UML class diagram: ExpenseTracker

Gia-Phong Tran | January 12, 2023

Some classes include each other!

Class MenuFunctions

+ MenuFunctions()
+ mainMenu() : void
+ userCreate() : void
+ createGroup(User &user) : void
+ groupMenu(Group &group, User &user) : void
+ g_editUsers(Group group) : void
+ display(string disp, Group &group) : void
+ spendAmount(amountSpent double, creditor &User, vector<User> userList) : void
+ displayBalance(Group group) : void
+ calcGroupBalance(string groupName) : void
+ write_to_csv(vector<User> &userList, string filename)
+ requestGroup(string groupName) : &Group
+ requestUser(string userName) : &User

Class Account

- _balance: double

+ Account()
+ transfer(double amount) : void
+ getBalance() : double
+ ~Account()

Class Transaction

+ _payReason : string
+ _creditor : User&
+ _debtor : &Group
+ _amount : double

+ Transaction(User&, Group&, double, std::string)
+ printTransaction() : void
+ getAmount() : double
+ getSubject() : string
+ getCreditor() : &User
+ getDebtor() : &Group
+ ~Transaction()

Class User

- _account: Account
- _groups : vector<shr_ptr<Group>>
- _name: string <<const>>
- _age: int

+ User()
+ User(int age, string name)
+ getAge() : int
+ <<const>> getName() : string
+ getBalance() : double
+ getAccount() : &Account
+ getGroups() : &vector<shr_ptr<Group>>
+ joinGroup(Group &group): void
+ printGroups() : void
+ writeUserCsv() : void
+ ~User()

Class Group

- _name : string <<const>>
- _members : vector<shr_ptr<User>>
- _accountList : vector<shr_ptr<Account>>
- _accountMap : map<shr_ptr<User>, shr_ptr<Account>>
- _transactions : vector<Transaction>

+ Group()
+ Group(string name)
+ getName() : string <<const>>
+ getMembers() : vector<shared_ptr<User>>
+ getMap() : &map<shared_ptr<User>, std::shared_ptr<Account>>
+ getTransactions() : vector<Transaction>
+ requestGroupAcc(User & user) : &Account
+ addTransaction(User & creditor, Group & debtor, std::string payReason, double amount): void
+ modifyGroupAccBalance(User & user) : void
+ printTransactions() : void
+ printAccBalances() : void
+ settleDebts() : void
+ addMember(User & user) : void
+ ~Group()