**Task Management Document**

**Group Magical Chess**

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Task Management

Introduction

Class diagram

Implementation detail

This project uses org.json library that is embedded to runnable jar file

1.Package models

1.1 class MainInterface

1.1.1 Fields

|  |  |
| --- | --- |
| - int idxTaskFile | id for new taskfile |
| - List<TaskFile> taskFiles | keep all Taskfile in the application |

1.1.2 Methods

|  |  |
| --- | --- |
| + MainInterface() | Set idxTaskFile to 0 and create a new ArrayList for taskFiles |
| + void addTaskFile(String title,FileType fileType, MainInterface mainInterface) | Add a new TaskFile to taskFiles using title, fileType, and mainInterface, then increment idxTaskFile by 1 |
| + void addTaskFile(JSONObject jsonObject, MainInterface mainInterface) | Add a new TaskFile to taskFiles using jsonObject and mainInterface, then increment idxTaskFile by 1 |
| + TaskFile findTaskFile(int id) | Return the TaskFile that has the same ID as the argument. |
| + void deleteTaskFile(int id) | Delete the TaskFile that has the same ID as the argument. |
| getters and setters for all variables |  |

1.2 class TaskFile implements Exportable

1.2.1 Fields

|  |  |
| --- | --- |
| - int id | Unique ID of this TaskFile. |
| - MainInterface mainInterface | MainInterface associated with this TaskFile. |
| - Displayable display | Display representation of this TaskFile. |

1.2.2 Methods

|  |  |
| --- | --- |
| + TaskFile(int id, String title, FileType fileType, MainInterface mainInterface) | Initialize id, mainInterface, and display based on fileType |
| + TaskFile(int id, JSONObject jsonObject, MainInterface mainInterface) | Initialize id, mainInterface, and display using jsonObject |
| + Displayable jsonToDisplay(JSONObject jsonTaskFileObject) | Return a Displayable created from jsonTaskFileObject |
| + JSONObject getJsonObject() | Return the JSONObject representation of this TaskFile |
| getters and setters for all variables except id’s setter |  |

1.3 class PersonalDisplay implements Displayable,Exportable

1.3.1 Fields

|  |  |
| --- | --- |
| - int id | Unique ID of this PersonalDisplay |
| - int idxListNode | ID for the new NodeList |
| - int idxLabel | ID for the new Label |
| - String name | Name of this PersonalDisplay |
| - List<NodeList> nodeLists | All NodeList elements of this PersonalDisplay |
| - List<Label> labels | All Label elements of this PersonalDisplay |

1.3.2 Methods

|  |  |
| --- | --- |
| + PersonalDisplay(int id, String name) | Initialize id and name, set idxListNode to 0, and create a new ArrayList for nodeLists |
| + void addNodeList(NodeList List) | Add a List to nodeLists |
| + void removeNodeList(int id) | Remove the NodeList that has the same id as the argument |
| + NodeList getNodeList(int id) | Return the NodeList that has the same id as the argument |
| + void addLabel(Label label) | Add a Label to labels |
| + void removeLabel(int id) | Remove the Label that has the same id as the argument |
| + Label getLabel(int id) | Return the Label that has the same id as the argument |
| + boolean isContainLabel(int id) | Check if labels contain a Label with the same id as the argument |
| + void syncLabelDisplayToCard() | Call syncLabelDisplay for every card |
| + JSONObject getJsonObject() | Return the JSONObject representation of this PersonalDisplay |
| getters and setters for all variables except id’s setter |  |

1.4 class TeamDisplay implements Displayable,Exportable

1.4.1 Fields

|  |  |
| --- | --- |
| - int id | Unique ID of this TeamDisplay |
| - int idxListNode | ID for the new NodeList |
| - int idxMember | ID for the new Member |
| - String name | Name of this TeamDisplay |
| - List<NodeList> nodeLists | All NodeList elements of this TeamDisplay |
| - List<Member> members | All Member elements of this TeamDisplay |

1.4.2 Methods

|  |  |
| --- | --- |
| + TeamDisplay(int id, String name) | Initialize id and name, set idxListNode to 0, and create a new ArrayList for nodeLists |
| + void addNodeList(NodeList List) | Add a List to nodeLists and set idxNodeList equal to the id of the List + 1 |
| + void removeNodeList(int id) | Remove the NodeList that has the same id as the argument |
| + NodeList getNodeList(int id) | Return the NodeList that has the same id as the argument |
| + void addMember(Member member) | Add a Member to members and set idxMember equal to the id of the Member + 1 |
| + void removeMember(int id) | Remove the Member that has the same id as the argument |
| + Member getMember(int id) | Return the NodeList that has the same id as the argument |
| + JSONObject getJsonObject() | Return the JSONObject representation of this TeamDisplay |
| getters and setters for all variables except id’s setter |  |

1.5 class NodeList implements Exportable

1.5.1 Fields

|  |  |
| --- | --- |
| # int id | Unique ID of this NodeList |
| # Displayable displayOwner | Displayable that contains this NodeList |
| # int idxCard | ID for the new Card |
| # String title | Title of this NodeList |
| # List<Card> cards | All Card elements of this NodeList |

