<<Java Class>>
© Control
cs213.photoAlbum.control

- ○ user: User
- ○ backend: BackendInterface
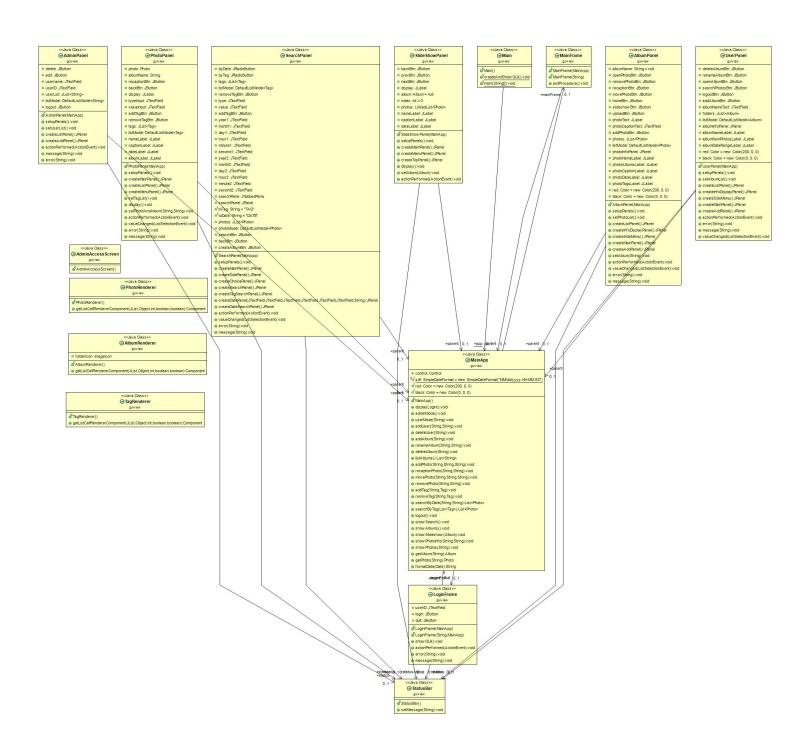
- ⊕ Control()
- ● getUserName():String
- ● getUserID():String
- ● listUsers():List<String>
- ● addUser(String,String):void
- ● deleteUser(String):void
- ● clearUsers():void
- ● login(String):void
- ● createAlbum(String):void
- ● listAlbums():Collection<Album>
- ● deleteAlbum(String):void
- ● listPhotos(String):List<Photo>
- ● recaptionPhoto(String,String):void
- ● addPhoto(String,String,String):void
- ● addPhoto(String,String):String
- ● removePhoto(String,String):void
- ● movePhoto(String,String,String):void
- ● addTag(String,Tag):void
- ● deleteTag(String,Tag):void
- ● listPhotoInfo(String):Photo
- ● getPhotosByDate(Calendar,Calendar):List<Photo>
- ● getPhotosByTag(List<Tag>):List<Photo>
- ● logout():void

