 No, 4 Don't know)



17- Asked them here if they back up the data, and we found that a large percentage do backups and a small percentage do not do that, and this indicates that the company is keen on employees to upload data on a weekly basis.

How often do you backup your data during remotely work? (0 Daily, 7 Weekly, 5 Monthly, 3 Never)



-Propose a solution that combines innovative technologies with security guidelines to mitigate the cybersecurity risks facing your organization.

The company contains many problems that must be resolved before the company suffers significant financial damage and losses, including:

- 1- Training: The company should conduct many trainings about the necessity of changing the password on an ongoing basis, about the concept of cyber security and its necessity in maintaining security, about the necessity of using a VPN, about the necessity of using work devices while working, and about the necessity of using anti-virus programs daily.
- 2- Employees must use a VPN while working remotely.
- 3- Employees must change the password frequently.
- 4- Employees while working must use work devices because it is protected.
- 5- Employees should back up data on a weekly basis.
- 6- Employees must download anti-virus software specified by the company to protect the equipment.
- 7- Establish rewards and incentives for those who adhere to security measures.
- 8- Use the Nessus program to detect security vulnerabilities.

Project Proposal

PROJECT TITLE	Cybersecurity For Bank remote workers through Application.		
SUBMITTED BY	Hasan Alhwietat	PROJECT TYPE	Computing
PHONE / EMAIL	0788658586 / 20120098@htu.edu.io	TOTAL ESTIMATED BUDGET	86320\$
DATE OF PROPOSAL	1/4/2022	VERSION NO.	3
PROJECTED START DATE	8/4/2022	PROJECTED COMPLETION DATE	12/7/2022

Stakeholders		
PROJECT SPONSOR Commissions delivery of and champion's project; Provides vision and direction; Accepts responsibility		
Sinan Al-Abkar the organization in Bank		
PROJECT MANAGER Confirms need for project and validates objectives; Provides specs, monitoring, and overall delivery		
Hasan alhwietat		
ADDITIONAL STAKEHOLDERS		
STAKEHOLDER NAME	STAKEHOLDER ROLE	CONTACT INFO
Budget coordinator	Overseas expenses	Budget@gmail.com
Quality assurance manager	Ensures quality of the deliverables	Quality@gmail.com
Developers	Deliver the deliverables	EmpDeveloper@gmail.com
End users (mangers)	End users of the solution	-----

Application developer manager	Administrator and Application Industry Manager	DevelopManager@gmail.com
Cybersecurity manager	Data monitoring	Cybersecurity@gmail.com

PROJECT OVERVIEW

SUMMARY

Therefore, we will create a special program for the organization that all employees download to their devices. When downloading this program, it asks for the username and password to verify the employee. When the program is run, it makes sure that the device contains an anti-virus program, if it does not have it, it will download it automatically in order to ensure the protection of devices and will provide employees with an encrypted connection in order to ensure the protection of data when moving from the devices to the data center such as a virtual private network (VPN), It also sends alert messages to specialists in the event that security vulnerabilities are found those cause problems for the organization in order to find a solution to this gap.

OBJECTIVES

- 1- Protecting the company from risks and increasing security.
- 2- Increase employee productivity.
- 3- Reducing the waste of working hours due to the security risks that may occur.
- 4- Employee data protection.

BUSINESS JUSTIFICATION

We found that employees working remotely have many security issues, and we also found that they need awareness because some of the concepts related to security are not known to them. They are also not good at using complex security related applications. So, we have created a program that provides all kinds of necessary protection and will send an alert notification to specialists if problems are found.

TECHNOLOGY

- 1- A database to store all company data.
- 2- Back up the data of the database.
- 3- Download the program that was created on all the company's devices.
- 4- Use the Nessus program to detect security vulnerabilities.
- 5- Download Antivirus software.

RISK OVERVIEW

- 1- The employees' leniency in taking security measures, which leads to risks to the organization.
- 2- The company may exceed the limits when concerns increase as a result of conducting security risk detections and taking many actions that can cause system errors and cause problems for the company.
- 3- Going over budget or missing the deadline.

- 4- Working out of the scope.
- 5- Error configuring the program or adjusting commands.