1.5.2 Methods

|  |  |
| --- | --- |
| + NodeList(int id, Displayable displayOwner, String title) | Initialize id, displayOwner, and title. Set idxCard to 0 and create a new ArrayList for cards |
| + void addCard(Card card) | Add a Card to cards |
| + void removeCard(int id) | Remove the Card that has the same id as the argument |
| + JSONObject getJsonObject() | Return the JSONObject representation of this NodeList |
| getters and setters for all variables except id’s setter |  |

1.6 abstract class Card implements Exportable

1.6.1 Fields

|  |  |
| --- | --- |
| - int id | Unique ID of this Card |
| - NodeList nodeListOwner | NodeList that contains this Card |
| - String title | Title of this Card |
| - String description | Description of this Card |
| - LocalDate date | Due date of this Card |
| - int idxCheckLists | ID for the new CheckListItem |
| - List<ChecklistItem> checkLists | All CheckListItem elements in this Card |

1.6.2 Methods

|  |  |
| --- | --- |
| + Card(int id,NodeList nodeListOwner, String title) | Initialize id, nodeListOwner, and title. Set description to an empty string, date to null, idxChecklists to 0, and create a new ArrayList for checkLists |
| + void addChecklist(ChecklistItem item) | Add a CheckListItem to checkLists |
| + void removeChecklist(int id) | Remove the CheckListItem that has the same id as the argument |
| + ChecklistItem getChecklist(int id) | Return the CheckListItem that has the same id as the argument |
| + int getNumberOfCheckedChecklist() | Return the number of CheckListItem elements that are checked (complete) |
| + double getChecklistPercentage() | Return the percentage of CheckListItem elements that are checked (complete) |
| + abstract JSONObject getJsonObject() | Return the JSONObject representation of this Card |
| getters and setters for all variables except id’s setter |  |

1.7 class PersonalCard extends Card

1.7.1 Fields

|  |  |
| --- | --- |
| - List<Label> labels | All Label elements in this PersonalCard |

1.7.2 Methods

|  |  |
| --- | --- |
| + PersonalCard(int id,NodeList nodeListOwner, String title) | Initialize id, nodeListOwner, and title to Card. then create a new ArrayList for labels |
| + void addLabel(Label label) | Add a label to labels |
| + void removeLabel(int id) | Remove the Label that has the same id as the argument |
| + boolean isContainLabel(int id) | Check if labels contain a Label with the same id as the argument |
| + Label getLabel(int id) | Return the Label that has the same id as the argument |
| + void syncLabelDisplay() | Remove any Label whose id is not contained in the labels of the PersonalDisplay associated with this PersonalCard |
| + JSONObject getJsonObject() | Return the JSONObject representation of this PersonalCard |
| getters and setters for all variables |  |

1.8 class TeamCard extends Card

1.8.1 Fields

|  |  |
| --- | --- |
| - List<Member> members | All Member elements in this TeamCard |

1.8.2 Methods

|  |  |
| --- | --- |
| + TeamCard(int id,NodeList nodeListOwner, String title) | Initialize id, nodeListOwner, and title to Card. then create a new ArrayList for members |
| + void addMember(Member member) | Add a member to members |
| + void removeMember(int id) | Remove the Member that has the same id as the argument |
| + boolean isContainMember(int id) | Check if members contain a Member with the same id as the argument |
| + Member getMember(int id) | Return the Member that has the same id as the argument |
| + void syncMemberDisplay() | Remove any Member whose id is not contained in the members of the TeamDisplay associated with this TeamCard |
| + JSONObject getJsonObject() | Return the JSONObject representation of this TeamCard |
| getters and setters for all variables |  |

1.9 class CheckListItem implements Exportable

1.9.1 Fields

|  |  |
| --- | --- |
| - int id | Unique ID of this Member |
| - String title | Title of this CheckListItem |
| - boolean isChecked | Indicates the checked status of this CheckListItem |

1.9.2 Methods

|  |  |
| --- | --- |
| + ChecklistItem(int id,String title) | Initialize id, and title. Then set isChecked to false |
| + void toggleChecked() | Toggles the checked status of this CheckListItem |
| + JSONObject getJsonObject() | Return the JSONObject representation of this CheckListItem |
| getters and setters for all variables except id’s getter |  |

1.10 class Member implements Exportable

1.10.1 Fields

|  |  |
| --- | --- |
| - int id | Unique ID of this Member |
| - TeamDisplay teamDisplayOwner | TeamDisplay that contains this Member |
| - String name | Name of this Member |
| - RoleMember role | Role of this Member |

1.10.2 Methods

|  |  |
| --- | --- |
| + Member(int id, TeamDisplay teamDisplayOwner,String name, RoleMember role) | Initialize id, teamDisplayOwner,name and role |
| + String getStringRole() | Returns the role as String |
| + JSONObject getJsonObject() | Return the JSONObject representation of this Member |
| getters and setters for all variables except id’s getter |  |

1.11 class Label implements Exportable

1.11.1 Fields

|  |  |
| --- | --- |
| - int id | Unique ID of this Label |
| - PersonalDisplay personalDisplayOwner | PersonalDisplay that contains this Label |
| - String title | Title of this Label |
| - Color color | Color of this Label |

