

Main Program Specification

Implementation of a user management system and more functionality derived from it.

Legend

- We will be using a unit called "RequestQueue", which is an ADT List that will control the orders before running them in the program.
- We will also be using the unit "UserList", yet another ADT List that keeps track of the users and their photos.

Values

- An empty queue.
- An empty user list.

Necessary Operations

- Create a new user.
- Cancel a user account.
- Transform an account.
- Upload a photo.
- Remove a photo belonging to a user.
- Like a photo.
- Report a photo.
- Remove reported photos.
- Show the status of a given user.
- Show the global status of the system.
- Show the favorite photos.

Operation Usage

*** Note: All lists must be initialized before using any of the procedures down below.**

· Destructors

selfDestruction (tListU) → tListU

Goal: Deletes the whole user list.

Input: A list of users.

Output: A modified list without any users.

deleteAccount (tNickname, tListU) → tListU

Goal: Deletes a user's account.

Input: The nickname of the user that will be deleted and the UserList.

Output: The UserList without that account.

deleteUserPhotos (tListP) → tListU

Goal: Deletes a user's gallery.

Input: the photo list.

Output: The list without the photos.

removePhoto (tNickname, tIdPhoto, tListU) → tListU

Goal: Remove a user's photo.

Input: The user's nickname, the photo ID and the UserList.

Output: The modified UserList.

purgeGallery (tListP)

Goal: Remove all reported photos of a photo list of one user.

Input: The user, position user list and a variable to add the amount of removed items.

Output: Modified user in the UserList and a modified counter of deleted photos.

purgeUsers (tListU)

Goal: Remove all the reported photos of the system.

Input: The user list.

Output: The modified user list.

· Generators

createAccount (tNickname, tUsername, tAccount, tListU) → tListU

Goal: Create a user account.

Input: The nickname, username, type of account and UserList.

Output: The UserList with the new user added.

uploadImage (tNickname, tFileName, tComment, tListU, integer) → tListU

Goal: Upload a user's photo.

Input: The nickname, filename, comment, user list and a variable to keep the IDs used in the system.

Output: The UserList with the photo added and an ID counter.

· Modifiers

abuseStr (tReported)

Goal: Transform an abuse into a predefined string.

Input: The reported-type value.

Output: A string.

transformAccount (tNickname, tAccount, tListU) → tListU

Goal: Toggles an account from "free" to "premium".

Input: The nickname and the actual type of account.

Output: The user account with its new type.

Precondition: The nickname must exist in the UserList.

likePhoto (tNickname, tIdPhoto, tListU) → tListU

Goal: Add a "Like" rating to an existing photo.

Input: The nickname of the user's photo, its ID and the UserList.

Output: The modified UserList.

reportPhoto (tNickname, tIdPhoto, tListU) → tListU

Goal: Add an abuse report to an existing photo.

Input: The nickname of the user's photo, the photo ID and the UserList.

Output: The UserList with a user with a new report.

· Observers

header (string)

Goal: Print a header of the program.

Input: The message to be printed.

printError (string, boolean)

Goal: Prints an error on screen.

Input: The message to be printed. A boolean to choose if it's a common error or a warning error.

echo (string, boolean)

Goal: Prints four asterisks on screen and a message or just a message.

Input: The message to be printed and a boolean to choose if it's a normal message or a special one.

strToAcc (string)

Goal: Change a string into an account.

Input: The string we want to turn into an account.

Output: The account value.

Postcondition: If the string is not "free" or "premium" it would be taken as free.

accToStr (string) → string

Goal: Transforms an account type into a string.

Input: The account to be turned into an account.

systemStatus (tNickname, tListU)

Goal: Show the status either of a user or the whole system.

Input: The nickname of the user you want to see the status of, the whole system if "nickname" is empty and the UserList.

favorites (integer, tListU)

Goal: Show the favorites photos (those ones with more than X number of likes).

Input: The number of minimum likes for the photos to be shown and the UserList.

galleryReady (tListP, tItemU) → boolean

Goal: Tells if a new photo can be inserted.

Input: A user.

Output: A boolean indicating if the gallery is full or not.

Precondition: The user must exist in the UserList.

showUserGallery (tItemU)

Goal: Shows a single user gallery.

Input: The user and a variable.

Precondition: User must be valid.

runTasks (tQueue, tListU)

Goal: Gets the instructions from the Q.

Input: The queue of the instructions and the UserList.

Output: An empty queue and a modified UserList according to the instructions.