SCOPE OF PROJECT	
IN SCOPE	Collect requirements from the managers.
	Design the application.
	Develop the application (writing code).
	Do a training for Employees.
	Operate the application on devices.
	Test and evaluate the application.
OUT OF SCOPE	Training for Managers.
	Tracking location by application
	Running the application outside the country
DELIVERABLES	
<ol style="list-style-type: none"> 1- SRS document (contains the requirements). 2- Application design. 3- Application final version. 4- Application testing and evaluation. 5- Training employees on how to use application. 	

TIMELINE / MILESTONES	
Note that this is an initial projection, deadlines may be subjected to changes after further planning.	
MILESTONE	DEADLINE
Identify Application requirements	18/4/2022
Application designing	13/5/2022
Application implementation front end and back end	2/6/2022
Application testing	22/6/2022
Application evolution	10/6/2022

Launch the application	1/7/2022
Training on application	12/7/2022

STAFFING RESOURCES		
FUNCTION	CAPABILITY REQUIREMENTS	Involvement
Front-end developer	Responsible for providing the best possible reception of the application by the user and easy to use. (2)	Vary high
Back-end developer	Has an experience to develop business logic and data layers. (2)	Vary high
UI-designer (outsourced)	Responsible to prepare, or design, the user interface. (1)	High
Tester (outsourced)	Responsible mainly for conducting manual test, that is system verification by using it analogically, as opposed to how end users will operate it. (1)	High
Trainers	They are trainers who are responsible for training all employees in order to demonstrate how to use the application on the job. (4)	High

PROJECT BUDGET / COST OVERVIEW
<p>1.1 Project Manager → 4000\$</p> <p>1.2 Identify Application requirements → 840\$</p> <p>1.3 budget Coordinator → 800\$</p> <p>1.4 Quality Manager → 1000\$</p> <p>1.6 Cybersecurity manager → 2520\$</p> <p>1.7 Developer Manager → 3000\$</p> <p>1.8.1 Database → 7500\$</p> <p>1.8.2 Laptops → 50000\$</p> <p>2.1 Application Designing → 2500\$</p> <p>2.2.1 Application implementation front-end → 3360\$</p> <p>2.2.2 Application implementation back-end → 3360\$</p>

2.3 Application evolution → 2000\$	
3.1 Identify problems App → 1600\$	
3.2 Problem-solving app → 2000\$	
4.1 Launch the application → 560\$	
4.2 Backup of the data → 480\$	
4.3 Download Antivirus software → 800\$	
GRAND TOTAL	86320\$

Task 4: Project Management Plan:

Produce a project management plan that covers aspects of scope, cost, resources, time, quality, communication, documentation, and risk.

Scope Management Plan

Product Scope Description

The application will solve all the problems that occurred during remote work for the bank company, it will provide security for the devices and will All employees download it to their devices. When you download this software, it asks for username and password for employee verification. When the software is run, it is ensured that the device has anti-virus software, if not, it will be downloaded automatically in order to ensure the protection of the devices and it will provide the employees with an encrypted connection in order to ensure data protection when moving from the devices to the data center such as a virtual private network (VPN) It also sends alert messages to specialists if security holes are discovered that cause problems for the organization in order to find a solution to this gap. Employees will be asked to reset the password on an ongoing basis, thus protecting the organization and increasing employee productivity and business continuity without interruption and We will train all employees on this application.

Project Charter (use the template)

Goals of Project

- Protecting the company from risks and increasing security.
- Increase employee productivity.
- Reducing the waste of working hours due to the security risks that may occur.
- Employee data protection.

Deliverables

- SRS document (contains the requirements).

- Application design.
- Application final version.
- Application testing and evaluation.
- Training employees on how to use application.

Business Case / Background

It turns out that there are many problems, vulnerabilities and security threats in the company that affect the company's security greatly, including the following: malicious attacks, ransomware attacks, virus attacks, phishing emails, weak passwords, etc. Thus, these security holes will affect the company's work and reputation, making people unable to give their sensitive information to this company because it is not secure.

The result:

We found that 75% of employees are exposed to malware attacks, ransomware attacks, virus attacks, phishing emails 75%, weak passwords 90%, etc. We found that a large percentage use unsecured personal devices 80% and also we found a large percentage 70% need To be trained in order to know the security policies that must be followed and to know about cyber security and how it affects the organization.

Scope and Exclusion

In Scope:

- 1- Collect requirements from the managers.
- 2- Design the application
- 3- Develop the application front and back end.
- 4- Test and evaluate the application.
- 5- Do a training for Employees.
- 6- Operate the application on devices.