1.11.2 Methods

|  |  |
| --- | --- |
| + Label(int id, PersonalDisplay personalDisplayOwner,String title, Color color) | Initialize id, personalDisplayOwner, title and color |
| + JSONObject getJsonObject() | Return the JSONObject representation of this Label |
| getters and setters for all variables except id’s getter |  |

2.Package enums

2.1 enum FileType

|  |  |
| --- | --- |
| Personal | use for TaskFile that contain PersonalDisplay |
| Display | use for TaskFile that contain TeamDisplay |

2.2 enum CheckListViewMode

|  |  |
| --- | --- |
| Edit | Edit the checklist in ModalPopupCard |
| View | View the checklist in ModalPopupCard |

2.3 enum PopupMode

|  |  |
| --- | --- |
| CRUD | Popup used for Create, Read, Update, and Delete operations |
| Select | Popup used for selection purposes |

2.4 enum RoleMember

|  |  |
| --- | --- |
| Project\_Manager | Project Manager role of Member |
| Developer | Developer role of Member |
| Designer | Designer role of Member |
| QA\_Tester | QA Tester role of Member |
| Intern | Intern role of Member |

3.Package interfaces

3.1 interface Displayable

3.1.1 Methods

|  |  |
| --- | --- |
| + String getName() | return name of this Displayable |
| + List<NodeList> getNodeLists | return all NodeList of this Displayable |

3.2 interface Exportable

3.2.1 Methods

|  |  |
| --- | --- |
| + JSONObject getJsonObject() | Return the JSONObject representation of this Exportable |

4.Package controllers

4.1 class MainInterfaceUI

4.1.1 Fields

|  |  |
| --- | --- |
| - MainInterface mainInterface | Model of this class |
| - @FXML HBox mainInterfaceGUI | Root UI of mainInterface |
| - @FXML VBox fileContainer | Container for TaskFile |
| - @FXML HBox addFileZone | Area to create a new TaskFile |
| - @FXML ComboBox<String> fileType | Selector for the fileType of the new TaskFile |
| - @FXML TextField newFileName | Input field for the name of the new TaskFile |
| - @FXML StackPane displayContainer | Area to show DisplayableUI |
| - @FXML StackPane warningNewFileName | Warning when the new file name is empty |
| - @FXML StackPane warningFileType | Warning when the fileType is not selected |

4.1.2 Methods

|  |  |
| --- | --- |
| + MainInterfaceUI() | Initialize a new MainInterface and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder and set up the UI |
| + void updateGUI() | Load all current TaskFile elements and open the DisplayableUI of the TaskFile with ID Main.taskFileOpening |
| + void handleAddFile() | Add a new TaskFile to MainInterface using the values from fileType and newFileName, and show warningNewFileName or warningFileType for validation errors |
| + void handleShowAddFileZone() | Show the addFileZone (by setting visible and managed to true) |
| + void handleHideAddFileZone() | Hide the addFileZone and clear the values in newFileName and fileType |
| + void handleHideWarningNewFileName() | Hide warningNewFileName |
| + void handleShowWarningNewFileName() | Show warningNewFileName |
| + void handleHideWarningFileType() | Hide warningFileType |
| + void handleShowWarningFileType() | Show warningFileType |
| + void handleImportFile() | Add a new TaskFile by importing a JSON file |
| getters and setters for mainInterface, mainInterfaceGUI and displayContainer |  |

4.2 class TaskFileUI

4.2.1 Fields

|  |  |
| --- | --- |
| - TaskFile taskFile | Model of this class |
| - @FXML HBox taskFileGUI | Root UI of taskFile |
| - @FXML Button deleteButton | Button for delete this TaskFile from MainInterface |
| - @FXML Label fileName | Show name of this TaskFile |

4.2.2 Methods

|  |  |
| --- | --- |
| - TaskFileUI(TaskFile taskFile) | Set taskFile using given taskFile and load the initial FXML layout |
| - void loadInitialFXML() | Load the FXML file from the resources folder and set up the UI |
| - void handleDeleteFile() | Delete this TaskFile from MainInterface and updateGUI of MainInterfaceUI |
| - void handleOpenFile() | Open this TaskFile in the DisplayContainer |
| - void handleExportFile() | Export this TaskFile using FileChooser and the getJsonObject method from the TaskFile model |
| - getters and setters for taskFile and taskFileGUI |  |

4.3 class PersonalDisplayUI

4.3.1 Fields

|  |  |
| --- | --- |
| - PersonalDisplay personalDisplay | Model of this class |
| - @FXML VBox personalDisplayGUI | Root UI of personalDisplay |
| - @FXML Label displayName | Show name of this PersonalDisplay |
| - @FXML VBox displayZone | Area used to show all NodeList elements in this PersonalDisplay |