<<Java Interface>>
① ControlInterface
cs213.photoAlbum.control

- ● getUserName():String
- ● getUserID():String
- ● listUsers():List<String>
- ● addUser(String,String):void
- ● deleteUser(String):void
- ● clearUsers():void
- ● login(String):void
- ● createAlbum(String):void
- ● listAlbums():Collection<Album>
- ● deleteAlbum(String):void
- ● listPhotos(String):List<Photo>
- ● addPhoto(String,String,String):void
- ● addPhoto(String,String):String
- ● removePhoto(String,String):void
- ● movePhoto(String,String,String):void
- ● addTag(String,Tag):void
- ● deleteTag(String,Tag):void
- ● listPhotoInfo(String):Photo
- ● getPhotosByDate(Calendar,Calendar):List<Photo>
- ● getPhotosByTag(List<Tag>):List<Photo>
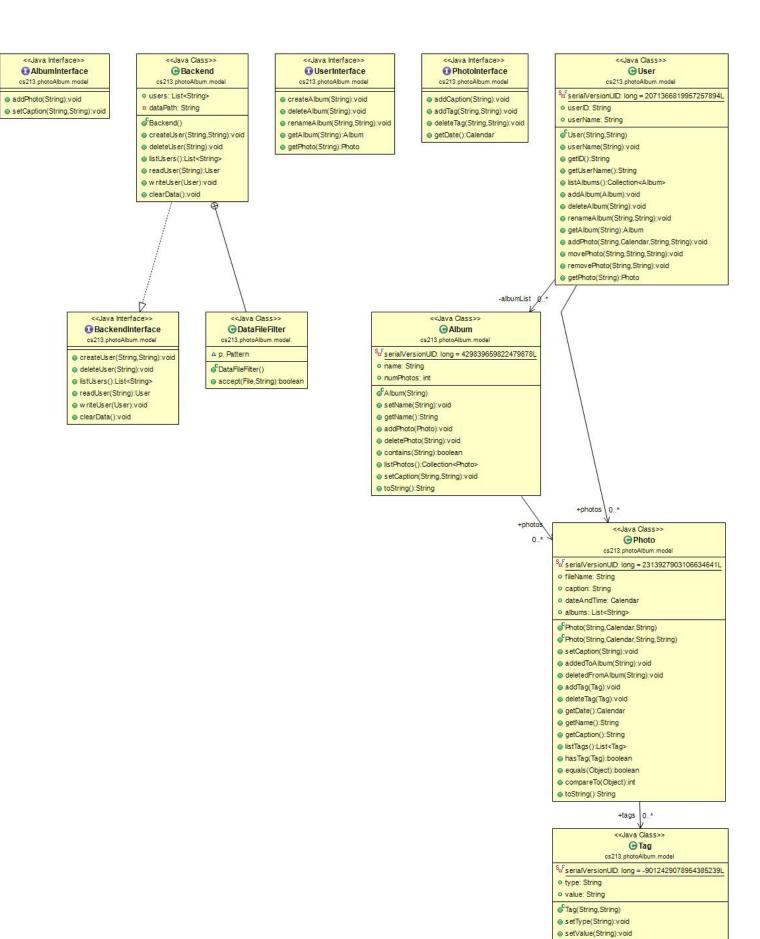- ● logout():void

UML Class Diagram

AdminPanel
`<<Java Class>>`
AdminPanel
guiview

- delete: JButton
- add: JButton
- username: JTextField
- userID: JTextField
- userList: JList<String>
- listModel: DefaultListModel<String>
- logout: JButton

- AdminPanel(MainApp)
- setupPanels():void
- setUserList():void
- createListPanel():JPanel
- createAddPanel():JPanel
- actionPerformed(ActionEvent):void
- message(String):void
- error(String):void

PhotoPanel
`<<Java Class>>`
PhotoPanel
guiview

- photo: Photo
- albumName: String
- recaptionBtn: JButton
- backBtn: JButton
- display: JLabel
- typeInput: JTextField
- valueInput: JTextField
- addTagBtn: JButton
- removeTagBtn: JButton
- tags: JList<Tag>
- listModel: DefaultListModel<Tag>
- nameLabel: JLabel
- captionLabel: JLabel
- dateLabel: JLabel
- albumLabel: JLabel

- PhotoPanel(MainApp)
- setupPanels():void
- createMainPanel():JPanel
- createListPanel():JPanel
- createTagPanel():JPanel
- createMenuPanel():JPanel
- setTagList():void
- display():void
- setPhotoAndAlbum(String,String):void
- actionPerformed(ActionEvent):void
- valueChanged(ListSelectionEvent):void
- error(String):void
- message(String):void

AdminAccessScreen
`<<Java Class>>`
AdminAccessScreen
guiview

- AdminAccessScreen()

PhotoRenderer
`<<Java Class>>`
PhotoRenderer
guiview

- PhotoRenderer()
- getListCellRendererComponent(JList,Object,int,boolean,boolean):Component

AlbumRenderer
`<<Java Class>>`
AlbumRenderer
guiview

- foldericon: ImageIcon

- AlbumRenderer()
- getListCellRendererComponent(JList,Object,int,boolean,boolean):Component

TagRenderer
`<<Java Class>>`
TagRenderer
guiview

- TagRenderer()
- getListCellRendererComponent(JList,Object,int,boolean,boolean):Component

SearchPanel
`<<Java Class>>`
SearchPanel
guiview

- byDate: JRadioButton
- byTag: JRadioButton
- tags: JList<Tag>
- listModel: DefaultListModel<Tag>
- removeTagBtn: JButton
- type: JTextField
- value: JTextField
- addTagBtn: JButton
- year1: JTextField
- month1: JTextField
- day1: JTextField
- hour1: JTextField
- minute1: JTextField
- second1: JTextField
- year2: JTextField
- month2: JTextField
- day2: JTextField
- hour2: JTextField
- minute2: JTextField
- second2: JTextField
- searchPane: JTabbedPane
- searchPanel: JPanel
- toTag: String = "TAG"
- toDate: String = "DATE"
- photos: JList<Photo>
- photoModel: DefaultListModel<Photo>
- searchBtn: JButton
- backBtn: JButton
- createAlbumBtn: JButton