Out of Scope:

- 1- Running the application outside the country.
- 2- Training for managers.
- 3- Tracking location by application.

Project Team

Project Sponsor: Sinan Al-Abkar the organization in Bank

Project Lead: Hasan Alhwietat

Project Team: -

- 1- Budget coordinator
- 2- Quality assurance manager
- 3- Developers
- 4- End users
- 5- Developer manager
- 6- Cybersecurity manager
- 7- Project manager
- 8- Designer
- 9- Testers
- 10- Trainers

Measuring Success:

- The application will provide a secure connection with the organization.
- When the application is running, will be reduced the organization's vulnerability to malware, viruses, phishing emails and ransomware.
- The employee will receive an alert every week in order to change the password.
- The employee will be able to be more productive because he knows the device is secure and there is no danger.
- The application will back up your data on a daily basis.
- The organization will conduct several training courses for employees to educate them.

WBS

	A	B	C	D	E	F	G	H	I
1									
2	WBS		Number	April	May	June	July	Total	
3	Project Management								
4	1.1 Project Manager		1	1000\$	1000\$	1000\$	1000\$	4000\$	
5	1.2 Requirements			840\$				840\$	
6	1.3 Budget Coordinator		1	800\$				800\$	
7	1.4 Quality Assurance Manager		1	1000\$				1000\$	
8	1.5 Developer Manager		1		1000\$	1000\$	1000\$	3000\$	
9	1.6 Cybersecurity Manager		1		840\$	840\$	840\$	2520\$	
10	1.7 Hardware								
11	1.7.1 Database		3	7500\$				7500\$	
12	1.7.2 Laptops		50	50000\$				50000\$	
13	2. Software Development								
14	2.1 Designing Interface		1		2500\$			2500\$	
15	2.2.1 Implementation App Front-En		2		3360\$			3360\$	
16	2.2.2 Implementation App Back-En		2		3360\$			3360\$	
17	2.3 Evaluation App		1			2000\$		2000\$	
18	3. Testing								
19	3.1 Identify problems App		1			1600\$		1600\$	
20	3.2 Problem-solving app		1			2000\$		2000\$	
21	4. Training								
22	4.1 Launch the App		1				560\$	560\$	
23	4.2 Back Up Of The Data		2				480\$	480\$	
24	4.3 Antivirus Software		2				800\$	800\$	
25									
26	Total			61140\$	12060\$	8440\$	4680\$	86320\$	
27									
28									
29									

WBS dictionary

WBS Dictionary Entry April 8

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 1.1

WBS Item Name: Project Manager

Description: He will manage the project from its beginning to its end by setting plans and developing proposed ideas. He will also be an observer during the implementation of the project, solving problems that may arise during work, and evaluating the project's performance. He will also define the project's objectives, define the scope of the project, organize roles, and determine the cost of the project. And make the project fit the client.

WBS Dictionary Entry April 13

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 1.2

WBS Item Name: Requirements

Description: Determining the project's needs and requirements that the project needs to ensure its success. Here we can say what is the thing that we may need in our project. These goals and requirements have been set in the previous questions.

WBS Dictionary Entry April 18

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 1.3

WBS Item Name: Budget Coordinator

Description: It determines the financial needs of the project and does this by analyzing all operations and expenses, designing the application, building the application, developing the application, conducting a test for it, training the employees on it, and the salaries of the employees who will work on this project. Finance for the entire project.

WBS Dictionary Entry April 24

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 1.4

WBS Item Name: Quality Assurance Manager

Description: He is responsible for the development and maintenance of the project and tests the quality of the project every period of time so that the project is running well and ensure its work and sets regulations to ensure the quality of the project and plans for project development and supervision of staff.

WBS Dictionary Entry May 1

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 1.5

WBS Item Name: Development Manager

Description: He is responsible for developing the application, ensuring its work, making sure that there are no problems and fixing it, if any. He directs the employees and gives them tasks to complete on time to ensure the safety of the project.

WBS Dictionary Entry May 10

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 1.6

WBS Item Name: Cybersecurity Manager

Description: He examines the project and makes sure that the project is free of risks, and if there are risks, he will identify and solve them to ensure that the project is free of risks and monitor the project until it ends and plans to continue with the same safety.

WBS Dictionary Entry April 20

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 1.7 1.7.1 1.7.2

WBS Item Name: Hardware (Database, Laptops)

Description: Purchasing database devices to store information related to the company and purchasing laptops for employees to work in, because they are more protected than personal

laptops for employees, which makes the company not threatened.

