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## Abstract:

User-chosen passwords are proven to be quite predictable; attackers and password recovery programs can decrease the number of guesses needed by using tools like dictionaries or probabilistic models. People find it difficult to remember all their passwords, so they like using passwords based on personal information, such as their name, partner's name, birth date, etc. Choosing such passwords might put you at risk of getting hacked. Most people do not recognize that their passwords are weak and can be cracked easily. This paper discusses our project which is a website that checks the strength of users' passwords. The strength of passwords is checked based on some policies, for example, it should contain alphanumeric characters, special symbols, etc. Moreover, it shows the user how much time it will take a computer to crack their password.

## Introduction:

The organization for our capstone project is HCT which stands for Higher Colleges of Technologies founded in 1988 that offers students a variety of programs such as Engineering, Computer Information Science, Media, Health Science and so on. The goal of our project is to create a website that will assist HCT students and staff in creating a more secure and strong password to a weak password that may be accessed by any unauthorized user. To motivate students, we will run a campaign emphasizing the importance of having a secure, strong password, and will allow students to use the website to test the password that they have entered and provide feedback on what they have entered. This will help HCT students and employees be less concerned about the possibility of someone stealing their confidential information or modifying any data and information. Nowadays, several individuals have discovered something weird about their computer and believe they have been attacked. Cyber attackers can easily hack or access a user's computer due to the user's weak password. Attackers can use any method to acquire and process an individual's or organization's password, and one of these techniques is known as dictionary attack, which is frequently used by hackers to gain access. This project will be initiated due to having many problems regarding the weak password whether a student have been hacked by some unauthorized user or an instructor have been hacked and the hacker have been modifying information or grades. The estimated cost of this project is around 3000 DHS, and it is important to stay within the budget, the project will contribute to a more secure account, and the project must be finished according to the timeline. In the project scope, the aim of the project is to assist students in developing a secure password, preventing hackers from immediately gaining access to student or an employee account, avoid any malicious act that an unauthorized person may attempt, improve/increase user satisfaction, and lastly is to raise awareness of the importance of having a strong/secure password.

The inputs used in scope management and the documents produced are as follows:

- Project Charter.
- The Project Management Plan.
- Project Documents.
- Enterprise Environmental Factors.
- Organizational Process Assets.

**Stakeholders Perspectives is as follows:**

<b>Stakeholder's Position</b>	<b>Stakeholder Perspective</b>	<b>Impact</b>
Project Manager	Project Manager will Manage the scope, budget, and schedule and create a timeline for the project.	High
Sponsor	He will defend and approve the project and provide the necessary funding for the project.	High
Project Team	Contributing the project objectives and executing the assigned tasks	High
HCT Students	Will be testing and using the website	High
HCT Employees	Will be testing and using the website	High
IT Professionals	Will execute and develop the website so students and employees can use it	High

## Domain related Concepts and Systems:

The project plan is critical for leading us through the project's various phases. Goals, risks, missed deadlines, and effective product delivery may all be enhanced via thorough planning. We'll formalize our methodology decision at this stage; we've decided to adopt agile methodologies since it will help us reach our goals more swiftly and efficiently. The Analysis phase will dive into deeper information regarding the issue, the system's needs, and the stakeholders' views. Finally, we will calculate how long it will take to find possible vulnerabilities to our password strength checker and apply a suitable solution. Developing a secure password website might need an agile methodology because the requirements and solutions teams collaborate to make choices and go through a number of iterative cycles until they have generated a fully working piece of software using the Agile Software Development Life Cycle (SDLC). To finish tasks, iterative cycles are used. Work is completed in continuous cycles. Based on user feedback, we may adjust and improve it. When we adopt the Agile methodology we have access to several advantages, including:

Firstly, because of Agile's accessibility, feedback integration, and quality control capabilities, project managers have greater influence. Everyone involved in the project is kept up to date on the project's progress daily using procedures, and quality is maintained throughout the implementation process.

Secondly, the incremental delivery of value that characterizes agile contributes to risk minimization. Even if a function fails completely, some small components can be saved for potential future usage.

Thirdly, we never stop improving; the iterative nature of our methodology assures that we never repeat the same mistakes and that each cycle is more precise than the previous one. Because agile practices encourage an open culture of sharing and cooperation, team members may develop and learn from one another's mistakes.

There are five phases (or process groups) in a project's life cycle.

<b>Initiation</b>	Identifying stakeholders, gathering high-level requirements, and creating a project charter are all essential first steps.
<b>Planning</b>	Plan for Project Management with a Scope, Budget, Timeline, and Risk Assessment.
<b>Execution</b>	The analysis model, the design requirements, and the working prototype.
<b>Monitoring and controlling</b>	In testing, you compare the project's actual progress to your planned progress and adjust as appropriate.
<b>Closing</b>	Status Update, Live Launch, and Operations Transfer.

Many breaches occurred last year, according to our research. One of the most well-known breaches occurred at Microsoft. Microsoft was the victim of a cyberattack on March 2nd by the Chinese group of hackers Hafnium. Numerous thousands of on-premises servers in the United States were targeted by the attack. Microsoft provided solutions to address the exploited vulnerabilities, but enterprises operating Exchange must still take measures to implement those upgrades. Following the completion of this case study and the system being attacked as a result of a stolen password, According to Baily, “Requiring passwords that are too long causes people to write them down somewhere,” the application will check the strength of the password whether it is a strong, good, fair, or weak password. “Putting a policy in place that forces users to select longer, more complicated passwords will help increase the security of their accounts,” said Michael. There will be a policy and procedure to generate a secure and strong password. Furthermore, the website displays how long it takes to crack a password. The website concept is unique, and our website has no competitors. Python is the most prevalent computer language that will assist us in developing software for the website.



# Password Policies

Password Type	Password Strength	Password Strength Example
---------------	-------------------	---------------------------

	Requirements	
<b>Strong Password</b>	<ol style="list-style-type: none"> <li>1. Minimum of 15 characters <b>(Recommended : Longer password).</b></li> <li>2. Contain Letters (Capital and Small).</li> <li>3. Contain Numbers.</li> <li>4. Contain Symbols.</li> <li>5. Contain Spaces + Brackets</li> <li>6. Repeat the password twice</li> </ol>	<p>“Khulood is@year4Student#”</p> <p>Or</p> <p>“Khulood is@year4Student#”</p>
<b>Good Password</b>	<ol style="list-style-type: none"> <li>1. Minimum of 10 characters.</li> <li>2. Contain Letters (Capital and Small).</li> <li>3. Contain Numbers.</li> <li>4. Contain Symbols.</li> </ol>	Amnah@2003_

<b>Fair Password</b>	<ol style="list-style-type: none"> <li>1. Minimum of 8 characters.</li> <li>2. Contain Letters (Capital and Small).</li> <li>3. Contain Numbers.</li> </ol>	Maitha12
<b>Weak Password</b>	<ol style="list-style-type: none"> <li>1. Maximum of 7 characters</li> <li>2. Contain Letters (Capital and Small).</li> </ol>	QWERTY.

This project will address the organizational vulnerability. A weak password is a weakness in any company. So, a new website that provide a user to have a strong and secure password will answer the organization's problem by safely saving them and alerting them to the possibility of a cyberattack from an attacker due to a weak password. The students will be using the website to determine whether the password is strong, good, fair, or weak. The program will display a good, fair, or weak password strength to the student. It will display for the students a suggestion as well as some examples of secure and strong passwords. This technique will help to avoid using a weak or fair password and instead use a strong password. The students will be aware of the weak password after using this website, and they will have a strong password to protect their user accounts in the organization. Our website teaches students how to secure their passwords and provides them with new ideas when changing their password accounts. In the Schedule feasibility, the time that it will take for us to finish the project is around 3-5 months, and in the environment feasibility, the estimation cost of our project is around 3000 DHS,

WBS:

Sun 11/20/22Tue 11/29/22Today

Oct '22Nov '22Dec '22Jan '23Feb '23Mar '23Apr '23May '23

Start Sat 9/3/22Add tasks with dates to the timelineFinish Fri 5/19/23

	Task Mode	WBS	Task Name	Duration	Start	Finish	Resource Names	Cost	Nov 21, '22	Nov 22, '22
1		1	Secure Password Website	186 days	Sat 9/3/22	Fri 5/19/23		AED3,250.00		
2		1.1	Initiating	39 days	Tue 9/6/22	Fri 10/28/22		AED0.00		
3		1.1.1	Evaluation and Recommendation	2 days	Wed 9/7/22	Thu 9/8/22		AED0.00		
4		1.1.2	Develop Project Charter	3 days	Sat 9/24/22	Tue 9/27/22		AED0.00		
5		1.1.3	Identify stakeholders	1 day	Wed 9/7/22	Wed 9/7/22		AED0.00		
6		1.1.4	Submit Project Charter	1 day	Fri 10/28/22	Fri 10/28/22		AED0.00		
7		1.1.5	Project Charter Approval	1 day	Tue 9/6/22	Tue 9/6/22		AED0.00		
8		1.2	Planning	23 days	Tue 9/6/22	Thu 10/6/22		AED0.00		
9		1.2.1	Develop a project management plan	1 day	Fri 9/30/22	Fri 9/30/22		AED0.00		
10		1.2.2	Plan scope management	1 day	Sat 10/1/22	Sat 10/1/22		AED0.00		
11		1.2.3	Collect requirements	2 days	Sun 10/2/22	Mon 10/3/22		AED0.00		
12		1.2.4	Create WBS	3 days	Tue 10/4/22	Thu 10/6/22		AED0.00		
13		1.2.5	Plan cost management	1 day	Thu 10/6/22	Thu 10/6/22		AED0.00		

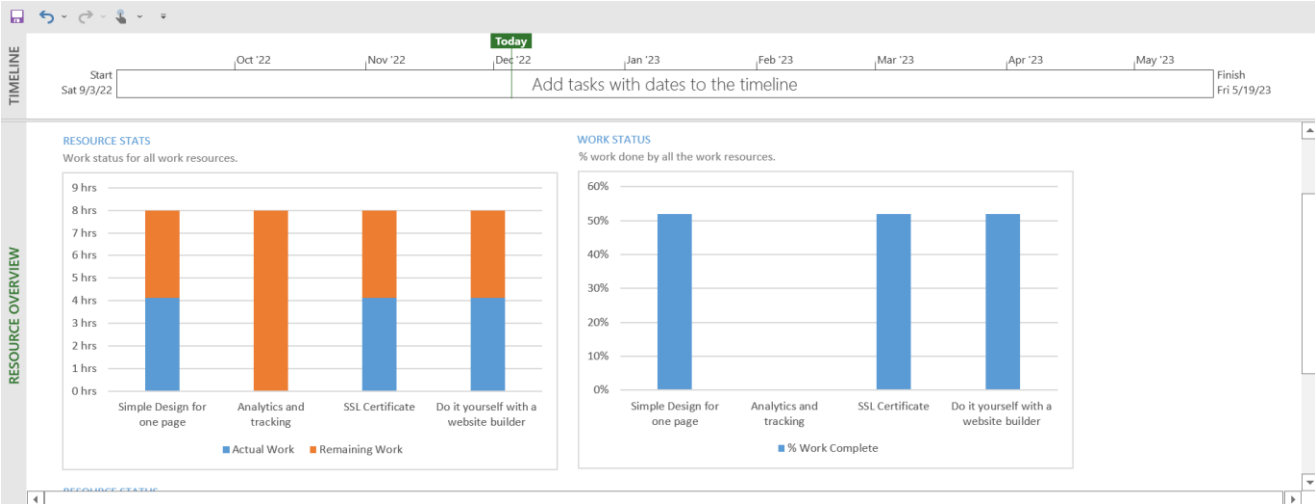
Sun 11/20/22Tue 11/29/22Today

Oct '22Nov '22Dec '22Jan '23Feb '23Mar '23Apr '23May '23

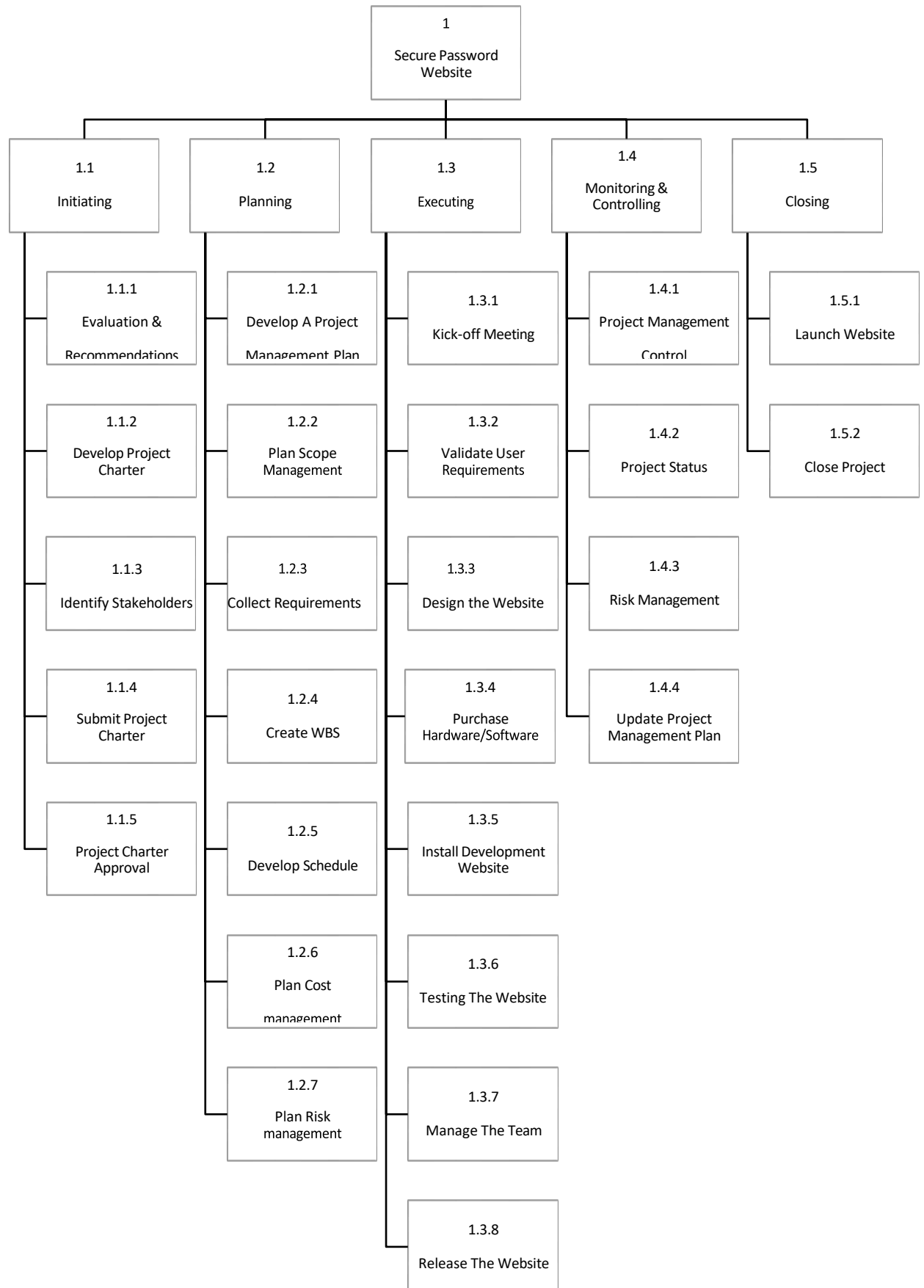
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10		1.2.2	Plan scope management	1 day	Sat 10/1/22	Sat 10/1/22		AED0.00		
11		1.2.3	Collect requirements	2 days	Sun 10/2/22	Mon 10/3/22		AED0.00		
12		1.2.4	Create WBS	3 days	Tue 10/4/22	Thu 10/6/22		AED0.00		
13		1.2.5	Plan cost management	1 day	Thu 10/6/22	Thu 10/6/22		AED0.00		
14		1.2.6	Plan risk management	1 day	Thu 10/6/22	Thu 10/6/22		AED0.00		
15		1.3	Executing	26 days	Thu 9/29/22	Thu 11/3/22		AED2,883.00		
16		1.3.1	kick-off meetings	26 days	Thu 9/29/22	Thu 11/3/22		AED0.00		
17		1.3.2	validate website requirements		Thu 9/29/22		SSL Certificate	AED110.00		
18		1.3.3	validate user requirements		Thu 9/29/22			AED0.00		
19		1.3.4	design the website		Thu 9/29/22		Simple Design for c	AED2,773.00		
20		1.3.5	test the website		Thu 9/29/22			AED0.00		
21		1.3.6	release the website		Thu 9/29/22			AED0.00		
22		1.4	Monitoring & Controlling	5 days	Fri 9/30/22	Thu 10/6/22		AED0.00		
27		1.5	Closing	0 days	Sat 9/3/22	Sat 9/3/22		AED367.00		

