OOP Project

PASSWORD MANAGER SYSTEM 3CS2

- MUFID FATA RIFKI
- REYANDANU FAJRI DANISWARA

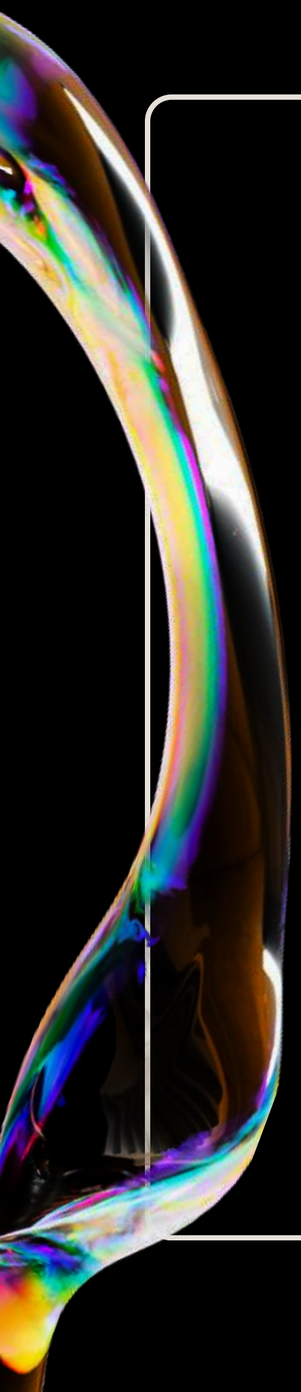
CONTENT

1 Concept

2 Flowchart

3 Database

4 Demonstration

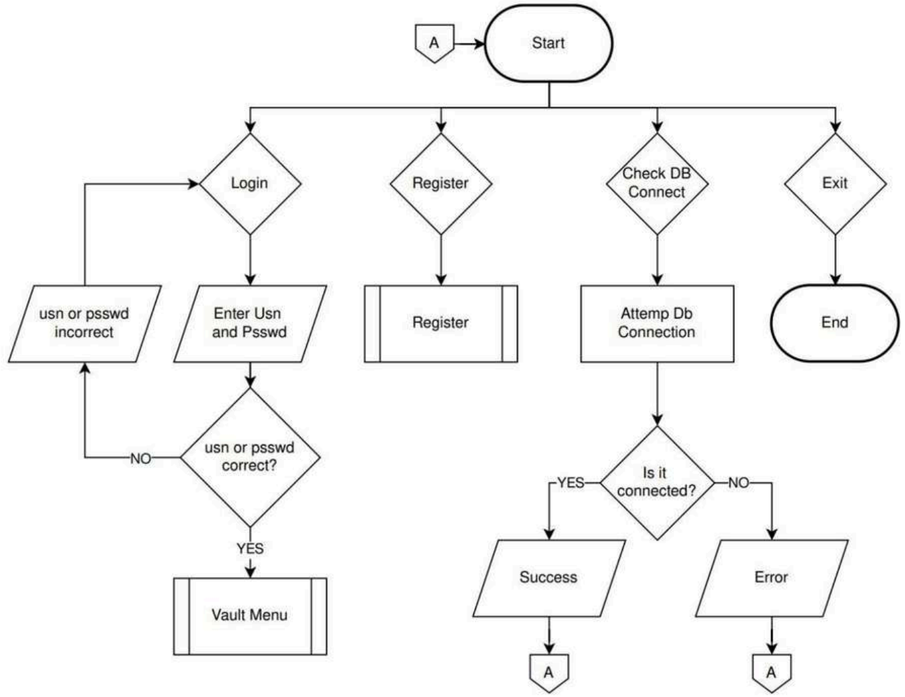


CONCEPT

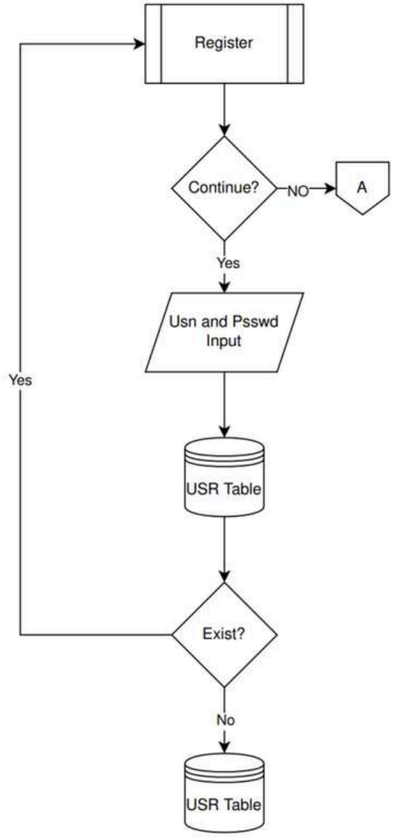
the concept of our project is to make a great password manager program with a CRUD (create, read, update, delete) method and applying a security measure