WBS Dictionary Entry May 15

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 2.1

WBS Item Name: Designing interface

Description:

It is a process through which the user interface of the application is visualized so that it is suitable for the user and the shape must be distinctive to suit the user and be satisfactory and consistent.

WBS Dictionary Entry May 24

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 2.2.1

WBS Item Name: Implementation App front-end

Description: We will create and develop the front end of the application so that it fulfills the project requests and is suitable for the customer as it provides the structure and appearance of the application so that it works well and is free of defects and fits all devices that use the application.

WBS Dictionary Entry May 30

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 2.2.2

WBS Item Name: Implementation App back-end

Description:

We will create and develop the back-end of the application so that it fulfills the project's requests and is suitable for the customer as it provides data storage and organizes it so that it works well and is free of defects so that it can preserve the data.

WBS Dictionary Entry June 5

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 2.3

WBS Item Name: Evaluation App

Description: He uses the created application, evaluates it, and experiments with the features in the application, which helps to modify some ideas and improve shapes so that the application becomes better for the customer.

WBS Dictionary Entry June 15

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 3.1

WBS Item Name: Identify problems App

Description: In which the problems in the application are identified and some errors are identified in the form, which the customer does not like, and any things, for example, in the way of entering data, finding an error in the request for data or an error in the database. All problems are identified in this step.

WBS Dictionary Entry June 20

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 3.2

WBS Item Name: problem Solving App

Description:

Solutions to the problems in the application that were identified in the previous step are found and the application is tested to ensure that there are no problems.

WBS Dictionary Entry July 1

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 4.1

WBS Item Name: launch the App

Description:

Training all employees in the company on how to use the application and use it while working to protect them from risks.

WBS Dictionary Entry July 7

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 4.2

WBS Item Name: Back up of the data

Description:

Training all employees on the need to back up data and how to back up data on a daily basis after completing work.

WBS Dictionary Entry July 12

Project Title: Cybersecurity for Bank remote workers through Application.

WBS Item Number: 4.3

WBS Item Name: Antivirus software

Description:

Train all employees to use the anti-virus program that was specified with the application before starting work in order to ensure on a daily basis that the devices are free of viruses.

QUALITY MANAGEMENT:

QUALITY OBJECTIVES

Metric or Specification	Measure
Compatibility and commitment to the scope	It will be reviewed whether the result meets the requirements of the scope of application created in this project in terms of solving the problems that the company was experiencing, meeting the company's objectives and being commensurate with its developments.
Compatibility and Commitment to the specified time.	It will be checked whether we have finished on time for the entire project and that there are no delays at any stage of the project construction.
Compatibility and Commitment to the specified budget	It will check whether we have exceeded the project budget or not by reviewing the costs of the entire project step by step and comparing the cost with the budget that was set at the beginning of the project.
Application success	Many tests will be conducted to verify that the application works well and that there are no problems and that the application provides security for employees and makes the company safe and without any security holes in order to preserve the data from any risks.
Training the employees on Application	It will be ensured that all employees in the company have received training in order to use the application at work, and which employees who do not use the application will be determined by

	imposing penalties on employees in order to ensure that everyone has the ability to use the application on a daily basis while working.
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QUALITY ROLES AND RESPONSIBILITIES

Roles	Responsibilities
Developer manager	He is responsible for developing the application, ensuring its work, making sure that there are no problems and fixing it, if any. He directs the employees and gives them tasks to complete on time to ensure the safety of the project.
Project manager	He will manage the project from its beginning to its end by setting plans and developing proposed ideas. He will also be an observer during the implementation of the project, solving problems that may arise during work, and evaluating the project's performance. He will also define the project's objectives, define the scope of the project, organizing roles. And make the project fit the client.
Cybersecurity	He examines the project and makes sure that the project is free of risks, and if there are risks, he will identify and solve them to ensure that the project is free of risks and monitor the project until it ends and plans to continue with the same safety.
Tester	In which the problems in the application are identified and some errors are identified in the form, which the customer does not like, and any things, for example, in the way of entering data, finding an error in the request for data or an error in the database. All problems are identified in this step. Solutions to the problems in the application that were identified in the previous step are found and the application is tested to ensure that there are no problems.
Trainers	Training all employees in the company on how to use the application and use it while working to protect them from risks. And training all employees on the need to back up data and how to back up data on a daily basis after completing work. And train all employees to use the anti-virus program that was specified with the application before starting work in order to ensure on a daily basis that the devices are free of viruses.

