

## **LoginInfo**

Holds login information for a user

Attributes:

- password: User's password
- email: User's email
- name: User's full name

## **User**

Parent class for all users

Attributes:

- int reputation: Reputation value for user (modified with reviews)
- VendingMachine[] savedVendingMachines: Hold saved/bookmarked vending machines for user
- LoginInfo loginInfo: Hold login info for this user for arbitrary reference

Methods:

- void saveVendingMachine(VendingMachine machine): Save a vending machine to this User's saved machine list
- void leaveReview(VendingMachine machine, int review): Leave a review for a vending machine affecting its rating
- void reportUser(User user, String reason): Report a user affecting their reputation
- void reportBroken(VendingMachine machine): Report a vending machine as broken

## **AdminUser**

User with admin privileges

Attributes:

Methods:

- void banUser(user): Remove any fraudulent user.
- void removeItems(VendingMachine, Item): Remove items from vending machine
- void addItems(VendingMachine, Item): Add items to vending machine
- void changePrices(VendingMachine, Item, Int price): Change vending machine prices
- void verifyItems(VendingMachine, Item): In person, verify that item is still available
- void verifyPrice(VendingMachine, Item, Int price): In person, verify that price is still the same

## **CustomerUser**

User with normal customer privileges

Attributes:

- VendingMachine[] favoriteMachines: hold this User's list of favorite machines

Methods:

- void verifyItems(VendingMachine machine, Item item): Provide crowdsourced input indicating that an item is still available in VendingMachine machine
- void verifyPrice(VendingMachine machine, Item item): Provide crowdsourced input indicating an item's price in VendingMachine machine
- void leaveReview(VendingMachine machine, int rating, String msg): Write a review for a vending machine

### **VendorUser**

User with owner/operator privileges for vending machines

Attributes:

- VendingMachine[] ownedMachines: List of vending machines that this owner/operator deals with

Methods:

- void removeItem(VendingMachine machine, Item item): Remove item listing from a vending machine
- void addItem(VendingMachine machine, Item item): Add item listing to a vending machine
- void changePrice(Item item, int price): Change price for an item listing
- void createVendingMachine(VendingMachine machine): Add a vending machine with

### **Item**

Represent an item sold at a vending machine

Attributes:

- float price: Reputation of this user
- String name: Name of user
- int rating: Item quality rating

### **VendingMachine:**

Represent a vending machine

Attributes:

- Pair<Item item, bool inStock>[] items: List of items in machine
- int rating: Quality rating of this machine
- bool isBroken: Is this machine operable?
- Vector<float, float> location: Geographical location of this machine

### **UserDatabase**

Wrap database containing Users with helper methods for user sessions

Methods:

- User login(LoginInfo info): Attempt to login user, returning User object if successful

- User signup(LoginInfo info): Attempt to sign up new user, returning User object if successful

### **VendingMachineDatabase**

Wrap database containing vending machines with helper methods for searching and creating

Methods:

- VendingMachine[] searchVendingMachines(String searchTerm): Search for vending machines
- void createVendingMachine(VendingMachine machine): Add new VendingMachine object to database