Sketch N Share

SQL

Summary

Facts

- Users exist in the system.
- Users have names and passwords
- Users can't exist in the system with the same name.
- Users can be either regulars or administrators.
- Root is a special admin superuser, whose account can't be deleted or renamed
  - Used mainly for safety reasons
- Sketches exist in the system.
- Sketches have titles, content (graphics data).
- Folders exist in the system
- Folders have names
- Folders can't exist in the system with the same name.
- Folders are not nested (there are no subfolders).
- Folders contain sketches.
- A folder can't store two sketches with the same name
- Users can create folders and sketches.
- Each folder has one owner (user).
- Normally, folders are only visible to their owners.
- Only owners can edit folders and their content.
- Folders can be shared with multiple users by their owners for viewing
- Deleting shared folders also deletes associated sketches and shares
- Admins can view, edit and delete folders and sketches of other users'.
- Admins can view all users in the system.
- Admins can create users
- Admins can modify user names, passwords and roles (except root)
- Admins can delete users (except root)

Use-cases

- **Login:** name and password required
- **List folders:** see folders of the current user *
- **List shared folders:** see folders shared with current user
- **Create folder:** Create a new folder for the current user. Name required. * Folder name must be unique among the folders of the current user.
- **Delete folder:** Remove existing folder of the current user *
- **List shared users:** List users a selected folder is shared with.
- **Share folder:** Share the current user's folder with another user. User name required. Naturally, a folder can't be shared with its owner or shared twice.
- **Unshare folder:** Remove folder viewing access of a user from a selected folder.
- **Get all sketches:** List all sketches in a folder *
- **Create sketch:** Create a new, empty sketch in the current folder. Folder name required. Sketch name must be unique among sketches in the current folder
- **Rename sketch:** Rename an existing sketch in the current folder. Folder name required. Sketch name must be unique among sketches in the current folder
- **Delete sketch:** Delete an existing sketch in the current folder *
- **Open sketch:** View a sketch selected from the current folder on the canvas
- **Save sketch:** Save an opened sketch that was edited on the canvas. Current user must have ownership access (through the folder) to the sketch. *
- **Create user (admin only):** Create new empty user with default password. Name required.
- **Delete user (admin only):** Delete existing user. Root can't be deleted
- **Modify user (admin only):** Modify user. Name, password and role required.

In cases marked with *, admin mode overrides access limits, therefore, items of all users can be listed and / or manipulated (depending on case).

Web

Summary

Sketch N Share is a drawing web application in which users can create and edit sketches made of simple geometric shapes. They can organize their works in folders and can share them with other users for viewing. The app is able to manage both regular users and administrators, who have access to all folders and sketches in the system, and can manipulate user accounts as well.

Stories

Users should carry out the following interactions:

Navbar
- Login to view *Folders Page*
- Logout
- Switch to *admin mode* (if user has permission)

Folders Page
- View all folders of a user
- View all folders shared with a user
- Select a folder for viewing on *Folder Page*
- Create new folder
- Rename folder
- Select a folder for editing share status on *Folder Share Page*
- Delete folder
- View, create, rename and delete folders of each users in *admin mode*

Folder Page
- View data of all sketches in folder
- Select a sketch for viewing in *Canvas Page*
- Create empty sketch
- Rename sketch
- Delete sketch
- View, create, rename and delete sketches of each users in *admin mode*
- Go back to *Folder Page*

Folder Share Page
- View all users a selected sketch is shared with
- Share the folder with new users
- Remove share access of a user to the folder

Canvas Page
- Load and display selected sketch
- Select drawable geometric shapes
  - Line
  - Rectangle
- Draw selected shape to canvas
- Save Drawing

- ● Go back to Folder Viewer
User List Page (admin only)
   - ● List all users
   - ● Select a user for editing in *User Manager Page*
   - ● Create new user
   - ● Delete user
   - ● Go back to *Folders Page*
User manager page
   - ● Display selected user name, password and role.
   - ● Modify selected user name, password and role
   - ● Go back to *User List Page*

Servlet Http Paths and Methods

Optional params for all methods:
   - ● admin_mode: request admin mode; values: 1 or 0 (true or false)

Note: id of current user is always extracted from server session (no need to send params for that)

/login
   POST: login a user:
        params: userName, password
        return: MessageDto

/protected/folder
   GET: get all folders of a user
        params: -
        return: List<Folder>
   POST: Create new folder
        params: userName
        return: MessageDto
   PUT: Rename folder
        params: folder_id, name

return: MessageDto
DELETE: Delete folder
params: folder_d
return: MessageDto

/protected/folder_owner
PUT: change folder ownership
params: folder_id, owner_name
return: MessageDto

/protected/folder_share
GET: get all folders shared with a user
params: -
return: List<Folder>

/protected/folder_share_mgr
GET: get all shared users of a folder
params: folder_id
return: List<User>
POST: share folder with user
params: folder_id, user_name
return: MessageDto
DELETE: remove user share from a folder
params: folder_id, user_id
return: MessageDto

/protected/sketches
GET: get all sketches in a folder as empty data containers
 (without content)
params: folder_id
return: List<EmptySketchData>
POST: create an empty sketch
params: folder_id, name
return: MessageDto
PUT: rename sketch
params: id, name
return: MessageDto
DELETE: delete sketch
params: id
return: MessageDto

/protected/sketches_shared
   GET: get all shared sketches in a folder as empty data containers
        (without content)
        params: folder_id
        return: List<EmptySketchData>

/protected/sketch
   GET: get a sketch:
        params: sketch_id
        return: Sketch
   POST: modify sketch
        params: sketch_id, folder_id, userName, content
        return: MessageDto

/protected/sketch_shared
   GET: get a shared sketch:
        params: sketch_id
        return: Sketch

/protected/users
   GET: get a list of all users
        params: -
        return List<User> (sent without password for safety reasons)
   POST: create a new empty user
        params: user_name, password, role
        return: MessageDto
   DELETE: delete an existing user
        params: user_id
        return: MessageDto

/protected/user_edit
   GET: get a user
        params: user_id
        return: User

   POST: modify an existing user
        params: user_id, user_name, password, role
        return: MessageDto