Communication Plan:

Recipients	Type of Communication	Frequency	Sender/Owner	Key Dates	Delivery Method	Goal
Project Sponsor	To give him updates project	Weekly	Project manager	Every-Sunday at 11 am	Face to face	To get feedback on project
Quality Assurance manager	To get the test result from the testers	Every two week	Project manager & developer manager	Every-Thursday at 9 am	Emails & meeting	To test for feedback if the software works well and meets the requirements.
Developers	Pursuance his work and what he does	Everyday	Developer manager	Every day at 9 am	Face to face & meeting	To check whether he is working on the project and the tasks required of

						him, and to check the development stage.
Designer	For design result	Everyday	developer manager	Every day at 4 pm	Face to face & meeting	To check whether the application design is suitable for the project and check the design stage.
Developer manager	To give him updates about app development.	Weekly	Project manager	Every Sunday at 9 am	Face to face	To check the form of the program and the way it works and the things it does.

Risk management plan

Risk management plan

Author: Hasan Alhwietat

Created: 1/5/2022

Status: version 2

Updated:

Objective

The objective of this document is to outline the risks to the project and the plans to mitigate those risks.

RISK TYPE ONE: Exceeding budget and funding

Scenario	Risk ID	Risk to project (L/M/H)	Mitigation Plan
Developers may be taking more expensive than planned.	R1	M	Accept. It is necessary because it will affect the construction of the application.
Exceeding budget during project implementation.	R2	H	Avoid. Re-evaluate the project budget, focusing on the main outputs to implement the project to the fullest extent.

RISK TYPE TWO: Miss the deadline

Scenario	Risk ID	Risk to project (L/M/H)	Mitigation Plan
The designer will be late in completing his assignments.	R3	M	Avoid Because it is possible for a change to occur after the completion of the design in the form of the application and the termination of the design before its specified date
The project manager will be late in defining project requirements on the time.	R4	M	Accept Because it is possible that some misunderstanding of the requirements that must be in the project.

RISK TYPE THREE: Scope risks

Scenario	Risk ID	Risk to project (L/M/H)	Mitigation Plan
Working out the scope project	R5	L	to avoid We will avoid this by going through staff and making sure to work within range.

Appendix:

Probability chart:

Probability	
	Qualitative
Low	The incidence of this risk is small or low.

Medium	The incidence of this risk is medium.
High	The incidence of this risk is very high and has a huge impact.