New Tasks : Manually Scheduled



## WBS Decomposition Diagram:



### **Risk Management:**

Risk	Description	Category	probability	Impact	Mitigation Measures
Virus	Malicious code that replicates in order to harm the system and destroy data.	Technical	High	High	<ul style="list-style-type: none"><li>▪ Put in place Antivirus Software.</li><li>▪ Restore Data.</li></ul>
DDoS Attack	A malicious attempt to prevent people from accessing the system and render it inoperable.	Technical	High	High	<ul style="list-style-type: none"><li>▪ Continuous upkeep of the system</li><li>▪ Conduct a network security audit.</li></ul>
Identity Theft	Some even assume false identities.	Technical	Medium	High	<ul style="list-style-type: none"><li>▪ Do not give out your login information to anybody.</li><li>▪ Keep your login details hidden.</li></ul>
Security Misconfiguration	Inadequate safeguards that	Technical	High	High	<ul style="list-style-type: none"><li>▪ Maintaining the system's safety configuration and updating it when necessary</li></ul>

	allow the bad guys to exploit a setup error				
Poor Budgeting	Spending more money than planned on a project.	Financial	Low	High	<ul style="list-style-type: none"><li>▪ Make a budget you can stick to.</li></ul>
Unsatisfied users	A group of students	External	Low	High	<ul style="list-style-type: none"><li>▪ To Meet the Needs of Individual Customers</li></ul>

The methods used to gather requirements are as follows:

- Expert Judgement
- Data Gathering
- Data Analysis
- Decision Making
- Data Representation
- Interpersonal & Team Skills
- Context Diagram
- Prototypes

**Conclusion:**

In conclusion, Agile methodology will be used in this project because it will enable us to complete the project more quickly and effectively. Password policies will also be provided because they will help students understand how to create a secure password. The project also needs to stay within its allocated budget and be completed by the deadline. This project enables students to create a secure password and see how long it takes a hacker to get a obtain their password. We have gathered data needs using a variety of methods, including consulting experts, collecting data through research, analysing data, and more. Risks from viruses, DDoS attacks, and security misconfiguration errors may all be managed by implementing the mitigations previously covered in the Risk Management section.



## Computing-based Solution/System Analysis:

### Introduction

The project plan is essential for guiding us through the stages of the project. With careful planning, goals, risks, missed deadlines, and successful product delivery can all be improved. We'll finalize our methodology choice in this stage; we've decided to use agile techniques because they'll help us achieve our goals more quickly and efficiently. The Analysis phase will go into greater detail about the issue, the system's requirements, and the perspectives of the stakeholders. Finally, we will determine how long it will take to uncover potential threats to our Password strength checker and implement an appropriate strategy. However, the planning stage is critical because it allows us to focus on our goals and determine exactly what we need to do to significantly affect the change we want to see in the world.

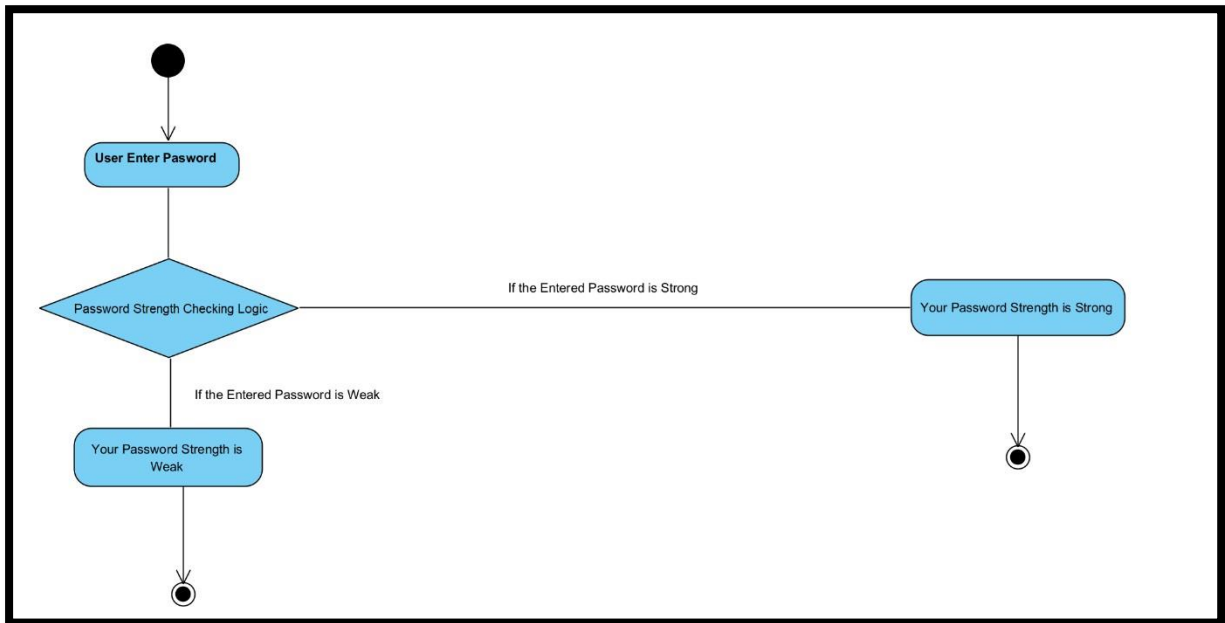
#### Functional Requirements:

- 1- The user will type a certain password.
- 2- The website will determine the strength of the password.
- 3- The user will be able to know how long the hacker will be able to detect the password that they choose.

#### Non-Functional Requirements:

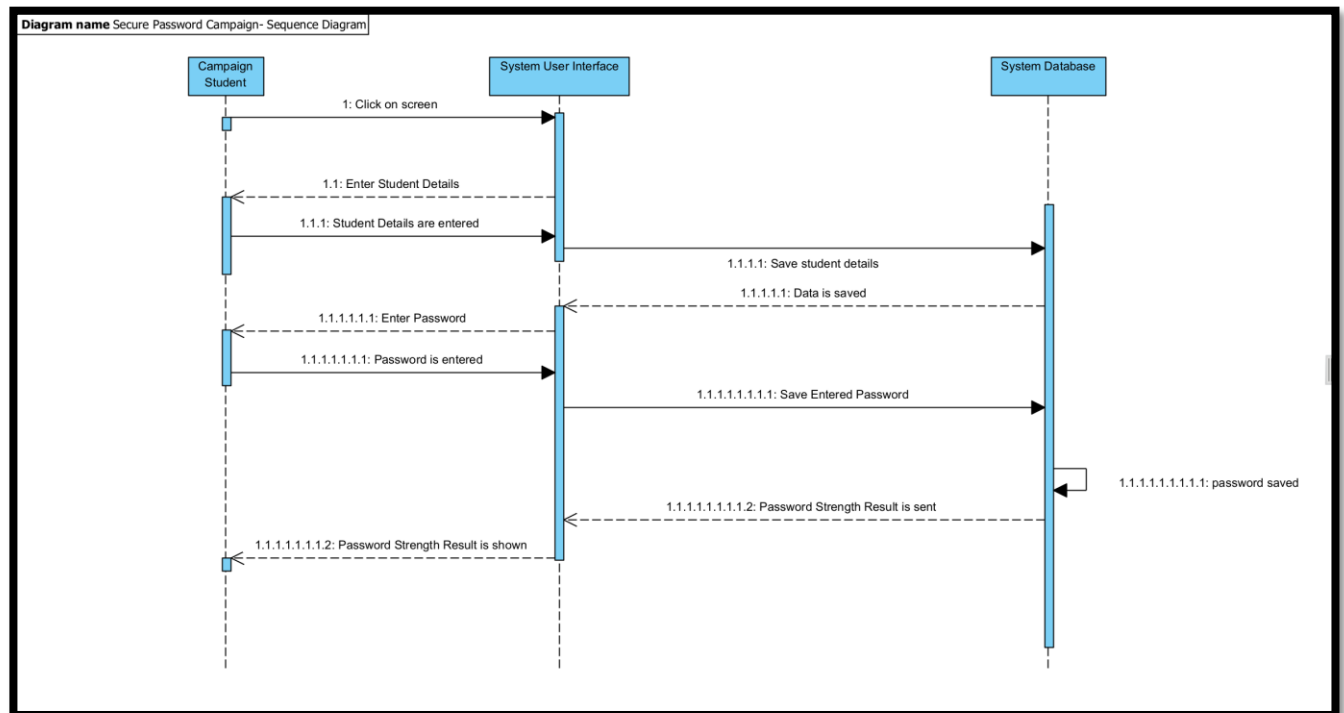
- 1- The system must reply within three seconds at most.
- 2- The design must be secure and provide the most dependable performance possible.
- 3- Progress should be communicated regularly.