4.3.2 Methods

|  |  |
| --- | --- |
| - PersonalDisplayUI(PersonalDisplay personalDisplay) | Set personalDisplay using given personalDisplay and load the initial FXML layout |
| - void loadInitialFXML() | Load the FXML file from the resources folder, set up the UI and add 3 NodeList Study, Work and Health to personalDisplay |
| - void updateGUI() | Display 3 NodeListUI components, each with a different color |
| - void handleShowModalPopupLabel() | Show the ModalPopupLabelUI of this PersonalDisplay |
| - void handleClearDisplay() | Set Main.taskFieIdOpening to -1 and clear DisplayContainer children |
| - getters and setters for personalDisplay and personalDisplayGUI |  |

4.4 class TeamDisplayUI

4.4.1 Fields

|  |  |
| --- | --- |
| - TeamDisplay teamDisplay | Model of this class |
| - @FXML VBox teamDisplayGUI | Root UI of teamDisplay |
| - @FXML Label displayName | Show name of this teamDisplay |
| - @FXML HBox displayZone | Area used to show all NodeList elements in this TeamDisplay |
| - @FXML VBox addListNodeDetail | Area used to create new NodeList |
| - @FXML TextField titleArea | Input field for the name of the new NodeList |
| - @FXML Button addListNodeButton | Button for show addListNodeDetail |
| - @FXML StackPane warningNewListName | Warning when the new NodeList name is empty |

4.4.2 Methods

|  |  |
| --- | --- |
| + TeamDisplayUI(TeamDisplay teamDisplay) | Set teamDisplay using given teamDisplay and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder set up the UI to show name of teamDisplay |
| + void updateGUI() | Load all current NodeList elements in teamDisplay |
| + void handleAddNodeListToBoard() | Add a new NodeList to teamDisplay using the values from titleArea, and show warningNewListName for validation errors |
| + void handleShowModalPopupMember() | Show the ModalPopupMemberUI of this teamDisplay |
| + void handleShowAddListDetail() | Show AddListNodeDetail and hide addListNodeButton |
| + void handleHideAddListDetail() | Hide AddListNodeDetail, show addListNodeButton, and reset titleArea |
| + void handleClearDisplay() | Set Main.taskFieIdOpening to -1 and clear DisplayContainer children |
| + void handleHideWarningNewListName() | Hide warningNewListName (by setting visible and managed to false) |
| + void handleShowWarningNewListName() | Show warningNewListName |
| getters and setters for teamDisplay and teamDisplayGUI |  |

4.5 class PersonalNodeListUI

4.5.1 Fields

|  |  |
| --- | --- |
| - NodeList nodeList | Model of this class |
| - @FXML HBox nodeListGUI | Root UI of nodeList |
| - @FXML StackPane header | StackPane that contain nodeListTitle |
| - @FXML Text nodeListTitle | Show name of nodeList |
| - @FXML HBox cardContainer | Area used to show all Card elements in this nodeList |
| - @FXML TextField titleArea | Input field for the name of the new Card |
| - @FXML VBox addCardDetail | Area used to create new Card |
| - @FXML Button addACardButton | Button for show addCardDetail |
| - @FXML StackPane warningCardName | Warning when the new Card name is empty |

4.5.2 Methods

|  |  |
| --- | --- |
| + PersonalNodeListUI(NodeList nodeList) | Set nodeList using given nodeList and load the initial FXML layout |
| + void loadInitialFXML() | Set UI using nodeList and load the initial FXML layout |
| + void updateGUI() | Load all current PersonalCard elements in nodeList |
| + void handleAddCardToNodeList() | Add a new Card to nodeList using the values from titleArea, and show warningNewCardName for validation errors and updateGUI |
| + void handleShowAddDetailButton() | Show addCardDetail (by setting visible and managed to true) and hide addACardButton |
| + void handleHideAddDetailButton() | Hide addCardDetail and show addACardButton |
| + void handleHideWarningCardName() | Hide warningCardName |
| + void handleShowWarningCardName() | Show warningCardName |
| getters and setters for personalNodeList and personalNodeListGUI |  |

4.6 class TeamNodeListUI

4.6.1 Fields

|  |  |
| --- | --- |
| - NodeList nodeList | Model of this class |
| - @FXML VBox nodeListGUI | Root UI of nodeList |
| - @FXML StackPane header | StackPane that contain nodeListTitle and deleteButton |
| - @FXML Label nodeListTitle | Show name of nodeList |
| - @FXML VBox cardContainer | Area used to show all Card elements in this nodeList |
| - @FXML TextField titleArea | Input field for the name of the new Card |
| - @FXML VBox addCardDetail | Area used to create new Card |
| - @FXML Button addACardButton | Button for show addCardDetail |
| - @FXML StackPane warningCardName | Warning when the new Card name is empty |

4.6.2 Methods

|  |  |
| --- | --- |
| + TeamNodeListUI(NodeList nodeList, Color color) | Set nodeList using given nodeList and load the initial FXML layout |
| + void loadInitialFXML(Color color) | Set UI using given color and nodeList then load the initial FXML layout |
| + void updateGUI() | Load all current TeamCard elements in nodeList |
| + void handleAddCardToNodeList() | Add a new Card to nodeList using the values from titleArea, and show warningNewCardName for validation errors and updateGUI |
| + void handleShowAddDetailButton() | Show addCardDetail and hide addACardButton |
| + void handleHideAddDetailButton() | Hide addCardDetail and show addACardButton |
| + void handleDeleteNodeList() | Delete nodeList from displayOwner and updateGUI of MainInterfaceUI |
| + void handleHideWarningCardName() | Hide warningCardName |
| + void handleShowWarningCardName() | Show warningCardName |
| getters and setters for teamNodeList and teamNodeListGUI |  |