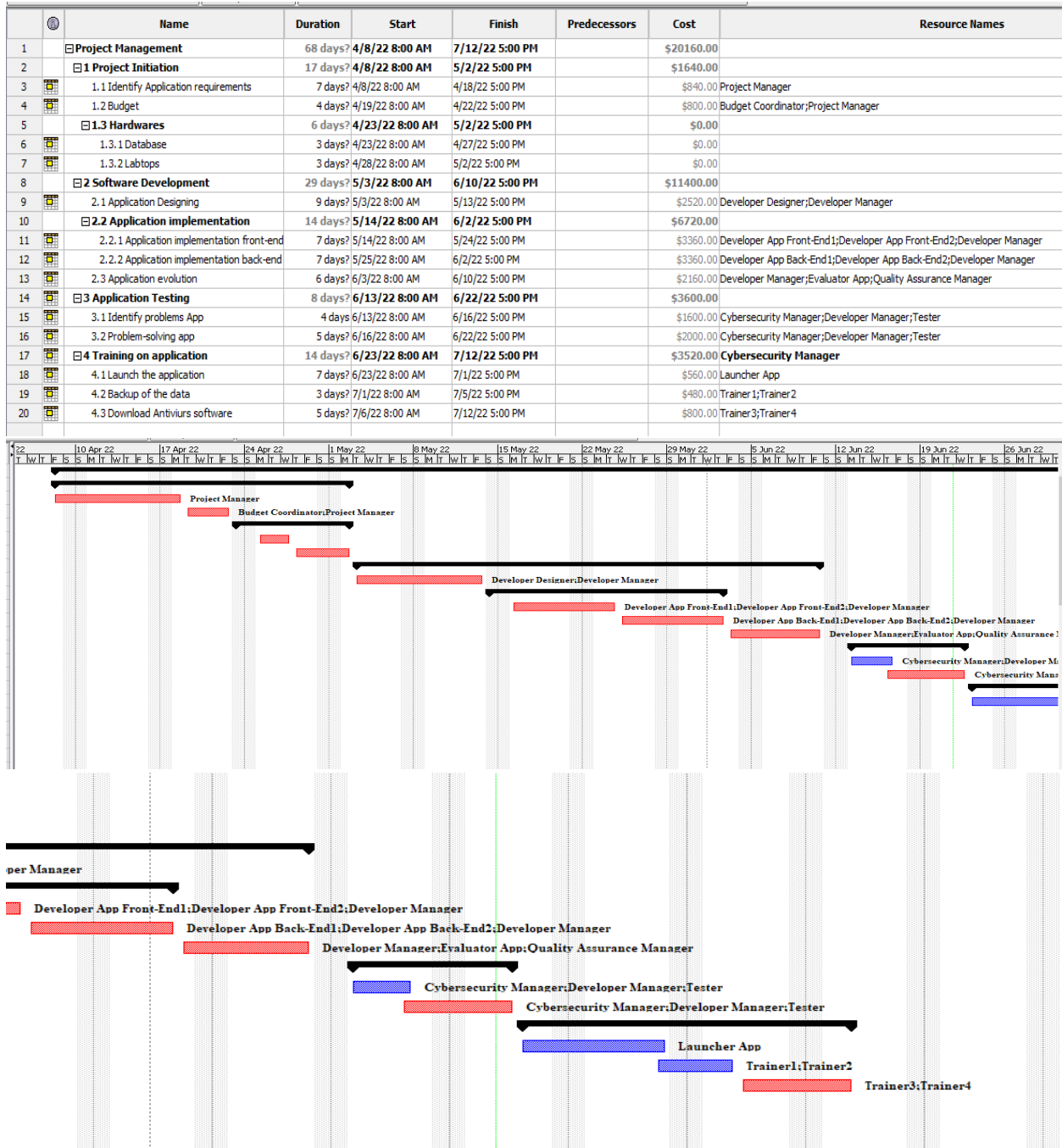
Impact chart:

Types of Impact	Low	Medium	High
Financial	Low cost between 0\$ -2000\$	Medium cost between 2000\$ - 4000\$	High cost more than <4000\$
Time	Delay task execution between 1 day - 4 days	Delay task execution between 4 days – 10 days	Delay task execution more than < 10 days
Out Scope	Working out of scope is simple.	Work out of scope on average.	Working out of scope too very much.

Probability and Impact Matrix:

Inherent Risk				
		Impact		
		Low	Medium	High
Probability	High	R2		
	Medium	R1		
	Low	R5	R3, R4	

Gantt Chart:



Critically evaluate the project management process and appropriate research methodologies applied.

There are many techniques that are used to collect data. I used survey to collect data about the company that I built an annotation to protect against. I also used this technique for collecting data. Probability sampling: is done by random selection, which means that each person in the population has an opportunity of being selected, allowing strong statistical inferences to be made about an entire group. (Quantitative research)

I chose the probability sampling method, Simple Random Sampling because I used the quantitative research method, and I sent the questionnaire to the company, so they distributed the questionnaire to the company's members randomly.

The reason for choosing Quantitative research is because the method I used to collect information and data is a quantitative research method. And the tool I used was Surveys (Closed-ended questions). It is research that focuses on the measurement and testing of numerical data and is used when the research objectives are of a certain nature. So, Quantitative research makes it easy to collect data and it specializes in collecting numerical data and makes you able to analyze a large set of samples.

After conducting the survey and data collection and analysis, it was found that there are many problems and I solved them through an application.

Therefore, we will create a special program for the organization that all employees download to their devices. When downloading this program, it asks for the username and password to verify the employee. When the program is run, it makes sure that the device contains an anti-virus program, if it does not have it, it will download it automatically in order to ensure the protection of devices and will provide employees with an encrypted connection in order to ensure the protection of data when moving from the devices to the data center such as a virtual private network (VPN), It also sends alert messages to specialists in the event that security vulnerabilities are found those cause problems for the organization in order to find a solution to this gap.