### Activity Diagram:



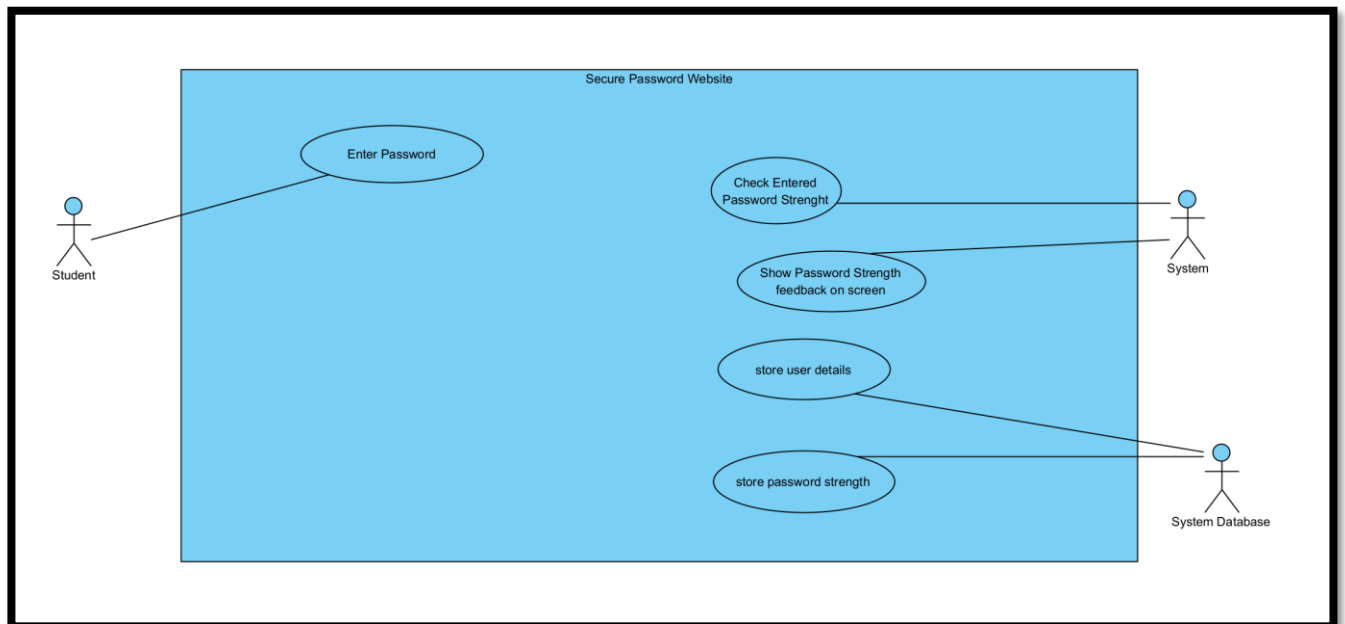
- ☐ Above given is the activity diagram of the scenario given in the question. This diagram shows the flow of the whole process, and how this system works.
- ☐ In this diagram scenario, the student entered the password, and then system (website) applied logic for checking whether the entered password is strong or weak.
- ☐ If the password strength is strong, then the system shows a feedback message on screen e.g.: your entered password is strong.
- ☐ If the password strength is weak, then the system shows a feedback message on screen e.g.: your entered password is weak.

## Sequence Diagram



- A sequence diagram is an interaction diagram that shows how objects operate with one another and in what order. It is a construct of a message sequence chart. A sequence diagram shows object interactions arranged in a time sequence.
- The above Figure demonstrates the sequence of activities performed by the student, system, and database server. The figure shows how password strength checking took place between the system, database, and student.

## Use-Case Diagram



### Use Case1:

**Use-Case Name:** enter password

**Actor:** student

**Description:** Student should be able to enter the password so that they can check the strength of the password.

**Pre-condition:** student should know how to use the system.

**Post-condition:** students shall be able to view the feedback from the system about the strength of password that they entered.

### **Use Case2:**

**Use-Case Name:** view password strength feedback on

screen Actor: student

**Description:** Student should be able to view the feedback about the strength of his password.

**Pre-condition:** student should enter the password first.

**Post-condition:** students shall be able to view the feedback from the system about the strength of password that he entered.

### **Use Case3:**

**Use-Case Name:** check entered password strength

**Actor:** system

**Description:** checks the strength of password (i-e whether password is strong or weak).

**Pre-condition:** student should enter the password first.

**Post-condition:** system shows the password strength feedback on screen.

**Use Case4:**

**Use-Case Name:** store user details

**Actor:** system database

**Description:** store user details (eg: student name, student ID, student year & student major)

**Pre-condition:** user enter their details

**Post-condition:** details are saved in the database

**Use Case5:**

**Use-Case Name:** store password strength

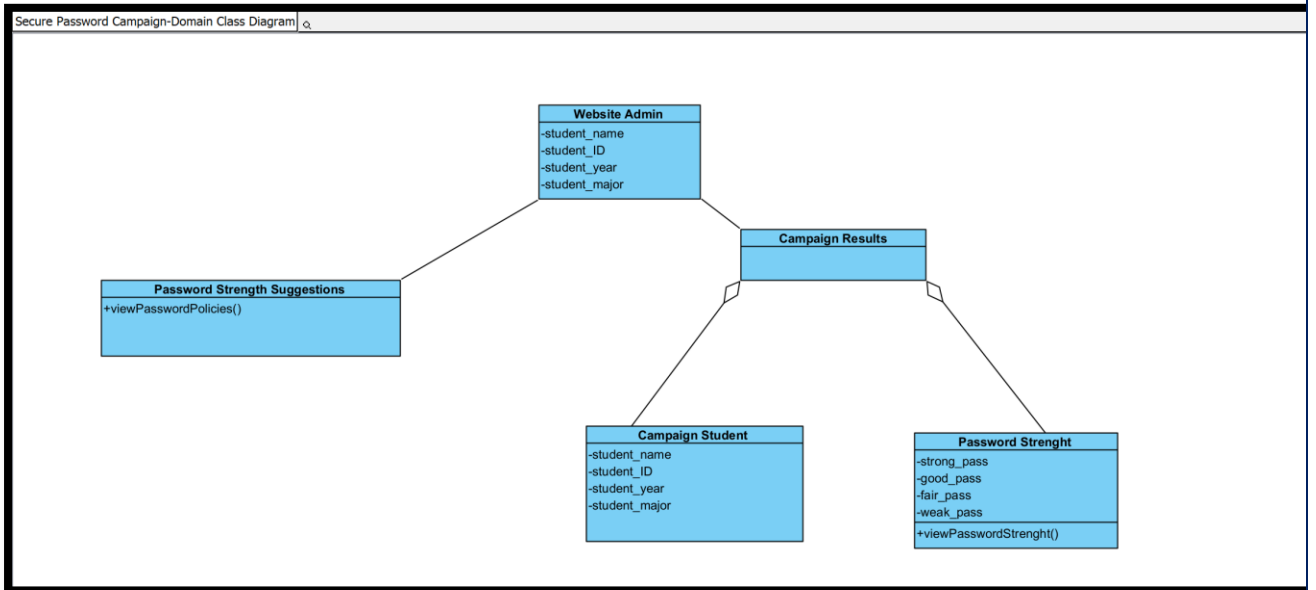
**Actor:** system database

**Description:** store password strength (eg: Strong, Good, Fair & Weak)

**Pre-condition:** user enter their password

**Post-condition:** details are saved in the data

## Domain-Class Diagram



There are 5 tables:

- 1- Website Admin: This table takes the user details for checking the password strength.
- 2- Campaign Results: This tables will display to the strength of the password (for example: Strong, good, Fair& Weak) and displays the user details (for example: student name, student ID, student year & student major).
- 3- Campaign Student: This table gets from the user their details such as student name, student ID, student year & student major and store it in the database.
- 4- Password Strength: This table displays for the user the result after checking the password strength if it is Strong, good, Fair& Weak.
- 5- Password Strength Suggestions: This table displays for the user the password policies.

