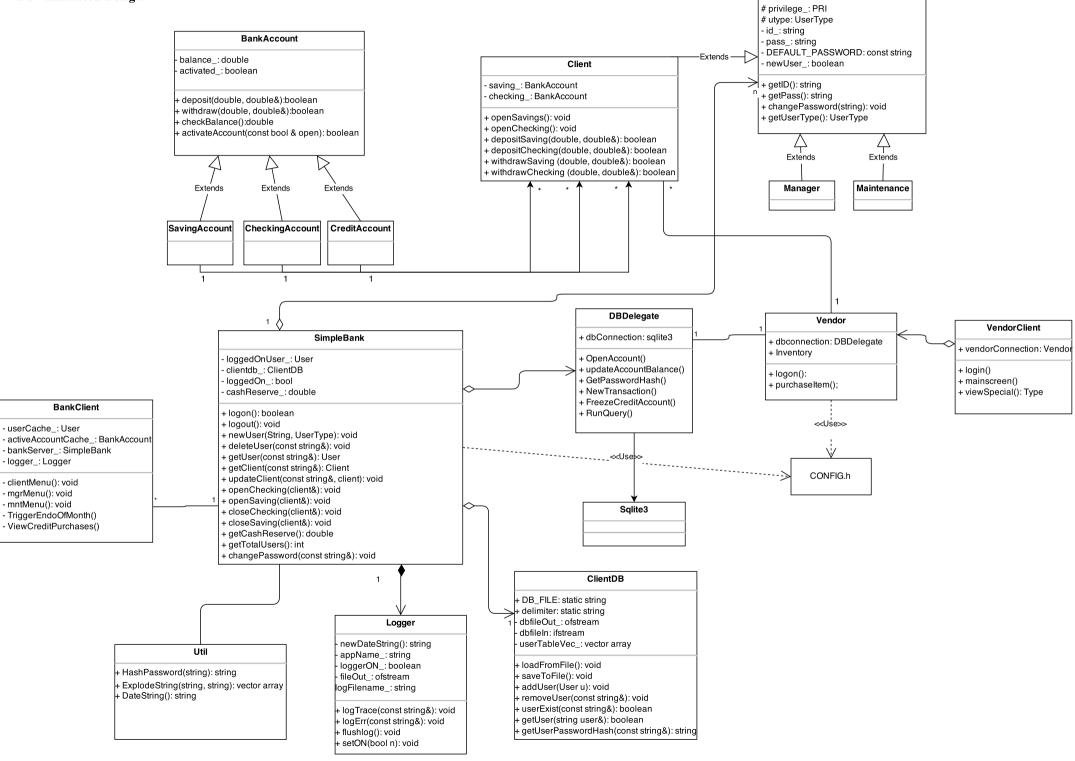# D1 - Enhanced Design

BankAccount
- balance_ : double
- activated_ : boolean

+ deposit(double, double&):boolean
+ withdraw(double, double&):boolean
+ checkBalance():double
+ activateAccount(const bool & open): boolean

Extends

SavingAccount

CheckingAccount

CreditAccount

Client
- saving_ : BankAccount
- checking_ : BankAccount

+ openSavings(): void
+ openChecking(): void
+ depositSaving(double, double&): boolean
+ depositChecking(double, double&): boolean
+ withdrawSaving (double, double&): boolean
+ withdrawChecking (double, double&): boolean

Extends

User
privilege_: PRI
utype: UserType
- id_ : string
- pass_ : string
- DEFAULT_PASSWORD: const string
- newUser_: boolean

+ getID(): string
+ getPass(): string
+ changePassword(string): void
+ getUserType(): UserType

Extends

Manager

Maintenance

SimpleBank
- loggedOnUser_ : User
- clientdb_ : ClientDB
- loggedOn_ : bool
- cashReserve_ : double

+ logon(): boolean
+ logout(): void
+ newUser(String, UserType): void
+ deleteUser(const string&): void
+ getUser(const string&): User
+ getClient(const string&): Client
+ updateClient(const string&, client): void
+ openChecking(client&): void
+ openSaving(client&): void
+ closeChecking(client&): void
+ closeSaving(client&): void
+ getCashReserve(): double
+ getTotalUsers(): int
+ changePassword(const string&): void

DBDelegate
+ dbConnection: sqlite3

+ OpenAccount()
+ updateAccountBalance()
+ GetPasswordHash()
+ NewTransaction()
+ FreezeCreditAccount()
+ RunQuery()

Vendor
+ dbconnection: DBDelegate
+ Inventory

+ logon():
+ purchaseItem();

VendorClient
+ vendorConnection: Vendor

+ login()
+ mainscreen()
+ viewSpecial(): Type

<<Use>>

CONFIG.h

Sqlite3

BankClient
- userCache_ : User
- activeAccountCache_ : BankAccount
- bankServer_ : SimpleBank
- logger_ : Logger

- clientMenu(): void
- mgrMenu(): void
- mntMenu(): void
- TriggerEndoOfMonth()
- ViewCreditPurchases()

Util
+ HashPassword(string): string
+ ExplodeString(string, string): vector array
+ DateString(): string

Logger
- newDateString(): string
- appName_ : string
- loggerON_ : boolean
- fileOut_ : ofstream
- logFilename_ : string

+ logTrace(const string&): void
+ logErr(const string&): void
+ flushlog(): void
+ setON(bool n): void

ClientDB
+ DB_FILE: static string
+ delimiter: static string
- dbfileOut_ : ofstream
- dbfileIn: ifstream
- userTableVec_ : vector array

+ loadFromFile(): void
+ saveToFile(): void
+ addUser(User u): void
+ removeUser(const string&): void
+ userExist(const string&): boolean
+ getUser(string user&): boolean
+ getUserPasswordHash(const string&): string