

Serializable

Entities

Use Cases

Controller/Presenter

Outer Layers

| <<abstract>> Transaction | |
|--|--|
| - meetingLocation: String | |
| - meetingTime: LocalDateTime | |
| - isActive: boolean = false | |
| - dueDate: LocalDateTime = null | |
| - isComplete: boolean | |
| - confirmationNum: int | |
| + borrower: RegularUser | |
| + lender: RegularUser | |
| + createdAt: LocalDateTime = null | |
| + transactionType: String | |
| + Transaction(borrower: RegularUser, lender: RegularUser, re: TransactionRequest, date: LocalDateTime) | |
| + getMeetingTime() | |
| + getDueDate() | |
| + getCreatedDate() | |
| + getIsActive() | |
| + getIsComplete() | |
| + getTransactionType() | |
| + getConfirmationNum() | |
| + setConfirmationNum(num1: int) | |
| + getTransactionCompleteness() | |
| + setTransactionCompleteness(b: boolean) | |
| + setIsActive(a: boolean) | |
| + getBorrowerName() | |
| + getLenderName() | |
| + getMeetingLocation() | |

| OneWayTrade | |
|-----------------------------|--|
| - item: Item | |
| + getBorrowerName(): String | |
| + getLenderName(): String | |
| + toString(): String | |

| TwoWayTrade | |
|---|--|
| - borrowerItem: Item | |
| - lenderItem: Item | |
| + TwoWayTrade(re: TransactionRequest, meetingTime: LocalDateTime) | |
| + getBorrowerName() | |
| + getLenderName() | |
| + toString() | |

| TransactionRequest | |
|--|--|
| - owner: RegularUser | |
| - location: String | |
| - time: LocalDateTime | |
| - isAccepted: boolean | |
| - isTimeToTrade: ArrayList<Item> | |
| - isTwoWay: boolean | |
| - isTemporary: boolean | |
| - theOtherUser: RegularUser | |
| + TransactionRequest(owner: RegularUser, theOtherUser: RegularUser, location: String, time: LocalDateTime, items: ArrayList<Item>) | |
| + TransactionRequest(owner: RegularUser, theOtherUser: RegularUser, location: String, time: LocalDateTime, items: ArrayList<Item>) | |
| + TransactionRequest(owner: RegularUser, theOtherUser: RegularUser, location: String, time: LocalDateTime, items: ArrayList<Item>) | |

| <<abstract>> User | |
|---|--|
| - username: String | |
| - password: String | |
| - messages: ArrayList<List<String>> | |
| - type: int | |
| + User(username: String, password: String, type: int) | |
| + getPassword(): String | |
| + getUsername(): String | |
| + getUserType(): int | |
| + getMessages(): ArrayList<List<String>> | |
| + setUsername(username: String) | |
| + setPassword(password: String) | |
| + setMessages(messages: ArrayList<List<String>> | |

| AdminUser | |
|--|--|
| - suspiciousUsers: ArrayList<RegularUser> | |
| - itemRequests: HashMap<String, ArrayList<Item>> | |
| - advertisementRequests: HashMap<String, ArrayList<Item>> | |
| + getSuspiciousUser(): ArrayList<RegularUser> | |
| + getAdvertisementRequests(): HashMap<String, ArrayList<Item>> | |
| + getUserWishList(user: RegularUser): ArrayList<Item> | |
| + getUserAvailableList(user: RegularUser): ArrayList<Item> | |

| RegularUser | |
|--|--|
| - transactions: ArrayList<Transaction> | |
| - isFrozen: boolean | |
| - selfItems: ArrayList<Item> | |
| - willingToBorrowItems: ArrayList<Item> | |
| - willingToLendItems: ArrayList<Item> | |
| - partnerList: ArrayList<String> | |
| - targetItems: ArrayList<Item> | |
| - transactionRequests: ArrayList<TransactionRequest> | |
| - lendingNum: int | |
| - borrowingNum: int | |
| - isBusy: boolean | |
| + RegularUser(username: String, password: String) | |
| + getIsFrozen(): boolean | |
| + setIsFrozen(frozen: boolean) | |
| + getTransactions(): ArrayList<Transaction> | |
| - | |

| DemoUser | |
|---|--|
| - inventory: ArrayList<Item> | |
| - willingToBorrowItems: ArrayList<Item> | |
| - willingToLendItems: ArrayList<Item> | |
| - partnerList: ArrayList<String> | |
| - transactionRequests: ArrayList<TransactionRequest> | |
| + DemoUser() | |
| + getInventory(): ArrayList<Item> | |
| + getWillingToBorrowItems(): ArrayList<Item> | |
| + getWillingToLendItems(): ArrayList<Item> | |
| + getPartnerList(): ArrayList<String> | |
| + getTransactionRequests(): ArrayList<TransactionRequest> | |

| RegularUserStatus | |
|---|--|
| - historyUser: RegularUser | |
| - information: String | |
| - id: int | |
| - mutualUser: RegularUser | |
| + RegularUserStatus(currentUser: RegularUser, notification: UndoNotification) | |
| + getHistory(): RegularUser | |
| + getInfo(): String | |
| + isSameID(action: RegularUserStatus): boolean | |
| + getMutualUser(): RegularUser | |