**Conclusion:**

To conclude this section, the section is about how the user will interact with the website.

Each diagram is designed to explain how the user will interact with the website and how the website will reply to the user. Each diagram such as activity diagram, sequence diagram, use-case diagram, and domain class diagram have a brief description.

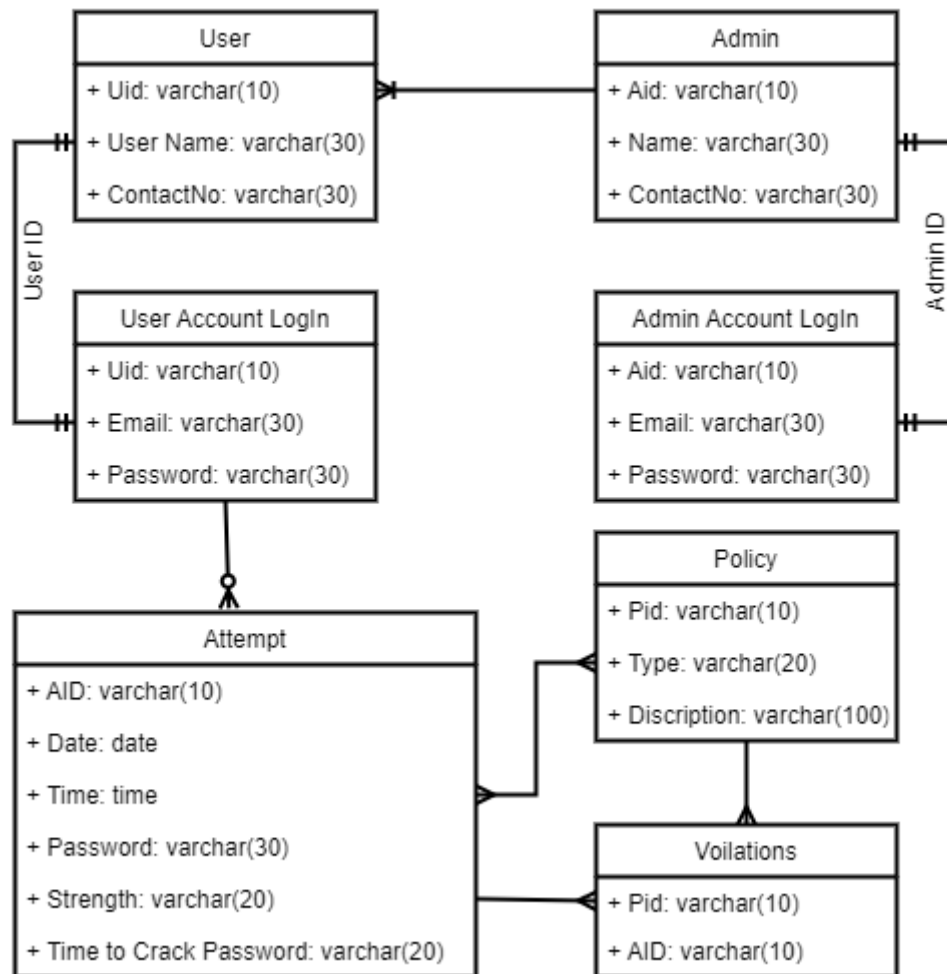


# Computing-based Solution/System Design, Implementation, and Test:

## **Introduction:**

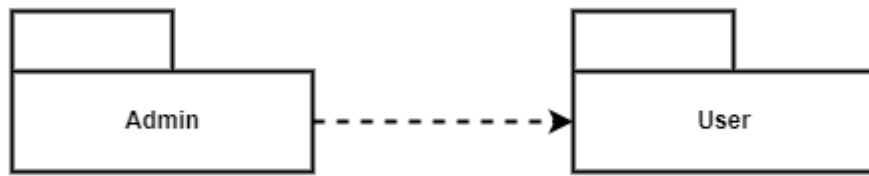
The main purpose of this assignment is to create a diagram that shows how the system operates and a prototype that shows how the website will look during the capstone project implementation. The primary goal of developing a website with diagrams, which is typically a representation that expresses through visual connections, which consists of a well-organized and a simplified visual depiction of thoughts, concepts, structures, connections, statistical information and, so on. It can be used to describe or demonstrate a system activity. The diagram will assist us in demonstrating how the system will function. In the domain class diagram, it comprises conceptual classes, conceptual class relationships, and conceptual class properties while in the interaction diagram is a form of UML diagram intended to represent a system's interactive activity. Interaction diagrams are used to describe the flow of communication inside a system and the purpose of it is to illustrate the system's interactive activity, lastly for the package diagram which include a structured diagrams that demonstrate how multiple independent components in the shape of packages are organized and arranged. A package is a collection of UML elements that are connected to one another, such as diagrams, documents, classes, as well as other packages.

## Design:

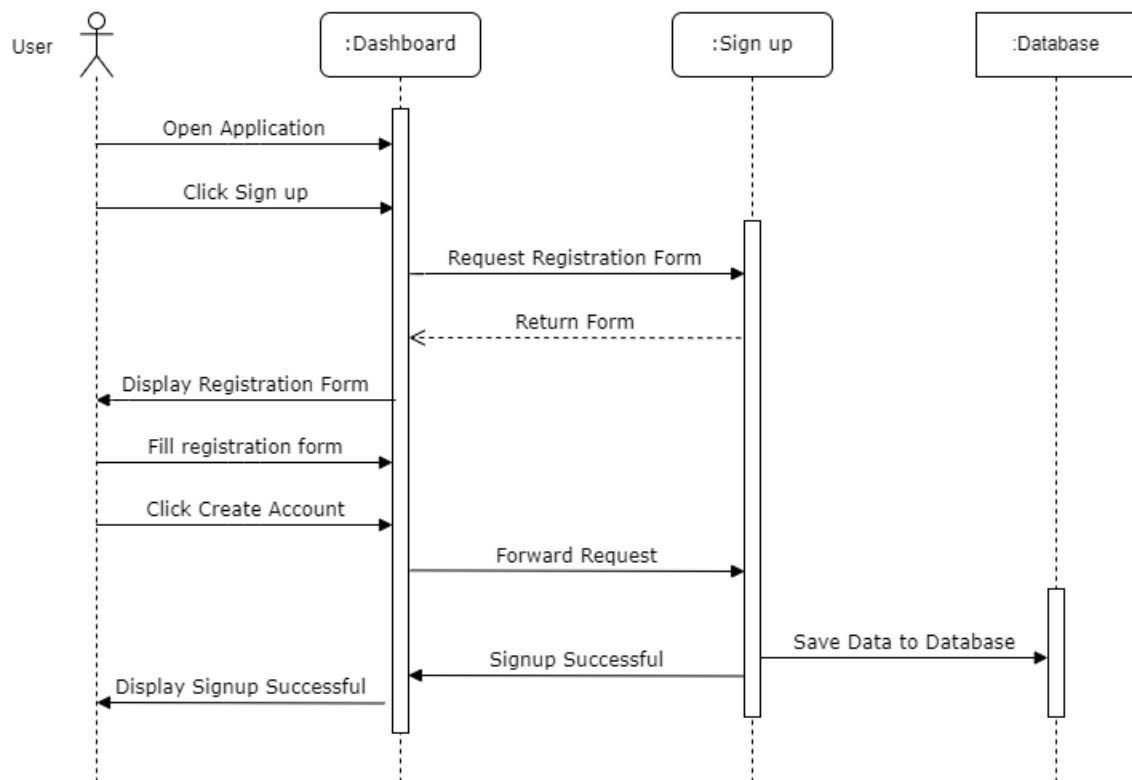


Above is the relational database schema of our software. We will only save admin and users some basic information and their login information. According to the schema one admin can manage many users and a User must only have one login account and it is same in the case of Admin account.