4.7 class PersonalCardUI

4.7.1 Fields

|  |  |
| --- | --- |
| - PersonalCard personalCard | Model of this class |
| - @FXML VBox personalCardGUI | Root UI of personalCard |
| - @FXML Label title | Show title of personalCard |
| - @FXML Text date | Show date of personalCard |
| - @FXML Text checklistStat | Show number of checked items out of the total checklist items, e.g. 2/3 |
| - @FXML HBox labelContainer | Area used to show all Card elements in this nodeList |
| - @FXML Label description | Show description of personalCard |

4.7.2 Methods

|  |  |
| --- | --- |
| + PersonalCardUI(PersonalCard personalCard) | Set personalCard using given personalCard and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder and call updateGUI |
| + void updateGUI() | Update the UI for title, date, checklistStat, description and add Rectangle for each label in personalCard to the labelContainer |
| + void handleDeleteCard() | Delete personalCard from nodeListOwner and updateGUI of MainInterfaceUI |
| + void handleModalPopupCard() | Show the ModalPopupCardUI of this personalCard |
| getters and setters for personalCard and personalCardGUI |  |

4.8 class TeamCardUI

4.8.1 Fields

|  |  |
| --- | --- |
| - TeamCard teamCard | Model of this class |
| - @FXML StackPane teamCardGUI | Root UI of teamCard |
| - @FXML Label title | Show title of personalCard |
| - @FXML Text dateText | Show date of personalCard |
| - @FXML Text checklistStat | Show number of checked items out of the total checklist items, e.g. 2/3 |
| - @FXML Text memberCount | Show number of member of personal |

4.8.2 Methods

|  |  |
| --- | --- |
| + TeamCardUI(TeamCard teamCard) | Set teamCard using given teamCard and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder and call updateGUI |
| + void updateGUI() | Update the UI for title, date, checklistStat, and memberCount |
| + void handleDeleteCard() | Delete teamCard from nodeListOwner and updateGUI of MainInterfaceUI |
| + void handleModalPopupCard() | Show the ModalPopupCardUI of this teamCard |
| getters and setters for teamCard and teamCardGUI |  |

4.9 class MemberUI

4.9.1 Fields

|  |  |
| --- | --- |
| - ModalPopupMemberUI modalPopupMemberUIOwner | modalPopupMemberUI of this MemberUI (use when MemberPopupMode is CRUD) |
| - ModalPopupSelectMemberUI modalPopupSelectMemberUI | modalPopupSelectMemberUI of this MemberUI (use when MemberPopupMode is Select) |
| - ModalPopupCardUI modalPopupCardUIOwner | modalPopupCardUI of this MemberUI (use when MemberPopupMode is Select) |
| - PopupMode memberPopupMode | PopupMode(enum) of this MemberUI |
| - Member member | Model of this class |
| - @FXML Text memberName | Show name of member |
| - @FXML Text memberRole | Show role of member |
| - @FXML Button selectButton | Button for add member to teamCard of modalPopupCardUIOwner |
| - @FXML Button deselectedButton | Button for remove member from teamCard of modalPopupCardUIOwner |
| - @FXML Button deleteButton | Button for delete member to teamCard of modalPopupCardUIOwner |
| - @FXML HBox memberGUI | Root UI of member |

4.9.2 Methods

|  |  |
| --- | --- |
| + MemberUI(Member member, ModalPopupMemberUI modalPopupMemberUI) | Set member and modalPopupMemberUI using given argument and setMemberPopupMode to CRUD then load the initial FXML layout |
| + MemberUI(Member member, ModalPopupCardUI modalPopupCardUI, ModalPopupSelectMemberUI modalPopupSelectMemberUI) | Set member,modalPopupCardUI and modalPopupSelectMember using given argument and setMemberPopupMode to Select then load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder and call updateGUI |
| + void updateGUI() | Update the UI for memberName and memberRole, and show the delete button when memberPopupMode is CRUD, or show the select and deselect buttons when memberPopupMode is Select |
| + void handleSelectMember() | Add member to teamCard of modalPopupcardUIOwner and updateGUI objects that use this data |
| + void handleDeselectMember() | Remove member from teamCard of modalPopupCardUIOwner and updateGUI objects that use this data |
| + void handleDeleteMember() | Delete member to teamCard of modalPopupCardUIOwner and updateGUI objects that use this data |
| + void handleHideDeleteButton() | Hide deleteButton |
| + void handleShowDeleteButton() | Show deleteButton |
| + void handleHideSelectButton() | Hide selectButton |
| + void handleShowSelectButton() | Show selectButton |
| + void handleHideDeselectedButton() | Hide deselectButton |
| + void handleShowDeselectedButton() | Show deselectButton |
| getters and setters for member, memberGUI,modalPopupMemberUIOwner, modalPopupCardUIOwner, modalPopupSelectMemberUI and memberPopupMode |  |