Then after that I planned the project and we identified the project objective, requirements, scope, potential risks and budget for the project you created

The Gantt chart was used to plan the entire project and manage it completely, which made it easier for us to implement the project comfortably and on time, which made the project one of the most successful projects for this company and made it free from possible risks and made the company reduce its financial losses that it was suffering from because of the gaps.

Performance Review

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

First, we determined the goals of the project, which was to create an application. This application is used by employees who work remotely. It provides security for employees. The initial research process that I conducted was to find out the problems that the company suffers from. I conducted the survey and after that I analyzed the results and developed this application that will solve all Problems faced by staff from

We have provided opinions and attempts to fill security gaps such as viruses, plagiarism and ransomware that the employee is exposed to during his work, which causes a lot of problems for the

company and weak passwords that employees use, so we have listed many solutions that can solve these problems.

We also conducted some survey courses to understand the employees on what is necessary for security, how security provides protection for the company during their work, how to use it, what is the amount of damage to the company without using security, how they communicate with the company when they are exposed to any of the viruses, and how they do their work without security.

The research phase helped discover the security risks that the company suffers from, and as we mentioned the solutions previously, employees work on their personal devices that are at risk and do not change passwords, so we made the necessary solutions for this to avoid these gaps. And it helped that we must conduct many trainings and courses to make the employee understand what security is, what is necessary for the company, how it protects data and how the application created will provide the necessary security. Then, we developed plans and scopes for the project, which facilitated the project management and for which this project was implemented to the fullest.

Evaluate the value of the project management process and use of different research methods to meet stated objectives and support their learning and performance.

The project management process was to achieve the goals and requirements for the success of the project, and many ideas were proposed to ensure high performance of the project

There are many benefits to a good project management process:

- 1- Dividing the tasks into small parts with a specific and specific date, which made the project end on time without any change in the objectives and scope.
- 2- Knowing each employee what tasks are required of him in time and when he has to complete the task required of him because of the project management plan.
- 3- Communication between the employers, which facilitated the process of building the project, either through meetings, meeting in a specific place, or sending emails.
- 4- As there was planning in the Gantt for any problems that occur to the application, they are tested and checked and to make sure that there are no errors.
- 5- The use of resources well, which reduced the risks that could occur, which led to the lack of the need for more budget

As for the research, it helped to find the problems that the company suffers from by conducting a survey to collect quantitative research. Which contained many closed questions such as Do they use their personal devices? Yes, first, then after that we analyzed these results through graphical analysis and indices, which had many results to analyze and propose many solutions to these problems, which facilitated the construction of a project that provides all the elements of safety in line with the objectives of the project and its scope, which led to an increase in the probability of the success of the project.

Critically evaluate and reflect on the success of the project by explaining how it supports the continuity of your organization's performance.

We can measure the success of the project after one month of employees using the created application and we run checks to make sure it provides security and run many tests and make sure everything in the application is working well. Indeed, all employees that the application provides all the necessary protection requirements and there are no longer any viruses capable of intrusive security, and that they are getting work done faster, which made them finish their tasks before the end of the official working time. Also, the project succeeded in covering the goals and standards that were specified, and as it was completed on time, so we can say that the project was successful in view of the opinions of the employees

As for the continuity of the application, the application that was created in this project, which provides protection from viruses, ransomware, and attackers who seek to destroy the company's reputation, must be updated and developed. All these things must be avoided by developing the application and making it better than the previous and providing security. More importantly, it must be continuously updated and the application developed, because if it is not developed, the company will suffer from security problems that the attacker can discover and cause major problems for the company and financial losses.

Professional Business Report

Communicate appropriate recommendations as a result of research and data analysis to draw valid and meaningful conclusions.

First, after conducting the survey, we extracted the results and put them in the form of statistics and graphs to show the percentage of risks that the company suffers from before the project work. Then we analyzed each question from the survey and put the results of the analysis. Do not change the password, which is 54%. We found that 26% change the password annually, and a small percentage change the password three times a year. Educate them and set an alert schedule every week that changes the password according to the criteria they have learned, for example, it must contain symbols, numbers, and uppercase and lowercase letters in order to provide security for the employee and prevent attackers from knowing the expected passwords. It becomes difficult for this to happen.

We also did with all the questions that were in the survey. We analyzed them and predicted the risks that occur and how they can be solved. After finding many problems, an application was created that provides all means of protection for employees so that it provides a secure connection with the company without any malfunctions.

Evaluate the accuracy and reliability of different research methods applied.