| Item | |
|--|--|
| ± itemNumber: int | |
| - name: String | |
| - description: String | |
| - status: boolean | |
| - description: String | |
| - username: String | |
| - number: int | |
| + Item(name: String, description: String) | |
| + Item(name: String, description: String, username: String) | |
| + setUsername(username: String) | |
| + getUsername(): String | |
| + setStatus(status: boolean) | |
| + getStatus(): boolean | |
| + getName(): String | |
| + getDescription(): String | |
| + getItemNumber(): int | |

| UndoNotification | |
|---|--|
| - text: String | |
| - int: id | |
| - mutualUser: RegularUser | |
| ± int: GLOBAL_ID | |
| + UndoNotification(text: String) | |
| + UndoNotification(text: String, mutualUser: RegularUser) | |
| + isSameID(id: int) | |
| + getInfo(): String | |
| + getID(): int | |
| + getMutualUser(): RegularUser | |

| ValidateEligibility | |
|---|--|
| + thresholdMaxTransactionPerWeek: int | |
| + maxIncompleteTransactions: int | |
| - userA: RegularUser | |
| - userB: RegularUser | |
| + ValidateEligibility(starter: RegularUser, receipt: RegularUser, admins: ArrayList<AdminUser>) | |
| + setThresholdMaxTransactionPerWeek(threshold: int) | |
| + validateLendingForOneUser(user: RegularUser): boolean | |
| + validateMaxTransactionPerWeekForOneUser(user: RegularUser): boolean | |
| + validate(): boolean | |

| TransactionManager | |
|--|--|
| + thresholdMaxEditing: int = 6 | |
| + thresholdLendingMinusBorrowing: int | |
| - editing: int = 0 | |
| + editTransactionRequest(re: TransactionRequest, location: String, year: int, month: int, date: int, hours: int, minute: int, accept: boolean) | |

| FreezingAccount | |
|--|--|
| + setFreezing(user: RegularUser) | |
| + freezeOperation(judge: boolean, user: RegularUser) | |

| AddingNewMessageForUser | |
|-----------------------------------|--|
| - targetUser: User | |
| + AddingNewMessageForUser() | |
| + setTargetUser(targetUser: User) | |
| + addNewMessage(message: String) | |

| <<abstract>> EditItems | |
|-----------------------------|--|
| + addToWishList() | |
| + removeFromWishList() | |
| + addToAvailableList() | |
| + removeFromAvailableList() | |

| RegularUserEditItems | |
|---|--|
| - item: Item | |
| - user: RegularUser | |
| + RegularUserEditItems(item: Item, user: RegularUser) | |
| + addToWishList() | |
| + removeFromWishList() | |
| + addToAvailableList() | |
| + removeFromAvailableList() | |

| AdminUserEditItems | |
|---|--|
| - item: Item | |
| - user: RegularUser | |
| - admin: AdminUser | |
| + AdminUserEditItems(item: Item, user: RegularUser, admin: AdminUser) | |
| + addToWishList() | |
| + removeFromWishList() | |
| + addToAvailableList() | |
| + removeFromAvailableList() | |

| CleanText | |
|---|--|
| - stopwords: List<String> | |
| + CleanText(stopwords: List<String>) | |
| + tokenizeText(originDescription: String): List<String> | |
| + removeStopWords2(tokenizedWords: List<String>): List<String> | |
| + tfCalculator(targetWord: String, uniqueWordCollection): double | |
| + idfCalculator(targetWord: String, uniqueWordCollection: List<String>): double | |
| + tfidfCalculator(targetWord: String, uniqueWordCollection: List<String>): double | |
| + vecNormCalculator(vec: List<Double>): double | |
| + cosSimCalculator(vect1: List<Double>, vect2: List<Double>): double | |
| + modifyWordsList(item: Item, tokenizedCollect: List<List<String>>, bagOfWords: List<String>): void | |

| EditTransactions | |
|--|--|
| # currentUser: RegularUser | |
| + setCurrentUser(currentUser: RegularUser) | |
| + addTransaction(tr: Transaction) | |

| RegularUserActionStack | |
|---|--|
| - user: RegularUser | |
| - actions: Stack<RegularUserStatus> | |
| - userData: UserData | |
| + RegularUserActionStack(user: RegularUser, userData: UserData) | |
| @Override | |
| + update(observable: Observable, o:Object) | |
| - clear() | |
| + peek(): RegularUserStatus | |
| - push(notification: UndoNotification) | |

| RequestTrade | |
|--|--|
| - tradeRequestUser: RegularUser | |
| - tradeAcceptUser: RegularUser | |
| + AdminUsers: ArrayList<AdminUser> | |
| + RequestTrade(tradeStarter: RegularUser, tradeReceiver: RegularUser, item: Item) | |
| + requestTrade(year: int, month: int, date: int, hours: int, minute: int, location: String, items: ArrayList<Item>, isTwoWay: boolean) | |