4.10 class LabelUI

4.10.1 Fields

|  |  |
| --- | --- |
| - ModalPopupLabelUI modalPopupLabelUIOwner | modalPopupLabelUI of this LabelUI (use when LabelPopupMode is CRUD) |
| - ModalPopupSelectLabelUI modalPopupSelectLabelUI | modalPopupSelectLabelUI of this LabelUI (use when MemberPopupMode is Select) |
| - ModalPopupCardUI modalPopupCardUIOwner | modalPopupCardUI of this LabelUI (use when LabelPopupMode is Select) |
| - PopupMode labelPopupMode | PopupMode(enum) of this LabelUI |
| - Label label | Model of this class |
| - @FXML Text labelName | Show name of label |
| - @FXML Rectangle labelColor | Show color of label |
| - @FXML Button selectButton | Button for add label to personalCard of modalPopupCardUIOwner |
| - @FXML Button deselectedButton | Button for remove label from personalCard of modalPopupCardUIOwner |
| - @FXML Button deleteButton | Button for delete label to personalCard of modalPopupCardUIOwner |
| - @FXML HBox labelGUI | Root UI of label |

4.10.2 Methods

|  |  |
| --- | --- |
| + LabelUI(Label label, ModalPopupLabelUI) | Set label and modalPopupLabelUI using given argument and set MemberPopupMode to CRUD then load the initial FXML layout |
| + LabelUI(Label label, ModalPopupCardUI modalPopupCardUI) | Set label,modalPopupCardUI and modalPopupSelectLabel using given argument and set LabelPopupMode to Select then load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder and call updateGUI |
| + void updateGUI() | Update the UI for labelName and labelColor, and show the delete button when labelPopupMode is CRUD, or show the select and deselect buttons when labelPopupMode is Select |
| + void handleSelectLabel() | Add label to personalCard of modalPopupCardUIOwner and updateGUI objects that use this data |
| + void handleDeselectLabel() | Remove label from personalCard of modalPopupCardUIOwner and updateGUI objects that use this data |
| + void handleDeleteLabel() | Delete label to personal of modalPopupCardUIOwner and updateGUI objects that use this data |
| + void handleHideDeleteButton() | Hide deleteButton |
| + void handleShowDeleteButton() | Show deleteButton |
| + void handleHideSelectButton() | Hide selectButton |
| + void handleShowSelectButton() | Show selectButton |
| + void handleHideDeselectedButton() | Hide deselectButton |
| + void handleShowDeselectedButton() | Show deselectButton |
| getters and setters for label, labelGUI,modalPopupLabelUIOwner, modalPopupCardUIOwner, modalPopupSelectLabelUI and labelPopupMode |  |

4.11 class ModalPopupCardUI

4.11.1 Fields

|  |  |
| --- | --- |
| - Card cardOwner | Card model of this ModalPopupCardUI |
| - @FXML Label cardTitle | Title of cardOwner |
| - @FXML DatePicker datePicker | Show or edit date of cardOwner |
| - @FXML Button saveDateButton | Button to change cardOwner's date to the value selected in the datePicker |
| - @FXML Button cancelDateButton | Button to cancel edit mode in the datePicker and reset it to show the current date of the cardOwner |
| - @FXML Button editDateButton | Button to enable the datePicker, allowing the user to change its value |
| - @FXML TextArea descriptionDetail | Show and edit description of cardOwner |
| - @FXML Button saveDescriptionButton | Button to change cardOwner's description to the text in the descriptionDetail |
| - @FXML Button editDescriptionButton | Button to cancel edit mode in descriptionDetail and reset it to show the current description of the cardOwner |
| - @FXML Button cancelDescriptionButton | Button to enable descriptionDetail, allowing the user to change its value |
| - @FXML ProgressBar progressCheckListBar | Show progress of cardOwner’s checklist in progress bar |
| - @FXML Text progressCheckListPercentage | Show progress of cardOwner’s checklist in percentage |
| - @FXML Button editCheckListButton | Button to enable checkListContainer, by show addCheckListArea and allow the user to add and delete checklist of cardOwner |
| - @FXML VBox checkListContainer | Area used to show all CheckList elements in this cardOwner |
| - @FXML HBox addCheckListArea | Area used to create new CheckList |
| - @FXML TextField textFieldNewCheckList | Input field for name of the new CheckList |
| - @FXML HBox labelZone | Area used to show label information |
| - @FXML HBox labelContainer | Area used to show all CheckList elements in this cardOwner |
| - @FXML Button editLabelButton | Button to show ModalPopupSelectLabelUI of this cardOwner |
| - @FXML VBox memberZone | Area used to show member information |
| - @FXML Label memberCount | Show number of member in cardOwner |
| - @FXML VBox memberContainer | Area used to show all Member elements in this cardOwner |
| - @FXML Button closePopupButton | Button for close this UI |
| - @FXML Pane modalPopupCardGUI | Root UI of this class |

