Programming Project / C++ – Console Game Management & Interaction System

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I. Task Description

Student 1 is responsible for managing the game console system:

- Viewing all available games for the console
- Installing games
- Uninstalling games

Student 2 is responsible for managing the list of installed games:

- Viewing installed games
- Sorting installed games by name or size

The console has a maximum memory capacity of 1TB (1024 GB). Installed games consume memory according to their size in GB.

II. Data Structures Used by the Team

The following classes will be used:

- Game: string name, double size
- Console: vector<Game> available_games, vector<Game> installed_games, double used_memory

III. File Structure

The following files will be used:

A file that stores the list of all games available for the console:

available_games.txt
```
<number of games>
<game1 name> <game1 size>
<game2 name> <game2 size>
...
```

A file that stores the list of games currently installed on the console:

installed_games.txt
```
<number of installed games>
<game1 name> <game1 size>
<game2 name> <game2 size>
...
```

IV. Interacting with Executables

Console Management Application Options (app_console.exe):

To display all available games for the console: `./app_console.exe view_available_games`

To install a game (if sufficient space is available): `./app_console.exe install_game <game_name>`

To uninstall a game (freeing up its used memory): `./app_console.exe uninstall_game <game_name>`

Installed Games Management Application Options (app_installed.exe):

To display all currently installed games: `./app_installed.exe view_installed_games`

To sort the installed games by name (A-Z): `./app_installed.exe sort_games name`

To sort the installed games by size (ascending): `./app_installed.exe sort_games size`