

Computer Science - Core Skills

Semester 1

BSC109224 Group A

Assignment 3

Student: Lucas Madeira Maranhão

Student ID: 76990

Lecturer: Bernard Joseph Roche

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Question 1 (50%): GIT & GITHUB

1. Local & Remote Repository (30%):

Follow the link below on my GitHub:

https://github.com/LucasMaranho21/assignment_3

2. Learning points (20%):

Describe five key learning points you have learned from completing this exercise, in your own words.

ANSWER (199 words)

1. FIVE LEARNING KEY POINTS:

I. **Git commands:**

One of the learning points about basic git commands were:

git init – initialize a repository.

git add – update the file changed or added.

git commit -m “message” to commit some changes you have done.

git status – to verify if the commands went through and it is working correctly.

II. **Creating Files:**

It is possible to create a file from the terminal only using the commands.

For example:

mkdir “name of the file”

III. **Committing:**

It is extremely important commit a message with clear details to confirm changes have been made.

IV. **Pushing file:**

Pushing the file to GitHub after you finish is crucial, this step send a copy of the file from my local repository to remote repository, giving the access to others.

V. Token:

Creating a repository in GitHub, you can leave the repository public or private, it will depend on the project you are working leave private or not. There are some steps to create a repository, but before creating repository, you will need a token that GitHub will create automatic to you. This token is extremely important keep it safe because you will use all the time.

3. Question 2 (50%): CRED

Explain CRED:

As part of this assignment, you are required to write a well-explained paragraph (in your own words) directed towards a group of first-year Computer Science students. In this paragraph, you should clearly and concisely explain the concept of CRED, which stands for Create, Read, Edit, and Delete.

Is CRED Enough?

After explaining CRED, consider whether these permissions alone are sufficient. Reflect on whether there might be additional permissions needed in certain situations. If you think more permissions are necessary, explain what those could be and why. If you believe CRED is enough, provide your reasoning for this stance.

Providing an Example:

To help illustrate your explanation, you must give an example of how CRED applies in real-world scenarios. Your example should clearly explain the roles of three parties: 1. Everyone: People who have basic access. 2. Service Provider: The entity offering the service. 3. You: The individual user interacting with the service. The example should demonstrate how each party interacts with the concepts of Create, Read, Edit, and Delete. CRED stands for Create, Read, Edit, and Delete. Keep this in mind as you write your explanation and example.

Word Count: 500-1,000 words

ANSWER (629 words)

1. EXPLAINING CRED:

Cred is an essential element to data management and software development.

It is used to databases, applications and can be used in all scenarios.

Cred or Crud refers to the four operations performed respectively:

C = Create

Add a new data or information to the system.

Create a new document to a collection.

R = read

It allows you reading the information of the existing data.

It can return some search results from based criteria.

E = edit or U = Update

The users can edit or update an existing data as necessary.

D = delete - Allows users to delete data from the system.

FOUR CRUD OPERATIONS



there is a hierarchy in Cred (Crud).

People who have access to everything, create, read, edit and delete, and people who has the access limited. Why does it happen?

The limited access is to avoid from the most basic to the most advanced problem or just because there is no reason for some people to access that information.

I. REASONS TO LIMIT ACCESS:

- Security – To avoid changes that shouldn't have been made, protect critical information about a company.
- Data integrity: limiting access, helps to maintain the system organized changing only what is extremely important, reducing the errors that can be made.
- Compliance: It helps some companies to respect law, especially about personal data.

2. IS CRED ENOUGH?

In my opinion, the method that Cred works is simple but smart, and it doesn't work only for companies or apps etc. You can use in real life, for example:

It's your friend's birthday and you want to throw a surprise party.

You called his friends and ask them to not talk about the party with him.

So basically, you are creating a party, keeping the birthday person confidential, letting their friends reading about the party, if its necessary change the local, you will edit the information, adding the new location and deleting the wrong location.

Now, talking about companies, who decides if it's enough or not will depend on what the company wants.

If the company wants to protect as much information as possible, they will limit access to important people who the owner of the company trusts.

3. PROVIDING AN EXAMPLE:

i. Creating:

Let's suppose that you work for a textile company, and you must add a new kind of fabric in the system that the company just bought, so you create the information about that fabric, such a fabric name, type, composition, width and length, colour, Quantity, price.

Example: the fabric created is 50%cotton/50%polyester, dark blue, 1000 meters and price are 10,00€ per meter.

ii. Reading:

The client can access and check all the information about the fabric that it was just created.

iii. Editing or updating:

the fabric is 100% cotton instead of 50%cotton/50%poliester and the employee noticed this and notified the person who was responsible for that. This person who has access to change the information, modify and save it.

Another case of editing could be about the price changing.

iv. Deleting:

The fabric you created no longer exists in stock and is no available for sale, so the person responsible for it delete all information about the fabric from the system.

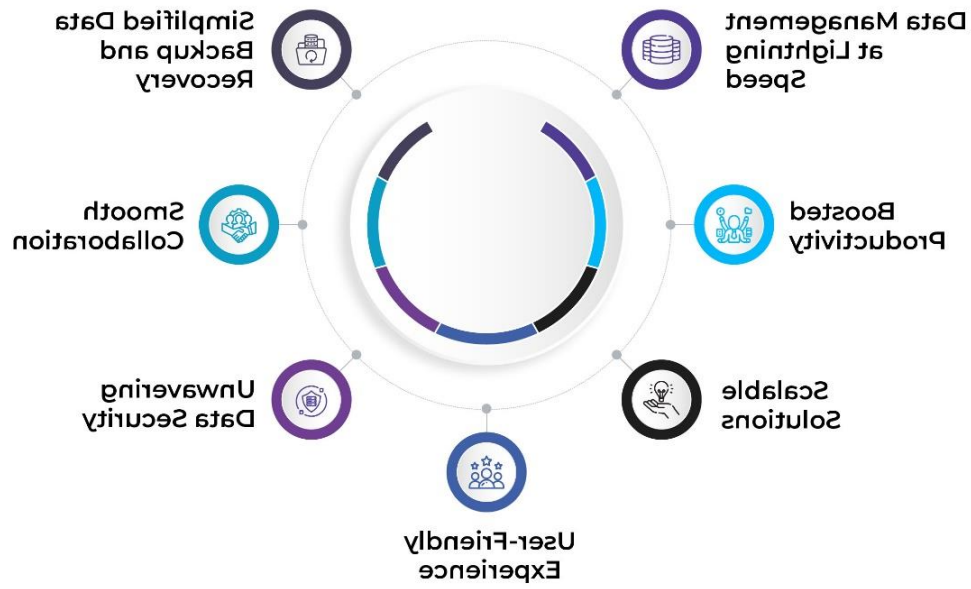
I. ACCESS CONTROL:

- Register person:
Has the full access, create, read, edit and delete the fabric situation.
- Employee: Has the access to read the details of the fabric, may have limited access to edit some information depending on the company's policies.
- Admins: can manage user roles and have access to everything.

II. BENEFITS:

- Efficient stock control: Keeps all the fabric information up to date.
- Simple process: Employee can access the information quickly.
- Reduced errors: Limited access helps to maintain the system organized and prevent changes from people who don't know how to make or register the same product more than once.

CRUD OPERATIONS BENEFITS OF



4. REFERENCES:

- <https://startup-house.com/glossary/crud-create-read-update-delete>
- <https://www.ionos.co.uk/digitalguide/websites/web-development/crud-the-most-important-database-operations/>
- <https://www.lepide.com/cyber-learning/what-is-crud/>
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