Various research methods help to collect more accurate and reliable data, which indicates that all research methods are characterized by accuracy and reliability and help to identify problems and are based on induction and conclusion and help in analyzing problems and finding solutions to them.

What is research methodology?

It is many of the procedures and techniques used to identify, select, process and analyze information on a particular topic and considered a systematic way to solve problems using logical steps, which helps to obtain correct and reliable results and achieve goals.

Type research methodology:

- 1- Qualitative: It is research that focuses on collecting and analyzing written or spoken information (text data) and is usually used in exploratory research in order to discover a problem that is not clearly defined. And are used to understand people's perceptions about a particular topic. It is an Open-ended and have less structured protocols.
- 2- Quantitative: It is research that focuses on the measurement and testing of numerical data and is used when the research objectives are of a confirmatory in nature. Used to test a set of hypotheses and set of planned surveys, observations, interviews with closed-ended questions.
- 3- Mixed: It is mixed methodological research that combines qualitative and quantitative methodologies to combine perspectives to obtain rich results.

The method of research is chosen based on the objectives of the project, the data to be collected and resource constraints, and based on this, the research method that I used is quantitative research, and I used the survey to collect and analyze data, and the quality was excellent, because the quality of the research depends on the data entered. The measurement tool used, and the time used in the planning phase is heavier and in the analysis phase is lighter and more generalizable.

Evaluate the selection of appropriate tools and techniques for accuracy and authenticity to support and justify recommendations.

Tools and techniques helped us create a successful project, manage it significantly, and implement the project with ease.

The tools and techniques I used are:

- 1- Excel: We used this tool to show the results of the survey that we conducted through graphs, statistics, numbers, bar charts, pie charts and point charts, and also helped me in WBS in setting a budget for the entire project of salaries, equipment for employees and requirements, and all this provides high performance and reliability in the construction.
- 2- Gant Chart: We used this tool to plan the project from the first day of the project to the completion of the entire project and I put the task to all employees to complete the tasks on time and I put monitors to evaluate performance and also helped me determine the budget for the project and helped me coordinate dates for training employees on Using the program and here I noticed that it provides high performance and efficiency in project planning within the scope and objectives of companies.
- 3- Google form: I used it to create the survey for the company and I put the questions in the survey in order to draw conclusions and find out what problems they suffer from and what are the gaps in the company. I can use this tool to analyze the results, find solutions to security gaps, and know employee satisfaction after creating the project.

Critically evaluate the research and data analysis tools used in the project development stages.

Data analysis is one of the important things that helps to make data statistics, analyze data, find a solution to problems, improve the project and make it run better.

Tools used Analyses:

- 1- Gantt chart: This tool helped me in planning the project from the first day of the project until the completion of the project and helped me in dividing the project into tasks and distributing them to all employees to complete the tasks on time and helped me in evaluating the performance of the project and also helped me in determining the project budget and helped me in coordinating deadlines Training employees to use the program and here I noticed that it provides high performance and efficiency in project planning and was within the scope, goals and requirements of the company and this helped me in building the project.
- 2- Google Form: Help me create a questionnaire for the company and ask questions in the questionnaire to employees in order to draw conclusions and know the problems they suffer from and what are the security gaps in the company. It also helped me to use this tool to analyze results, find solutions to security gaps, and know employee satisfaction after creating the project, and it helped me in developing the project and making it run better, which makes us get better results.

Research methods used:

Quantitative: It is research that focuses on the measurement and testing of numerical data and is used when the research objectives are of a confirmatory in nature. Used to test a set of hypotheses and set of planned surveys, observations, interviews with closed-ended questions.

The research method that I used is quantitative research, it helped me in collecting and analyzing data, and the quality was excellent, because the quality of the research depends on the data entered. The measurement instrument used and the time used in the planning phase is heavier and in the analysis phase is lighter and more generalizable.

Advantages Quantitative:

- 1- Its objectivity.
- 2- It relies on concrete numbers and fewer variables.
- 3- Help to remove biases from the research and make the findings more accurate.
- 4- Easier to obtain large sample sizes.
- 5- More cost-effective and faster.
- 6- Deductive (based on logical analysis of available facts).
- 7- Statistical tests are used for analysis.
- 8- Lighter on the analysis phase.
- 9- More generalizable

Disadvantages Quantitative:

- 1- Less in-depth.
- 2- Fixed response options.
- 3- Time expenditure heavier on the planning phase.