In Attempt table the text that user enter in the text field will be saved in it and its strength (Strong, Good, Fair, Weak) will be saved after performing some calculations on that text in the strength field according to the description in the policy table.

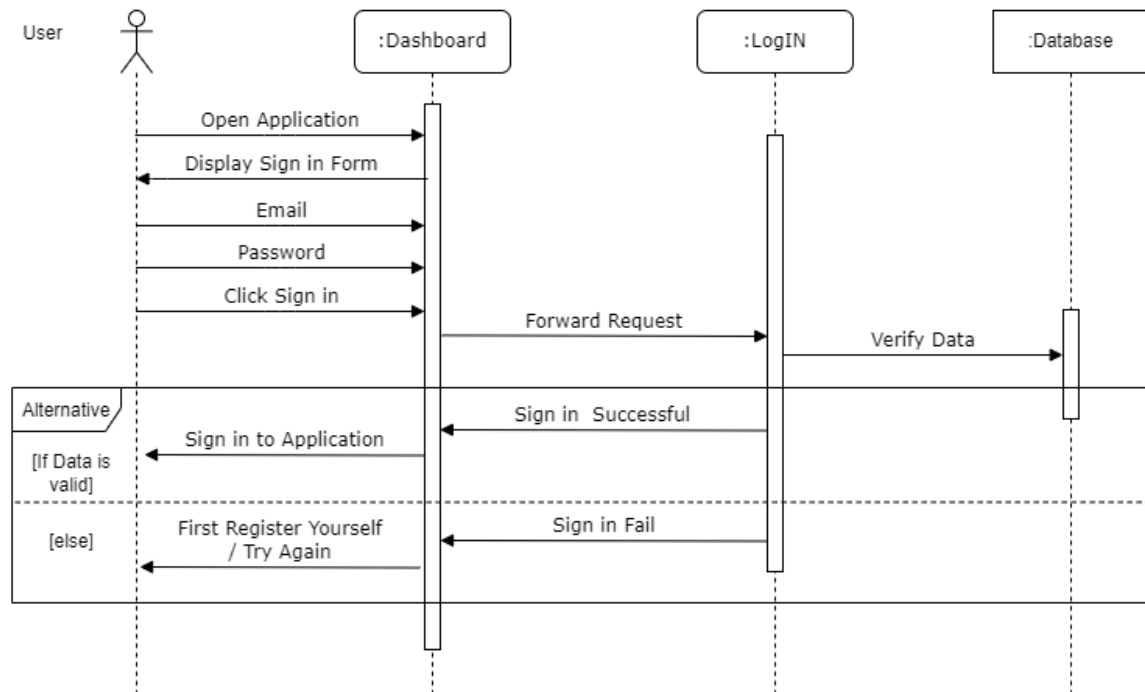


Package diagrams are structural diagrams used to show the organization and arrangement of various model elements in the form of packages. The above package diagram shows that the admin affects the user and user cannot affect anything. This is because the admin was made to manage the users and a single admin can manage many users.

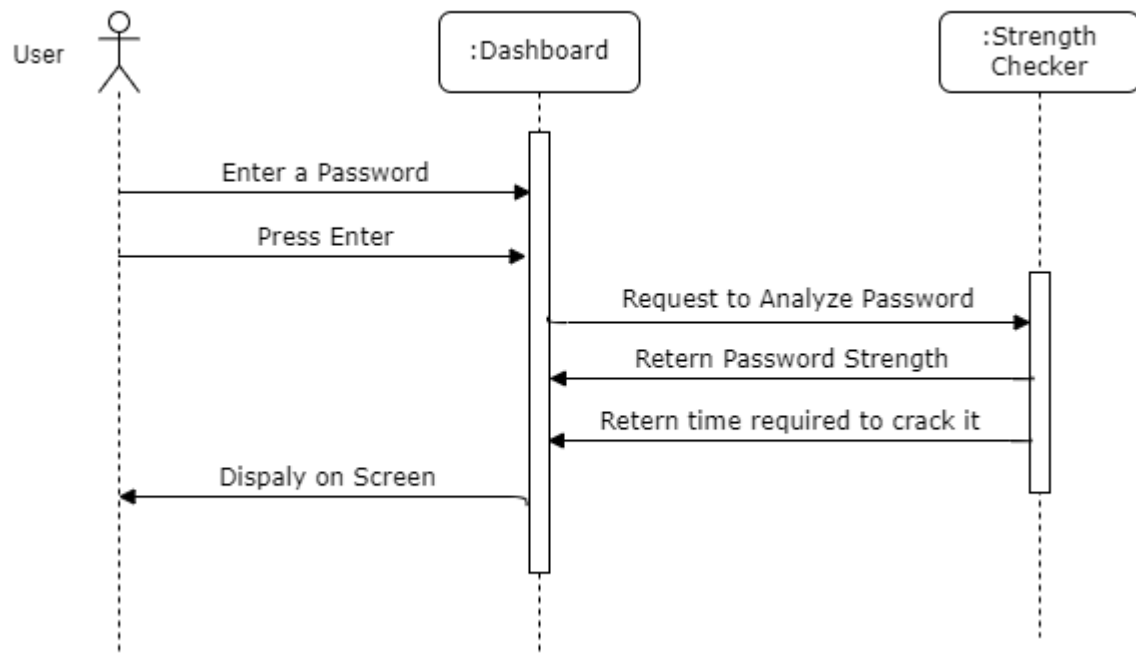


The sign-up procedure in the program is represented by the sequence diagram (Interaction Diagram) that can be seen above. The user is the actor, and in order to proceed, he will need to fill out the necessary form, which will need him to provide his complete name, contact information, email address, and a password. After verifying that the registration conditions

have been met, this information will be sent to the database, where it will be retained for future use, primarily for the purpose of logging into the program.

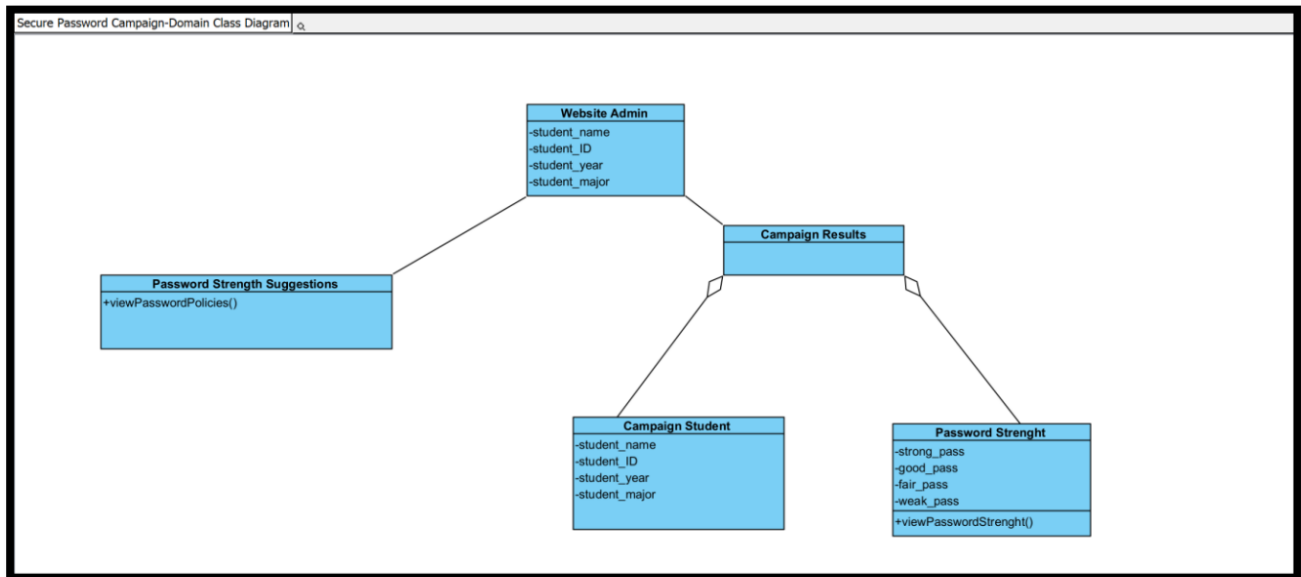


The series of events involved in the software's login procedure is shown above in the form of a sequence diagram (Interaction Diagram). Only those who already have an account will be able to successfully log in. The user is required to submit their credentials, which may include their email address and password. After that, a procedure will occur, during which the credentials will be checked against the database. If the same email address and password are already saved in the database, then it is feasible to log in to the program. If they are not, then either there is a mistake in the email address and password that you gave or you do not have an account.