4.11.2 Methods

|  |  |
| --- | --- |
| - ModalPopupCardUI(Card card) | Set cardOwner using given card and load the initial FXML layout |
| - void loadInitialFXML() | Load the FXML file from the resources folder, set up UI especially  - personalCard show label  - teamCard show member  and call updateGUI |
| - void updateGUI() | Update the UI for cardTitle, datePicker, descriptionDetail, and call updateGUICheckList in view mode, updateGUIMemberand updateGUILabel |
| - void updateGUILabel() | If cardOwner is personalCard add label to labelContainer |
| - void updateGUIChecklist  (CheckListViewMode checkListViewMode) | Add CheckBox using field from checklist in cardOwner and add to checkListContainer and show closeButton only when checkListViewMode is Edit then update checkListPercentage |
| - void updateGUIMember() | If cardOwner is teamCard add member to memberContainer |
| - void handleShowEditMemberPopup() | If cardOwner is teamCard then show the ModalPopupSelectMemberUI of this cardOwner |
| - void handleShowEditLabelPopup() | If cardOwner is personalCard then show the ModalPopupSelectLabelUI of this cardOwner |
| - void handleSaveDate() | Set cardOwner’s date using value from datePicker and updateGUI objects that use this data then call  - handleHideSaveDescriptionButton  - handleHideSaveDateButton  - handleShowEditDescriptionButton |
| - void handleCancelEditDateMode() | Set editable of descriptionDetail to false then updateGUI and call  - handleHideSaveDescriptionButton  - handleHideSaveDateButton  - handleShowEditDescriptionButton |
| - void handleEditDate() | Disable datePicker and cell  - handleHideEditDateButton  - handleShowSaveDateButton  - handleShowCancelDateButton |
| - void handleEditDescriptionMode() | Set editable of descriptionDetail to true and call  - handleHideEditDescriptionButton  - handleShowSaveDescriptionButton  - handleShowCancelDescriptionButton |
| - void handleSaveDescription() | set cardOwner’s description to descriptionDetail’s text, set editable of descriptionDetail to true, updateGUI then call  - handleHideSaveDescriptionButton  - handleHideCancelDescriptionButton  - handleShowEditDescriptionButton |
| - void handleCancelEditDescriptionMode() | set editable of descriptionDetail to false, updateGUI then call  - handleHideSaveDescriptionButton  - handleHideCancelDescriptionButton  - handleShowEditDescriptionButton |
| - void handleEditCheckListMode() | updateGUICheckList in Edit mode and call handleHideEditCheckListButton and handleShowAddCheckListArea |
| - void handleCancelEditCheckListMode() | updateGUICheckList in Edit mode and call handleShowEditCheckListButton and handleHideAddCheckListArea |
| - void handleAddCheckList() | add new ChecklistItem using field from textFieldNewCheckList to cardOwner and updateGUI then call  - handleShowEditCheckListButton  - handleHideAddCheckListArea |
| - void handleHideSaveDateButton() | Hide saveDateButton |
| - void handleShowSaveDateButton() | Show saveDateButton |
| - void handleHideEditDateButton() | Hide editDateButton |
| - void handleShowEditDateButton() | Show editDateButton |
| - void handleHideCancelDateButton() | Hide cancelDateButton |
| - void handleShowCancelDateButton() | Show cancelDateButton |
| - void handleHideSaveDescriptionButton() | Hide saveDescriptionButton |
| - void handleShowSaveDescriptionButton() | Show saveDescriptionButton |
| - void handleHideEditDescriptionButton() | Hide editDescriptionButton |
| - void handleShowEditDescriptionButton() | Show editDescriptionButton |
| - void handleHideCancelDescriptionButton() | Hide cancelDescriptionButton |
| - void handleShowCancelDescriptionButton() | Show cancelDescriptionButton |
| - void handleHideEditCheckListButton() | Hide editCheckListButton |
| - void handleShowEditCheckListButton() | Show editCheckListButton |
| - void handleHideAddCheckListArea() | Hide addCheckListArea |
| - void handleShowAddCheckListArea() | Show addCheckListArea |
| getters and setters for cardOwner and setModalPopupCardGUI |  |

4.12 class ModalPopupMemberUI

4.12.1 Fields

|  |  |
| --- | --- |
| - TeamDisplay teamDisplayOwner | TeamDisplay model of this ModalPopupMemberUI |
| - @FXML Text header | Show word “Select Members” |
| - @FXML TextField textFieldNewMember | Input field for the name of the new Member |
| - @FXML ComboBox<String> roleNewMemberBox | Selector for the role of the new Member |
| - @FXML Button closePopupButton | Button for close this UI |
| - @FXML VBox memberContainer | Area used to show all Member elements in teamDisplayOwner |
| - @FXML Text warningMemberName | Warning when new member name is empty |
| - @FXML Text warningMemberRole | Warning when the role is not selected |
| - @FXML VBox modalPopupMemberGUI | Root UI of this class |