- SearchPanel(MainApp)
- setupPanels():void
- createMainPanel():JPanel
- createSidePanel():JPanel
- createChoicePanel():JPanel
- createSearchPanel():JPanel
- createTagSearchPanel():JPanel
- createDatePanel(JTextField,JTextField,JTextField,JTextField,JTextField,JTextField,String):JPanel
- createDateSearchPanel():JPanel
- actionPerformed(ActionEvent):void
- valueChanged(ListSelectionEvent):void
- error(String):void
- message(String):void

SlideShowPanel
`<<Java Class>>`
SlideShowPanel
guiview

- backBtn: JButton
- prevBtn: JButton
- nextBtn: JButton
- display: JLabel
- album: Album = null
- index: int = 0
- photos: LinkedList<Photo>
- nameLabel: JLabel
- captionLabel: JLabel
- dateLabel: JLabel

- SlideShowPanel(MainApp)
- setupPanels():void
- createMainPanel():JPanel
- createMenuPanel():JPanel
- createTopPanel():JPanel
- display():void
- setAlbum(Album):void
- actionPerformed(ActionEvent):void

Main
`<<Java Class>>`
Main
guiview

- Main()
- createAndShowGUI():void
- main(String[]):void

MainFrame
`<<Java Class>>`
MainFrame
guiview

- MainFrame(MainApp)
- MainFrame(String)
- exitProcedure():void

+mainFrame 0..1

AlbumPanel
`<<Java Class>>`
AlbumPanel
guiview

- albumName: String = null
- openPhotoBtn: JButton
- removePhotoBtn: JButton
- recaptionBtn: JButton
- movePhotoBtn: JButton
- homeBtn: JButton
- slideshow Btn: JButton
- uploadBtn: JButton
- photoText: JTextField
- photoCaptionText: JTextField
- addPhotoBtn: JButton
- photos: JList<Photo>
- listModel: DefaultListModel<Photo>
- photoInfoPanel: JPanel
- photoNameLabel: JLabel
- photoAlbumsLabel: JLabel
- photoCaptionLabel: JLabel
- photoDateLabel: JLabel
- photoTagsLabel: JLabel
- red: Color = new Color(200, 0, 0)
- black: Color = new Color(0, 0, 0)

- AlbumPanel(MainApp)
- setupPanels():void
- setPhotoList():void
- createListPanel():JPanel
- createInfoDisplayPanel():JPanel
- createSideMenu():JPanel
- createMainPanel():JPanel
- createAddPanel():JPanel
- setAlbum(String):void
- actionPerformed(ActionEvent):void
- valueChanged(ListSelectionEvent):void
- error(String):void
- message(String):void

UserPanel
`<<Java Class>>`
UserPanel
guiview

- deleteAlbumBtn: JButton
- renameAlbumBtn: JButton
- openAlbumBtn: JButton
- searchPhotosBtn: JButton
- logoutBtn: JButton
- addAlbumBtn: JButton
- albumNameText: JTextField
- folders: JList<Album>
- listModel: DefaultListModel<Album>
- albumInfoPanel: JPanel
- albumNameLabel: JLabel
- albumNumPhotosLabel: JLabel
- albumDateRangeLabel: JLabel
- red: Color = new Color(200, 0, 0)
- black: Color = new Color(0, 0, 0)

- UserPanel(MainApp)
- setupPanels():void
- setAlbumList():void
- createListPanel():JPanel
- createInfoDisplayPanel():JPanel
- createSideMenu():JPanel
- createMainPanel():JPanel
- createAddPanel():JPanel
- actionPerformed(ActionEvent):void
- error(String):void
- message(String):void
- valueChanged(ListSelectionEvent):void

MainApp
`<<Java Class>>`
MainApp
guiview

- control: Control
- sdf: SimpleDateFormat = new SimpleDateFormat("MM/dd/yyyy-HH:MM:SS")
- red: Color = new Color(200, 0, 0)
- black: Color = new Color(0, 0, 0)

- MainApp()
- displayLogin():void
- adminMode():void
- userMode(String):void
- addUser(String,String):void
- deleteUser(String):void
- addAlbum(String):void
- renameAlbum(String,String):void
- deleteAlbum(String):void
- listAlbums():List<String>
- addPhoto(String,String,String):void
- recaptionPhoto(String,String):void
- movePhoto(String,String,String):void
- removePhoto(String,String):void
- addTag(String,Tag):void
- removeTag(String,Tag):void
- searchByDate(String,String):List<Photo>
- searchByTag(List<Tag>):List<Photo>
- logout():void
- show Search():void
- show Albums():void
- show Slideshow(Album):void
- show PhotoInfo(String,String):void
- show Photos(String):void
- getAlbum(String):Album
- getPhoto(String):Photo
- formatDate(Date):String