FLOWCHART

- **Main Menu**

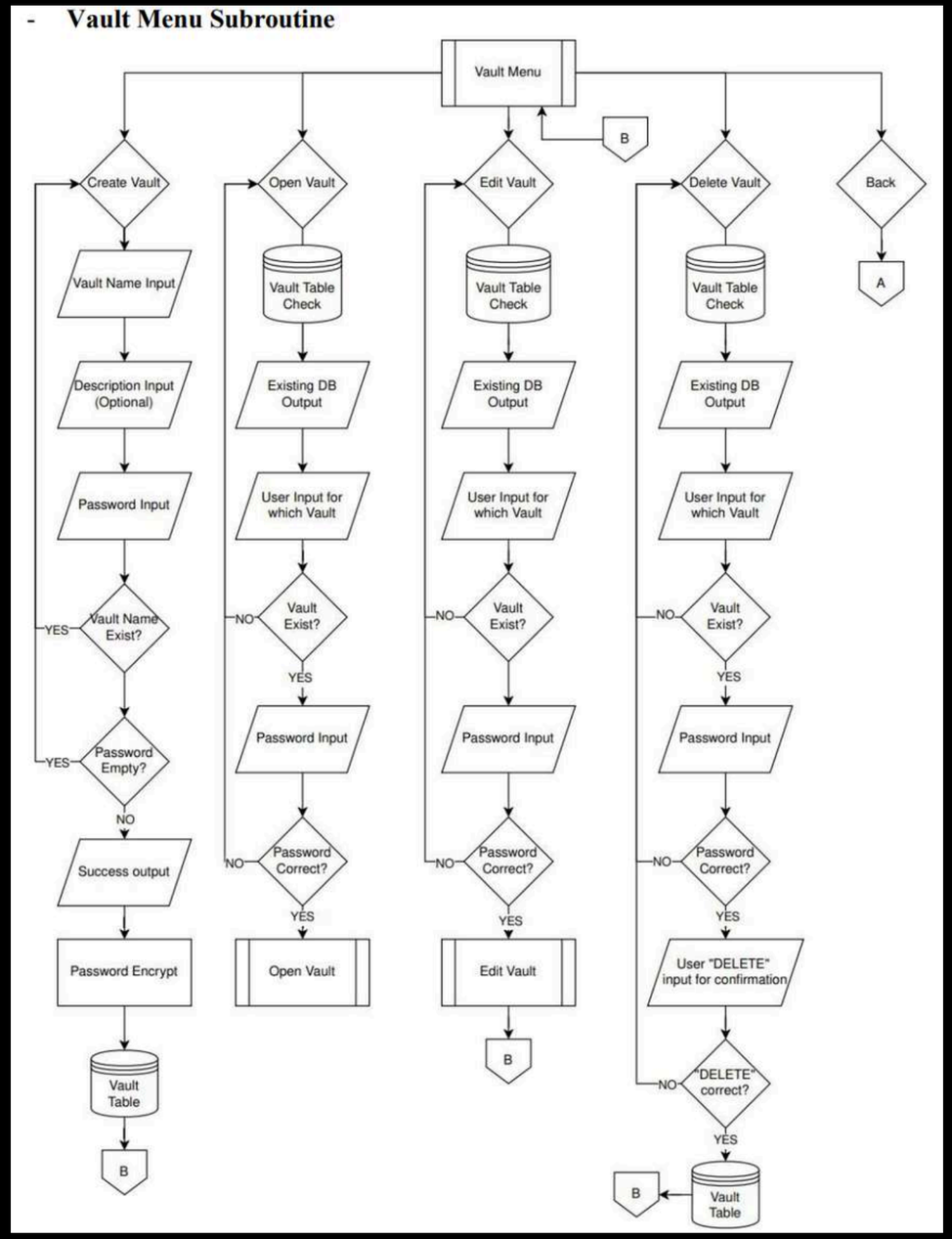


- **Register Subroutine**



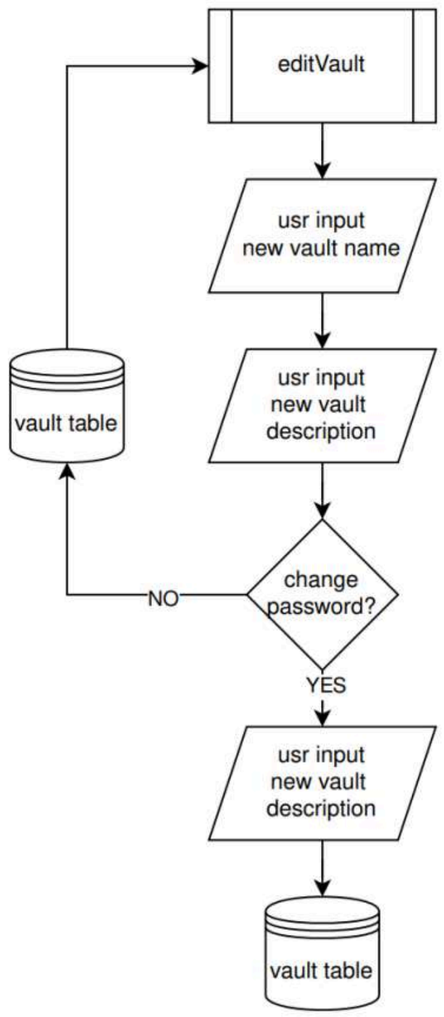
FLOWCHART

- **Vault Menu Subroutine**



FLOWCHART

- **Edit Vault Subroutine**



DATABASE ERD

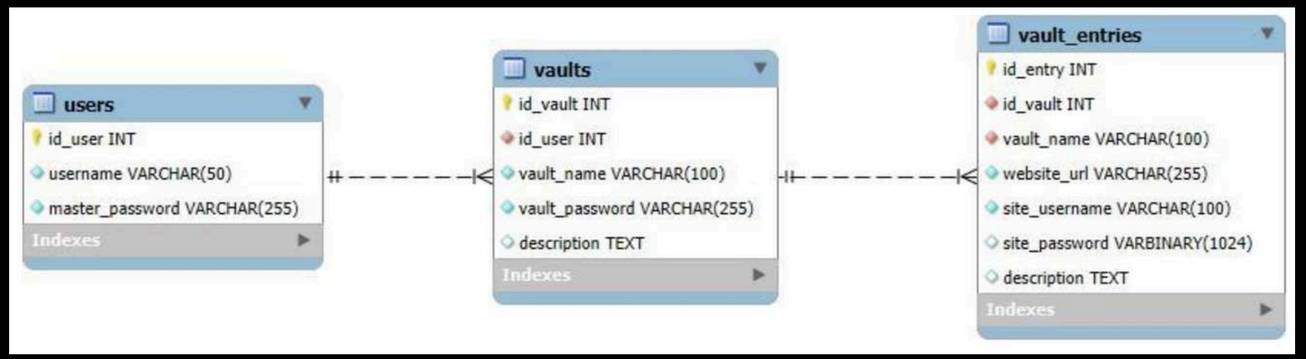


TABLE STRUCTURE

User Table

Column name	Data type	Size	Null	Key	Default	Notes	Delete rule
id_user	int	-	Not null	PK	Auto_increment	Primary key	-
username	varchar	50	Not null	unique	-	Unique across system	-
master_password	Varchar	255	Not null	-	-	Stores bcrypt hash	-

Indexes: UNIQUE KEY uq_user_username (username)

TABLE STRUCTURE

Vault Table

Column name	Data type	Size	Null	Key	Default	Notes	Delete rule
id_vault	int	-	Not null	PK	auto_increment	Primary Key	-
id_user	int	-	Not null	FK	-	References users(id_user)	ON DELETE CASCADE
vault_name	varchar	100	Not null	-	-	Display name for vault	-
vault_password	varchar	255	Not null	-	-	Bcrypt hash of vault master	-
description	TEXT	-	Null	-	-	Optional notes	-

Indexes:

- UNIQUE KEY uq_vaults_user_vaultname (id_user, vault_name) (unique vault name per user)
- UNIQUE KEY uq_vaults_idvault_username (id_vault, vault_name)

TABLE STRUCTURE

Vault Entries Table

Column name	Data type	Size	Null	Key	Default	Notes	Delete rule
id_entry	int	-	Not null	PK	auto_increment	Primary key	-
id_vault	int	-	Not null	FK	-	Part of composite FK to vaults	-
vault_name	varchar	100	Not null	FK	-	Part of composite FK to vaults	-
website_url	varchar	255	Not null	-	-	service/site or label url	-
site_username	varchar	100	Not null	-	-	Account username/email	-
site_password	VARBINARY	1024	Null	-	-	Encrypted/Encoded secret	-
description	TEXT	-	Null	-	-	Optional notes	-

Indexes&constraint:

- PRIMARY KEY (id_entry)
- KEY idx_entries_vault (id_vault)
- KEY fk_entries_vault_composite (id_vault, vault_name)
- FOREIGN KEY (id_vault, vault_name) REFERENCES vaults (id_vault, vault_name) ON DELETE CASCADE ON UPDATE CASCADE

THANK YOU

for your time and attention

by Kelompok 2 3CS2