4.12.2 Methods

|  |  |
| --- | --- |
| + ModalPopupMemberUI(TeamDisplay teamDisplay) | Set teamDisplayOwner using given teamDisplay and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder, set up UI and call updateGUI |
| + void updateGUI() | Show all current Member elements of teamDisplayOwner in memberContainer |
| + void handleAddNewMember() | Add a new Member to teamDisplayOwner using the values from textFieldNew  Member, roleNewMemberBox, and show warningMemberName or warningMember Role for validation errors and updateGUI |
| + void handleHideWarningMemberName() | Hide warningMemberName |
| + void handleShowWarningMemberName() | Show warningMemberName |
| + void handleHideWarningMemberRole() | Hide warningMemberRole |
| + void handleShowWarningMemberRole() | Show warningMemberRole |
| getters and setters for teamDisplayOwner and modalPopupMemberGUI |  |

4.13 class ModalPopupLabelUI

4.13.1 Fields

|  |  |
| --- | --- |
| - PersonalDisplay personalDisplayOwner | PersonalDisplay model of this ModalPopupLabelUI |
| - @FXML Text header | Show word “Select Labels” |
| - @FXML TextField textFieldNewLabel | Input field for the name of the new Label |
| - @FXML ColorPicker colorPicker | Selector for the color of the new Label |
| - @FXML Button closePopupButton | Button for close this UI |
| - @FXML VBox labelContainer | Area used to show all Label elements in personalDisplayOwner |
| - @FXML Text warningLabelName | Warning when the new label name is empty |
| - @FXML Text warningLabelRole | Warning when the role is not selected |
| - @FXML VBox modalPopupLabelGUI | Root UI of this class |

4.13.2 Methods

|  |  |
| --- | --- |
| + ModalPopupLabelUI(PersonalDisplay personalDisplay) | Set personalDisplayOwner using given personalDisplay and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder, set up UI and call updateGUI |
| + void updateGUI() | Show all current Label elements of personalDisplayOwner in labelContainer |
| + void handleAddNewLabel() | Add a new Label to personalDisplayOwner using the values from textFieldNew  Label, roleNewLabelBox, and show warningLabelName or warningLabel Role for validation errors and updateGUI |
| + void handleHideWarningLabelName() | Hide warningLabelName |
| + void handleShowWarningLabelName() | Show warningLabelName |
| + void handleHideWarningLabelColor() | Hide warningLabelRole |
| + void handleHideWarningLabelColor() | Show warningLabelRole |
| getters and setters for personalDisplayOwner and modalPopupLabelGUI |  |

4.14 class ModalPopupSelectMemberUI

4.14.1 Fields

|  |  |
| --- | --- |
| - ModalPopupCardUI modalPopupCardUIOwner | modalPopupCardUI of this ModalPopupSelectMemberUI |
| - TeamDisplay teamDisplayOwner | TeamDisplay model of this ModalPopupSelectMemberUI |
| - @FXML Button closePopupButton | Button for close this UI |
| - @FXML VBox memberContainer | Area used to show all Member elements in teamDisplayOwner |
| - @FXML VBox modalPopupMemberGUI | Root UI of this class |

4.14.2 Methods

|  |  |
| --- | --- |
| + ModalPopupSelectMemberUI  (ModalPopupCardUI modalPopupCardUI, TeamDisplay teamDisplayOwner) | Set teamDisplayOwner and modalPopupCardUI using given argument and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder, set up UI and call updateGUI |
| + void updateGUI() | Show all current Member elements of teamDisplayOwner in memberContainer |
| getters and setters for teamDisplayOwner , modalPopupMemberGUI and modalPopupCardUIOwner |  |

4.15 class ModalPopupSelectLabelUI

4.15.1 Fields

|  |  |
| --- | --- |
| - ModalPopupCardUI modalPopupCardUIOwner | modalPopupCardUI of this ModalPopupSelectLabelUI |
| - PersonalDisplay personalDisplayOwner | PersonalDisplay model of this ModalPopupSelectLabelUI |
| - @FXML Button closePopupButton | Button for close this UI |
| - @FXML VBox labelContainer | Area used to show all Label elements in personalDisplayOwner |
| - @FXML VBox modalPopupLabelGUI | Root UI of this class |

4.15.2 Methods

|  |  |
| --- | --- |
| + ModalPopupSelectLabelUI  (ModalPopupCardUI modalPopupCardUI, PersonalDisplay personalDisplayOwner) | Set personalDisplayOwner and modalPopupCardUI using given argument and load the initial FXML layout |
| + void loadInitialFXML() | Load the FXML file from the resources folder, set up UI and call updateGUI |
| + void updateGUI() | Show all current Label elements of personalDisplayOwner in labelContainer |
| getters and setters for personalDisplayOwner , modalPopupLabelGUI and modalPopupCardUIOwner |  |

5.Package app

5.1 class Main

5.1.1 Fields

|  |  |
| --- | --- |
| - MainInterfaceUI mainInterfaceUI | MainInterfaceUI of this application |
| - Stage primaryStage | PrimaryStage of this application |
| - int taskFieldOpening | Id of the current TaskFile that is displayed in displayContainer, initialized to -1 |

5.1.2 Methods

|  |  |
| --- | --- |
| + void start(Stage primaryStage) | set primaryStage, mainInterfaceUI and load Font EkkamaiNew-Bold. Then setup primaryStage and show primaryStage |
| + void main(String[] args) | launch(args) |