+parent 0..1   +app 0..1   +parent 0..1   +parent 0..1   +parent 0..1

LoginFrame
`<<Java Class>>`
LoginFrame
guiview

- userID: JTextField
- login: JButton
- quit: JButton

- LoginFrame(MainApp)
- LoginFrame(String,MainApp)
- show GUI():void
- actionPerformed(ActionEvent):void
- error(String):void
- message(String):void

StatusBar
`<<Java Class>>`
StatusBar
guiview

- StatusBar()
- setMessage(String):void

<<Java Interface>>
AlbumInterface
cs213.photoAlbum.model

- addPhoto(String):void
- setCaption(String,String):void

<<Java Class>>
Backend
cs213.photoAlbum.model

- users: List<String>
- dataPath: String

- Backend()
- createUser(String,String):void
- deleteUser(String):void
- listUsers():List<String>
- readUser(String):User
- writeUser(User):void
- clearData():void

<<Java Interface>>
UserInterface
cs213.photoAlbum.model

- createAlbum(String):void
- deleteAlbum(String):void
- renameAlbum(String,String):void
- getAlbum(String):Album
- getPhoto(String):Photo

<<Java Interface>>
PhotoInterface
cs213.photoAlbum.model

- addCaption(String):void
- addTag(String,String):void
- deleteTag(String,String):void
- getDate():Calendar

<<Java Class>>
User
cs213.photoAlbum.model

- serialVersionUID: long = 2071366819957257894L
- userID: String
- userName: String

- User(String,String)
- userName(String):void
- getID():String
- getUserName():String
- listAlbums():Collection<Album>
- addAlbum(Album):void
- deleteAlbum(String):void
- renameAlbum(String,String):void
- getAlbum(String):Album
- addPhoto(String,Calendar,String,String):void
- movePhoto(String,String,String):void
- removePhoto(String,String):void
- getPhoto(String):Photo

<<Java Interface>>
BackendInterface
cs213.photoAlbum.model

- createUser(String,String):void
- deleteUser(String):void
- listUsers():List<String>
- readUser(String):User
- writeUser(User):void
- clearData():void

<<Java Class>>
DataFileFilter
cs213.photoAlbum.model

- p: Pattern

- DataFileFilter()
- accept(File,String):boolean

<<Java Class>>
Album
cs213.photoAlbum.model

- serialVersionUID: long = 429839659822479878L
- name: String
- numPhotos: int

- Album(String)
- setName(String):void
- getName():String
- addPhoto(Photo):void
- deletePhoto(String):void
- contains(String):boolean
- listPhotos():Collection<Photo>
- setCaption(String,String):void
- toString():String

-albumList 0..*

<<Java Class>>
Photo
cs213.photoAlbum.model

- serialVersionUID: long = 2313927903106634641L
- fileName: String
- caption: String
- dateAndTime: Calendar
- albums: List<String>

- Photo(String,Calendar,String)
- Photo(String,Calendar,String,String)
- setCaption(String):void
- addedToAlbum(String):void
- deletedFromAlbum(String):void
- addTag(Tag):void
- deleteTag(Tag):void
- getDate():Calendar
- getName():String
- getCaption():String
- listTags():List<Tag>
- hasTag(Tag):boolean
- equals(Object):boolean
- compareTo(Object):int
- toString():String

+photos 0..*

+photos 0..*

<<Java Class>>
Tag
cs213.photoAlbum.model

- serialVersionUID: long = -9012429078954385239L
- type: String
- value: String

- Tag(String,String)
- setType(String):void
- setValue(String):void
- getType():String
- getValue():String
- compareTo(Tag):int
- equals(Object):boolean
- toString():String

+tags 0..*

<<Java Class>>		<<Java Class>>		<<Java Class>>
AlbumException		**DuplicateAlbumException**		**DateUtils**
cs213.photoAlbum.util		cs213.photoAlbum.util		cs213.photoAlbum.util
● AlbumException()		● DuplicateAlbumException()		● DateUtils()
● AlbumException(String)		● DuplicateAlbumException(String)		● createDateString(String,String,String,String,String,String):String
				● extractDate(String,boolean):Calendar

<<Java Class>>	<<Java Class>>	<<Java Class>>
TagException	**DuplicateUserException**	**PhotoException**
cs213.photoAlbum.util	cs213.photoAlbum.util	cs213.photoAlbum.util
● TagException()	● DuplicateUserException()	□ filename: String
● TagException(String)	● DuplicateUserException(String)	□ albumname: String
		● PhotoException()
		● PhotoException(String)