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**Problem statement:**

3. MOVIE RENTAL

Write an application for movie rental. The application will store:

 Movies: *<id>, <title>, <description>, <type>*.

 Clients: *<clientId>, <name>, <CNP>*.

Create an application which allows the user to:

 Manage the list of movies and clients.

 Add, remove, update and list movies and clients

 Search for a movie; search for a client.

 Rent/return movies.

 Reporting. The reporting part of the application will allow generating a list of clients or movies ordered based on the user preference. Examples: most rented movies, most active clients, clients with rented movies ordered alphabetically, by number of rents, by year of apparition.

 Unlimited undo/redo functionality. Each step will undo/redo the previous operation that modified the data structure.

**NB!** *Provide detailed tests as well as specification for each non-UI function. Generate additional documentation for non-UI modules using* ***pydoc****.*

MovieRental Aplication – Feautures

|  |
| --- |
| F1. **Manage** the list of movies and clients. |
| F2. **Add - Remove** – **Update –Show** movies or clients |
| F3. **Search** clients and movies |
| F4. **Rent/return** movies |
| F5. **Reporting-** The reporting part of the application will allow generating a list of clients or movies ordered based on the user preference. |
| F6.**Undo/Redo** *the last operation* (user may repeat this operation). |

**Iteration plan**

|  |  |  |
| --- | --- | --- |
| **Iteration** | **Planned features** | **Planned subfeatures** |
| I1 | F1. **Manage** the list of movies and clients. | SF1.1 .Manage Movies |
| SF1.2 .Manage Clients |
| F2. **Add - Remove** – **Update –Show** movies or clients | SF2.1.Add client or move |
| SF2.2.Remove client or movie |
| SF2.3.Update a client or a movie |
| SF2.4.Show all movies or clients |
| I2 | F3. **Search** clients and movies | SF3.1.Search for movies |
| SF 3.2.Search for client |
| F4. **Rent/return** movies | SF4.1.Rent a movie |
| SF4.2.Return movie |
| I3 | F5. **Reporting** |  |
| F6. **Undo/Redo** | SF6.1.Undo |
| SF6.2.Redo |

**Iteration 1**

***Running scenario***

|  |  |  |  |
| --- | --- | --- | --- |
|  | User | Program | Description |
| a |  | Meu:  Available commands:  1 - Add movie  2 - Remove movie  3 - Update the movie with the given id  4 - Add client  5 - Remove client  6 - Update the client with the given id  7 - show all movies  8 - show all clients  0 - Exit  Please enter your command: | Shows the actions tha can be done |
| b | 1 |  |  |
| c |  | Please enter the movie id: |  |
| d | 1 |  |  |
| e |  | Please enter the movie title: |  |
| f | D |  |  |
| g |  | Please enter the movie Description: |  |
| h | A new movie |  |  |
| i |  | Please enter the movie type: |  |
| j | Horror |  |  |
| k |  | Movie with id 1 already exists! |  |
| l |  | Menu: Available commands:  1 - Add movie  2 - Remove movie  3 - Update the movie with the given id  4 - Add client  5 - Remove client  6 - Update the client with the given id  7 - show all movies  8 - show all clients  0 - Exit |  |
| m | 3 |  |  |
| n |  | Please enter client id: |  |
| o | 1 |  |  |
| p |  | Please enter name |  |
| q | Simi |  |  |
| r |  | Please enter cnp |  |
| s | 166061206003 |  |  |

***Work items/tasks***

|  |  |
| --- | --- |
| 1 | Managing clients and movies |
| 2 | Adding removing clients or movies to the list (c,d...,j)) |
| 3 | Updating showing the list of movies or clients (n,o,p,q,r,s) |
| 4 | Implement user Interface(eg. k,l) |

**Iteration 2**

***Running scenario***

|  |  |  |  |
| --- | --- | --- | --- |
|  | User | Program | Description |
| a |  | Press '1' for reading from file or '0' for using predefine data: | Choosing data |
| b | 1 |  |  |
| c |  | Available commands:  1 - Manage Clients  2 - Manage Movies  3 - Rent a movie  4 - Return movie  5 - Show all rentals  6 - Statistics  7 - Undo  8 - Redo  0 - Exit  Please enter your command: | Main Menu |
| d | 3 |  |  |
| e |  | Please enter the movie title you want to rent: |  |
| f | Assassin’s Cred |  |  |
| g |  | Please enter client name: |  |
| h | Nico |  |  |
| i |  | Movie succesfully rented. |  |
| j |  | Available commands:  1 - Manage Clients  2 - Manage Movies  3 - Rent a movie  4 - Return movie  5 - Show all rentals  6 - Statistics  7 - Undo  8 - Redo  0 - Exit  Please enter your command: | Showing again the menu |
| k | 4 |  |  |
| l |  | Please enter movie Title: |  |
| m | Assassin’s Cred |  |  |
| n |  | Movie successfuly returned |  |

***Work items/tasks***

|  |  |
| --- | --- |
| 1 | Renting a movie(d,e,f,g,h) |
| 2 | Returning a movie(k,l,m,n) |
| 3 | Implement user Interface(eg. I,j,l) |

**Iteration 3**

***Running scenario***

|  |  |  |  |
| --- | --- | --- | --- |
|  | User | Program | Description |
| a |  | Press '1' for reading from file or '0' for using predefine data: | Choosing data |
| b | 1 |  |  |
| c |  | Available commands:  1 - Manage Clients  2 - Manage Movies  3 - Rent a movie  4 - Return movie  5 - Show all rentals  6 - Statistics  7 - Undo  8 - Redo  0 - Exit  Please enter your command: | Main Menu |
| d | 6 |  |  |
| e |  | Chose the list of:  1 - Most rented movies  2 - Most active clients  3 - Rented movies ordered alphabetic  4 - Clients with rented movies ordered alphabetic  0 - Return to main menu  Please enter your command: |  |
| f | 1 |  |  |
| g |  | 4 title: The Gambler type: Drama description: A beast movie  Rentals: 1    1 title: Assassin's Creed type: Action description: An old fashion movie  Rentals: 1 | Showing the list of most rented movies |
| h |  | Available commands:  1 - Manage Clients  2 - Manage Movies  3 - Rent a movie  4 - Return movie  5 - Show all rentals  6 - Statistics  7 - Undo  8 - Redo  0 - Exit |  |
| i | 6 |  |  |
| j |  | Chose the list of:  1 - Most rented movies  2 - Most active clients  3 - Rented movies ordered alphabetic  4 - Clients with rented movies ordered alphabetic  0 - Return to main menu  Please enter your command: |  |
| k | 2 |  |  |
| l |  | 4 name: Messi CNP: 1961129060038  Rentals: 1  2 name: Nico CNP: 1860331281263  Rentals: 1 |  |
| m |  | Available commands:  1 - Manage Clients  2 - Manage Movies  3 - Rent a movie  4 - Return movie  5 - Show all rentals  6 - Statistics  7 - Undo  8 - Redo  0 - Exit  Please enter your command: |  |
| n | 0 |  | Program exits |

***Work items/tasks***

|  |  |
| --- | --- |
| 1 | Movies Statistics(f,g,h) |
| 2 | Clients Statistics (k,l,m,n) |
| 3 | Implement user Interface(eg. c,d,e) |