The sequence of events for the software's Strength Test may be seen in the figure that can be seen above. After successfully logging in to the application, the users will have access to this procedure. It is a straightforward procedure in which the user will input a text for a password, the strength of which they like to evaluate, into the text box that is shown on the dashboard of the program. The program will next perform an automated procedure on that text, at the end of which it will indicate whether the text that serves as the password is weak, very weak, fair, strong, or very strong. It will also give us the longest conceivable amount of time, such as fifty years, that would be necessary to break that password. Therefore, if someone wants to break our password, it will take over fifty years even if they use any password cracking program. This is the conclusion that can be drawn from the information shown here.

## Domain-Class Diagram

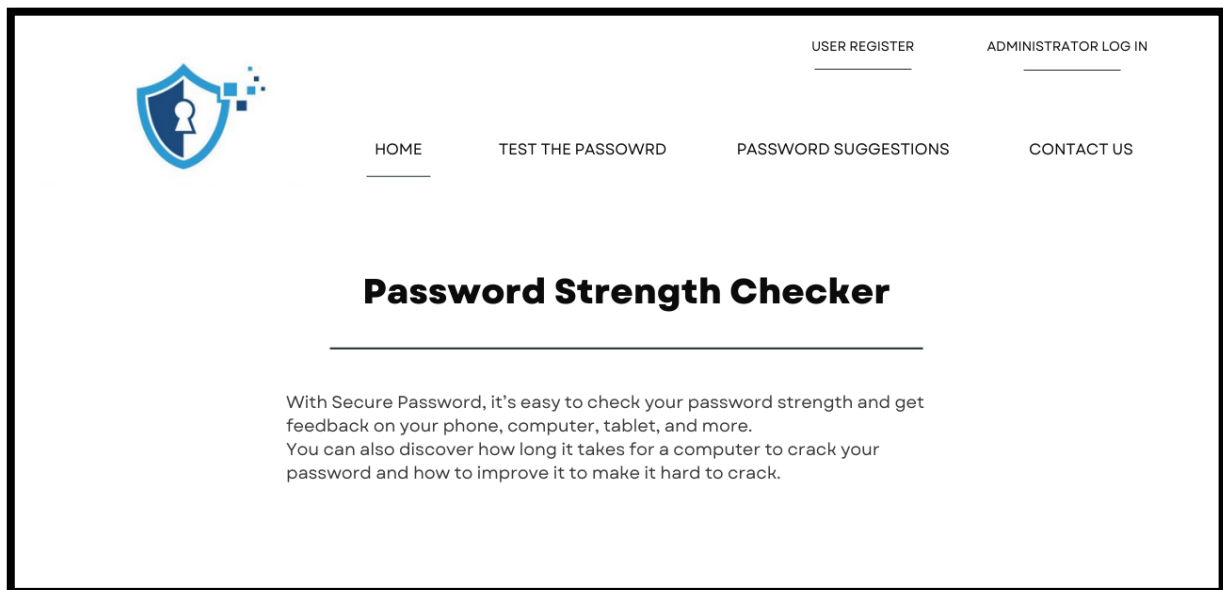


There are 5 tables:

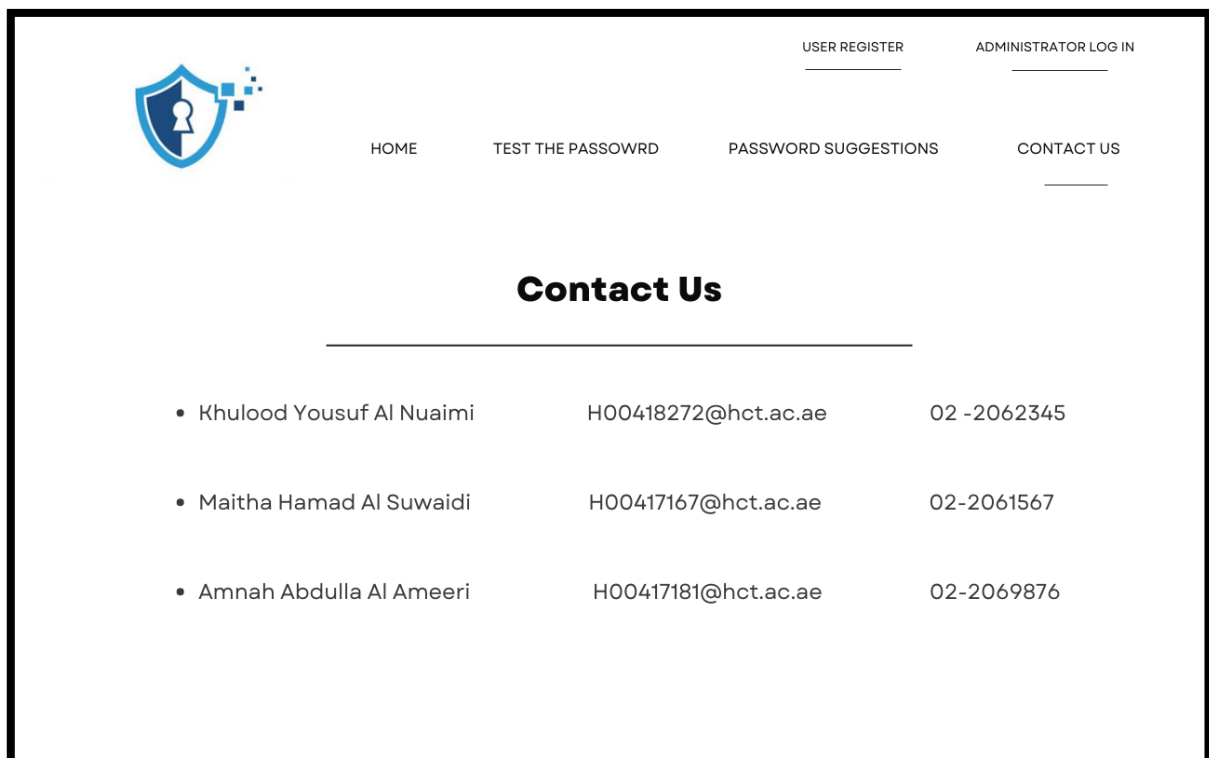
- 1- Website Admin: This table takes the user details for checking the password strength.
- 2- Campaign Results: This tables will display to the strength of the password (for example: Strong, good, Fair& Weak) and displays the user details (for example: student name, student ID, student year & student major).
- 3- Campaign Student: This table gets from the user their details such as student name, student ID, student year & student major and store it in the database.
- 4- Password Strength: This table displays for the user the result after checking the password strength if it is Strong, good, Fair& Weak.
- 5- Password Strength Suggestions: This table displays for the user the password policies

## Prototype:


### Home Page:



### Contact Us Page:



## Password Suggestion Page



[USER REGISTER](#)[ADMINISTRATOR LOG IN](#)

[HOME](#)[TEST THE PASSOWRD](#)[PASSWORD SUGGESTIONS](#)[CONTACT US](#)

### 4 Types of password

**Strong Password:** “Khulood is@2001”  
**Good Password:** Fatima@2005\_  
**Fair Password:** Aisha17  
**Weak Password:** QWERTY

- Ensure to follow the Strong Password Policy

Password Policies		
Password Type	Password Strength Requirements	Password Strength Example
Strong Password	<ol style="list-style-type: none"><li>Minimum of 15 characters (Recommended: Longer password).</li><li>Contain Letters (Capital and Small).</li><li>Contain Numbers.</li><li>Contain Symbols.</li><li>Contain Spaces + Brackets</li><li>Repeat the password twice</li><li>Including emoticons</li></ol>	“Khulood is@year4Student#” Or “Khulood is@year4Student#”Khulood is@year4Student#”
Good Password	<ol style="list-style-type: none"><li>Minimum of 10 characters.</li><li>Contain Letters (Capital and Small).</li><li>Contain Numbers.</li><li>Contain Symbols.</li></ol>	Amnah@2003_
Fair Password	<ol style="list-style-type: none"><li>Minimum of 8 characters.</li><li>Contain Letters (Capital and Small).</li><li>Contain Numbers.</li></ol>	Maitha12
Weak Password	<ol style="list-style-type: none"><li>Maximum of 7 characters</li><li>Contain Letters (Capital and Small).</li></ol>	QWERTY.