| ConfirmTransaction | |
|--------------------------------------|--|
| + confirmTransaction(t: Transaction) | |

| ConfirmMeeting | |
|--------------------------|--|
| - userA: RegularUser | |
| - userB: RegularUser | |
| - re: TransactionRequest | |
| + confirmMeeting() | |

| UserInfoPresenter | |
|---|--|
| - readData: ReadData | |
| + username: String | |
| + userMap: Map<String, RegularUser> | |
| - targetUser: RegularUser | |
| - tradeItems: ArrayList<Item> | |
| + UserInfoPresenter(username: String) | |
| + UserInfoPresenter(user: RegularUser) | |
| + showUserWishList(): ArrayList<Item> | |
| + showUserInventory(): ArrayList<Item> | |
| + presentRecentTradingItems(threshold: int): ArrayList<Item> | |
| + favoritePartners(): ArrayList<String> | |
| + counting(partners: ArrayList<String>): HashMap<String, Integer> | |

| RequestUnfreeze | |
|--|--|
| - read: ReadData | |
| - adminUsers: HashMap<String, AdminUser> | |
| - addingNewMessageForUser: AddingNewMessageForUser | |
| + requestUnfreeze(username: String) | |

| ApproveAddingItem | |
|--|--|
| - confirmAdding: boolean | |
| - fileRows: ArrayList<String> | |
| + ApproveAddingItem(confirmAdding: boolean) | |
| + changingItem(username: String, item: Item, userData: UserData) | |

| ItemSuggestion | |
|--|--|
| - userA: RegularUser | |
| - userB: RegularUser | |
| + ItemSuggestion(userA: RegularUser) | |
| + ItemSuggestion(userA: RegularUser, userB: RegularUser) | |
| + traderSuggestion(): ArrayList<Item> | |
| + marketSuggestion(): ArrayList<Item> | |
| - wishSuggestion(ud: UserData): ArrayList<Item> | |
| - newSuggestion(ud: UserData): ArrayList<Item> | |
| + smartSuggestion(ct: CleanText): ArrayList<Item> | |

| UndoRegularUser | |
|---|--|
| + undo(userData: UserData, user: RegularUser): String | |
| + peekUndoInfo(userData: UserData, user: RegularUser): String | |

| UnfreezeRequestCollection | |
|---|--|
| - userNameToUnfreezeRequest: HashMap<String, String> | |
| + UnfreezeRequestCollection(userData: UserData) | |
| + cleanOut(username: String) | |
| + addUnfreezeRequestToSystem(username: String, request: String) | |

| HideComponents | |
|-----------------------------------|--|
| + hideButton(button Button) | |
| + hideTextView(textView TextView) | |

| Initializer | |
|--|--|
| - initialize() | |
| ReadData | |
| - storeAdminUsers: HashMap<String, AdminUser> | |
| - storedRegularUsers: HashMap<String, RegularUser> | |
| - itemInventory: ArrayList<Item> | |
| - file: File | |
| + ReadData() | |
| + readFile(filename: String) | |
| + readAdminUsers(): HashMap<String, AdminUser> | |
| + readRegularUsers(): HashMap<String, RegularUser> | |
| + readInventory(): ArrayList<Item> | |

| LoginManager | |
|------------------------------|--|
| - userData: UserData | |
| + LoginManager(ud: UserData) | |
| + run() | |
| + login() | |
| + register() | |

| AdminUIManager | |
|---|--|
| - currentUser: User | |
| - userData: UserData | |
| + AdminUIManager(currentUser: User, userData: UserData) | |
| + run() | |

| UIManager | |
|--|--|
| - currentUser: User | |
| - userData: UserData | |
| - saveData: SaveData | |
| - userType: int | |
| + UIManager(currentUser: User, userData: UserData) | |
| + run() | |
| - displayMenu() | |
| - regularMenu() | |
| - frozenMenu() | |
| - userInfoMenu() | |
| - marketMenu() | |
| - arrangeTransaction() | |

| ReadingRequestAddingItem | |
|---|--|
| - file: File | |
| - userNameToItems: HashMap<String, ArrayList<Item>> | |
| + ReadingRequestAddingItem() | |
| - readingAddingRequestFile() | |
| + displayRequest(): ArrayList<String> | |
| + getUsernameToItemAfterReading(): HashMap<String, RegularUser> | |

| ReadMessages | |
|-------------------------------------|--|
| - messages: ArrayList<List<String>> | |
| - readMessages(username: String) | |

| SaveData |
|--|
| - regularUsersToAdd : HashMap<String, RegularUser> |
| - adminUsersToAdd : HashMap<String, AdminUser> |
| - itemsToAdd : ArrayList<Item> |
| - filename : String |
| <u>+ ITEM_INVENTORY_FILENAME : String</u> |
| <u>+ REGULARUSER_FILENAME : String</u> |
| <u>+ ADMINUSER_FILENAME : String</u> |
| |
| + SaveData() |
| + removeData(obj) |
| + saveData(obj) |