[USER REGISTER](#)[ADMINISTRATOR LOG IN](#)

[HOME](#)[TEST THE PASSOWRD](#)[PASSWORD SUGGESTIONS](#)[CONTACT US](#)

### Welcome to Secure Password! Please Register

**Student Name:**

**Student ID:**

**Student Major:**

**Student Year:**

[Register](#)



[USER REGISTER](#)[ADMINISTRATOR LOG IN](#)[HOME](#)[TEST THE PASSOWRD](#)[PASSWORD SUGGESTIONS](#)[CONTACT US](#)

## Registration Confirmed

Your registration process is completed. Now you can use the website to test the strength of your desired password.

[TEST THE PASSWORD NOW](#)


[USER REGISTER](#)[ADMINISTRATOR LOG IN](#)[HOME](#)[TEST THE PASSOWRD](#)[PASSWORD SUGGESTIONS](#)[CONTACT US](#)

## Check Your Password Strength

Enter your password

ENTRIES ARE 100% SECURE AND NOT STORED IN ANY WAY OR SHARED WITH ANYONE.

## Strong Password:



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### Check Your Password Strength

---

Khuloodis@year4Student

**STRONG**  
IT WOULD TAKE A COMPUTER ABOUT4 YEARS  
TO CRACK YOUR PASSWORD

NEXT

ENTRIES ARE 100% SECURE AND NOT STORED IN ANY WAY OR SHARED WITH ANYONE.

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## Check Your Password Strength

[Generate PDF](#)

### STUDENT REPORT

Student Name: Khulood Yousuf

Student ID: H00418272


Student Major: IT Security & Forensics

Student Year: Graduate

Student Password Result is: **Strong**  
because the student added

- Capital Alphabets
- Numbers
- Symbols
- Characters

**Good Password:**



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## Check Your Password Strength

Amnah@2003\_

GOOD

IT WOULD TAKE A COMPUTER ABOUT 3 WEEKS TO  
CRACK YOUR PASSWORD

NEXT

ENTRIES ARE 100% SECURE AND NOT STORED IN ANY WAY OR SHARED WITH ANYONE.

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## Check Your Password Strength

[Generate PDF](#)

### STUDENT REPORT

Student Name: Amna Abdullah

Student ID: H00417181

Student Major: IT Security & Forensics

Student Year: Graduate


Student Password Result is: **Good**

because the student added

- Capital Alphabets
- Numbers
- Symbols

**\*Student is recommended to add a special character to have a strong password\***

## Fair Password:



USER REGISTERADMINISTRATOR LOG IN

HOMETEST THE PASSOWRDPASSWORD SUGGESTIONSCONTACT US

### Check Your Password Strength


Maitha12

**FAIR**

IT WOULD TAKE A COMPUTER ABOUT 7 DAYS TO CRACK  
YOUR PASSWORD

NEXT

ENTRIES ARE 100% SECURE AND NOT STORED IN ANY WAY OR SHARED WITH ANYONE.



USER REGISTERADMINISTRATOR LOG IN

HOMETEST THE PASSOWRDPASSWORD SUGGESTIONSCONTACT US

### Check Your Password Strength

Generate PDF



### STUDENT REPORT


Student Name: Maitha Hamad  
Student ID: H00417167  
Student Major: IT Security & Forensics  
Student Year: Graduate

Student Password Result is: **Fair**  
because the student added

- Capital Alphabets
- Numbers

**\*Student is recommended to add a special character and symbols to have a strong password\***

## Weak Password:



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## Check Your Password Strength

QWERTY

WEAK

IT WOULD TAKE A COMPUTER ABOUT 0 SECONDS TO  
CRACK YOUR PASSWORD

NEXT

ENTRIES ARE 100% SECURE AND NOT STORED IN ANY WAY OR SHARED WITH ANYONE.



[USER REGISTER](#)[ADMINISTRATOR LOG IN](#)[HOME](#)[TEST THE PASSOWRD](#)[PASSWORD SUGGESTIONS](#)[CONTACT US](#)

## Check Your Password Strength

[Generate PDF](#)

### STUDENT REPORT

Student Name: Shama Ahmed

Student ID: H004667744

Student Major: IT Application

Student Year: Year 2

Student Password Result is: **Weak**  
because the student added

- Capital Alphabets
- Numbers

**\*Student is recommended to add a special character and symbols to have a strong password\***

In the developing stage, we will be having a user register and an administrator register. In the user register the student enters its name, ID, major and year to be able to start and test the password strength, the details will be saved to generate the report and administrators and the users can view the report. In the administrator the administrator views the structure of the passwords and views how many times the user uses the website. The website has 4 navigations, Home, Test the Password, password suggestions and contact us. The home button introduces the user to the website, Test the Password button where the user tests the password strength, password suggestions is where the user can click and view the password policies and examples. Contact us button is where the user can click and view the name, email, and contact number of the project team. In the test the password button in each time the user enters or test the password it displays it to the administrator how many times does the user uses the password strength checker. When the user enters the password, the website shows the result if it's strong, good, fair or weak and how much time it will take to time to crack the password. After that, the website will generate a report that displays all the student or the user details. The report includes student name, student ID, student major and student year. It will show the password strength if it is strong, good, fair, or weak, even it will display a solution if the password is good, fair, or weak. The recommended password strength that all users use it is a strong password policy.

Because we are using an agile software development process, we were required to carry out those stages. The first step was planning, followed by designing, developing, testing, and finally deploying our program. These processes were repeated until we reached the final stage of our project, at which point everything that was necessary was functioning without any kind of mistake or problem.

Instruments used in the creation process:

The **Integrated Development Environment (IDE)** that we have been using for the development of our product is Microsoft Visual Studio.

**Language:** To develop a desktop application, we needed to choose a language that is not only simple to understand but also is compatible with the operating system that we use. The front end may be written in either Python or Java, and the back end can be a SQL database. We made the decision to adopt Python as our frontend programming language since Python is one of the most user-friendly programming languages since it has a simple syntax and isn't overly complex, putting more of an emphasis on natural language. Python is one of the easiest programming languages to learn and use, making it possible to write and execute scripts quickly compared to other programming languages.

**Database:** We have made the decision to use the Microsoft SQL server as a database. This is because our database is relatively small, and the fact that we were aware that Microsoft would work best with other Microsoft products.

## Conclusion:

To conclude this phase, we designed our website prototype to help the students in HCT to secure their accounts using strong password policies. The website contains user registration, administrator registration, home page, test the password page, password suggestions page and contact us page. The prototype shows how the website will look like. The designed diagrams interaction (sequence) diagram, data schema, domain class diagram & package diagram shows the website how it will work.

**Summarization:**

Users must understand the need of using secure and strong passwords, our website will ensure that they are using a weak or strong password and show them why their passwords are weak so they could make it stronger. The result of this website will help in evaluating the security of authentication means and help strengthen users' passwords because we acknowledge that the best way to secure and protect your information is by having a password that is unpredictable and extremely difficult to guess. Raising awareness through the campaign will also enable students to understand the dangers of having a weak password and how they are putting their information at risk.

**Future works**

In the next part of the project, we will be implementing what we planned in Capstone Project I. We will create a real demonstration of the prototype we created, and it will be ready to use. Moreover, we will be conducting a Secure Password Campaign, it will consist of two parts: The first part will include sending awareness posters through email to students and facilities. The second part will include students using our website and testing their passwords, they will have to register first and then be able to test their passwords and they will get feedback back from us if they should improve their passwords.

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