LatexEditorProject-2022

Overall Report

Version <2.0>

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INTRODUCTION

This document contains info about LatexEditor. LatexEditor is an application used for writing and editing Latex documents. This document includes UML package and class diagrams, that show the architecture of the app, CRC cards for each class, and some quality problems and weaknesses of the app.

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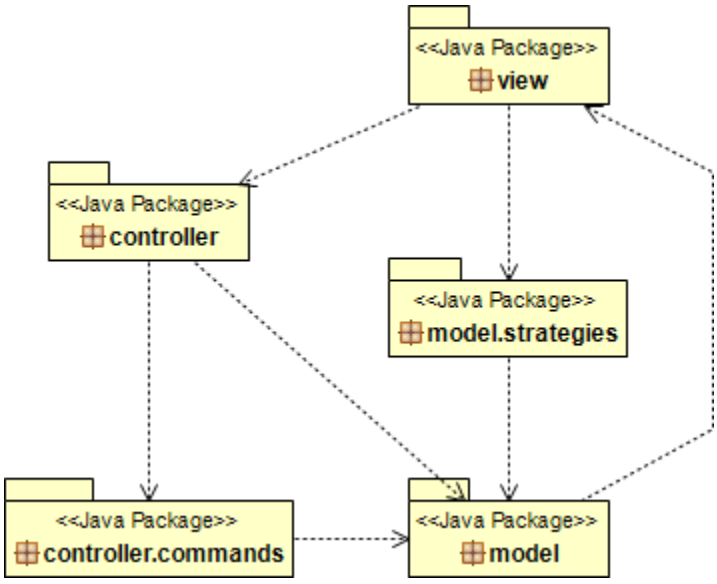
OLD DESIGN

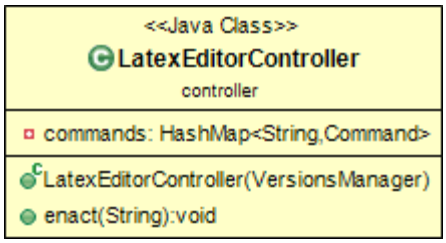
ARCHITECTURE

PACKAGES:

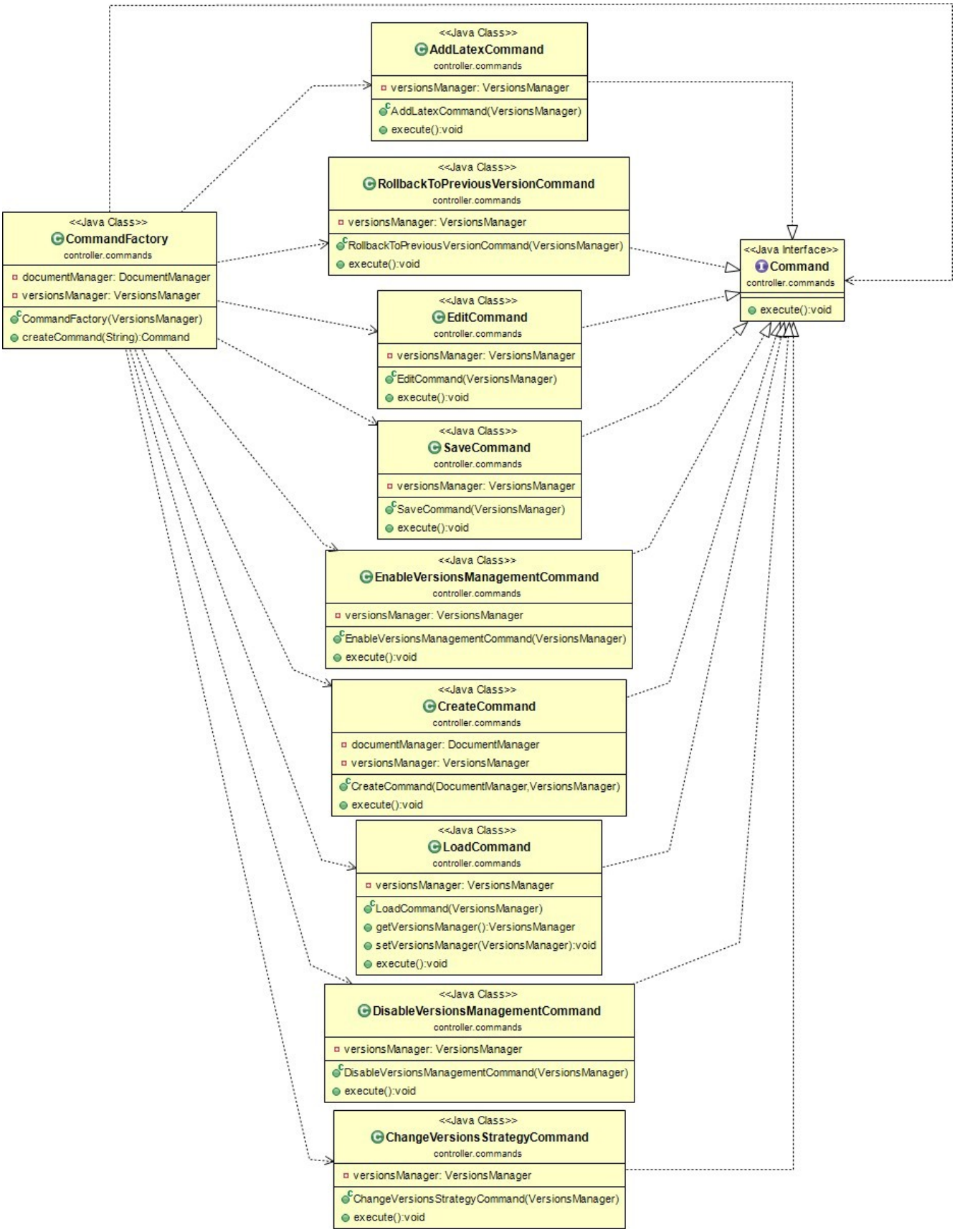


DETAILED DESIGN

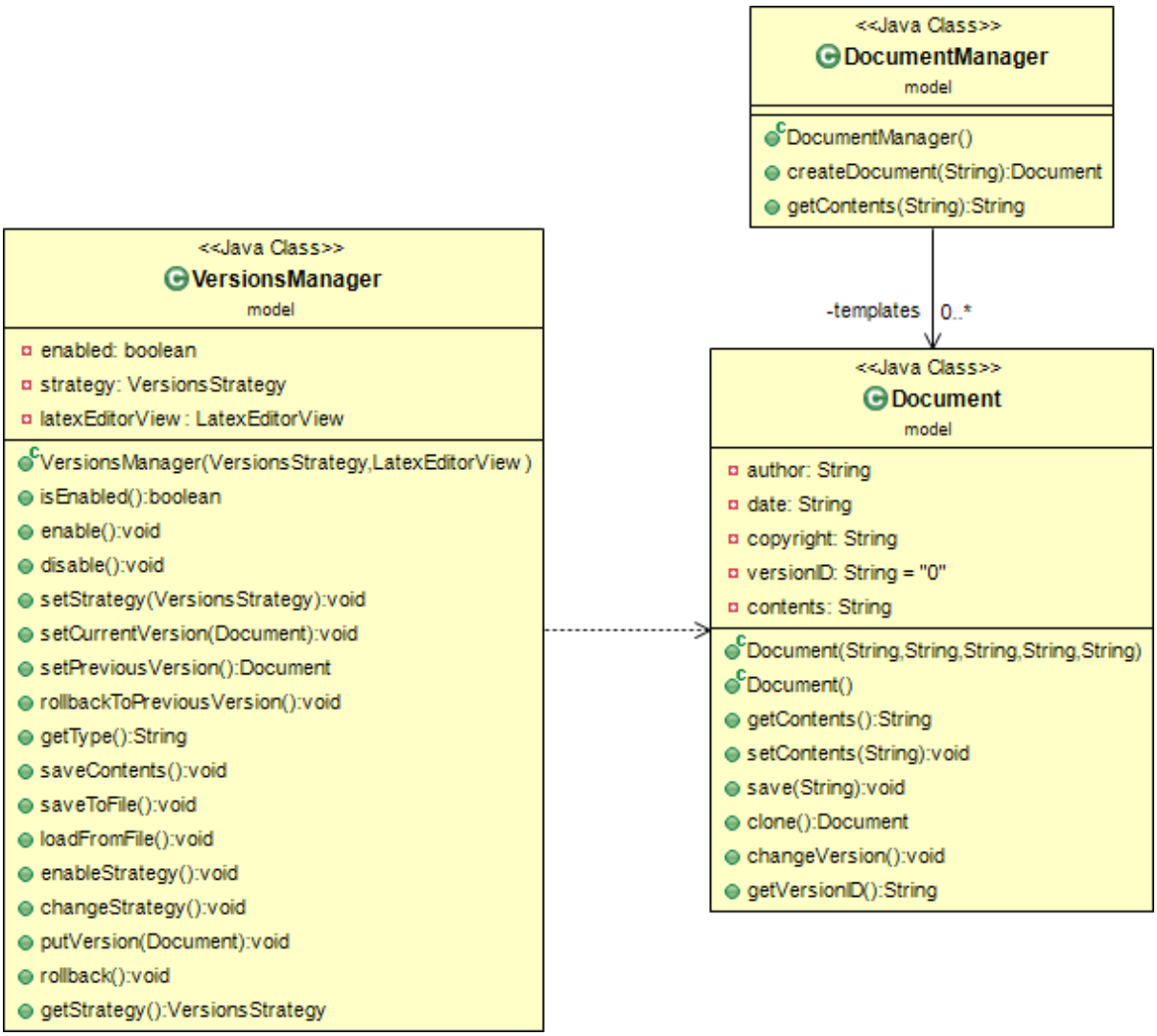
CONTROLLER PACKAGE:



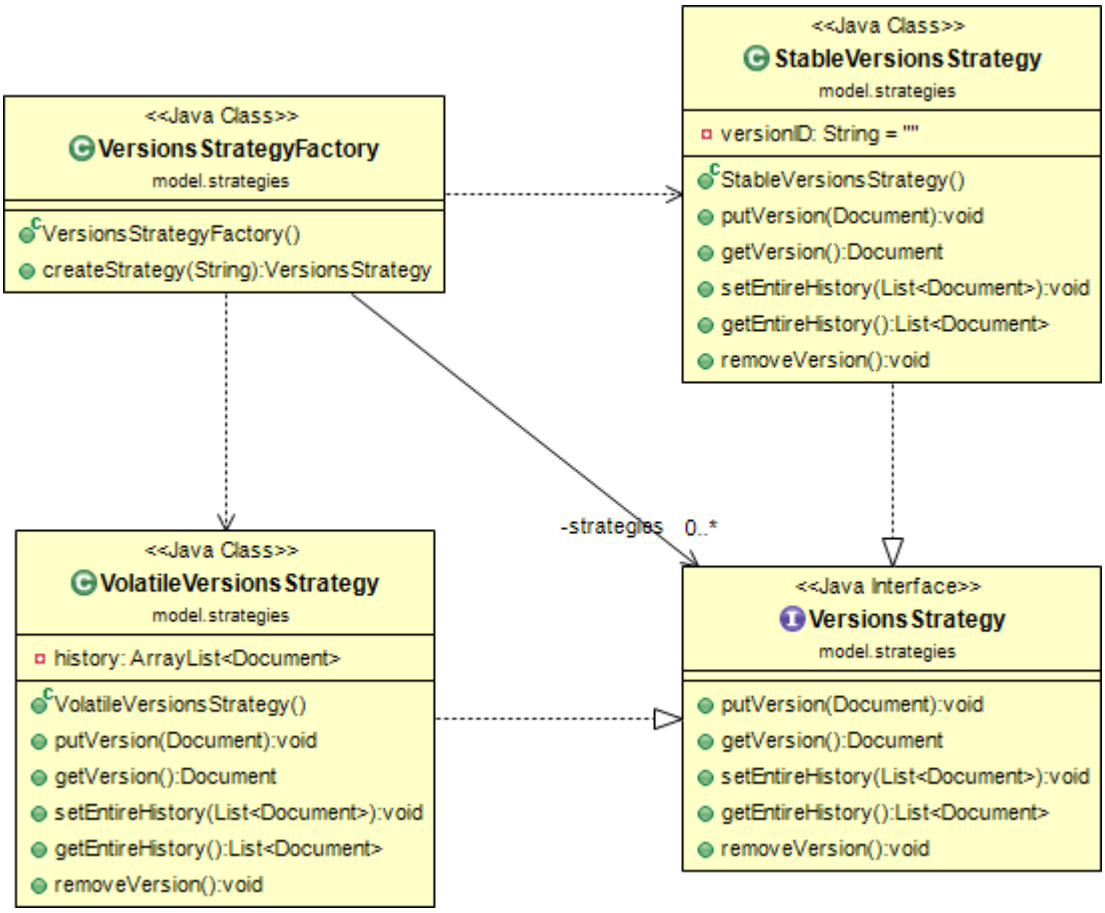
CONTROLLER COMMANDS:



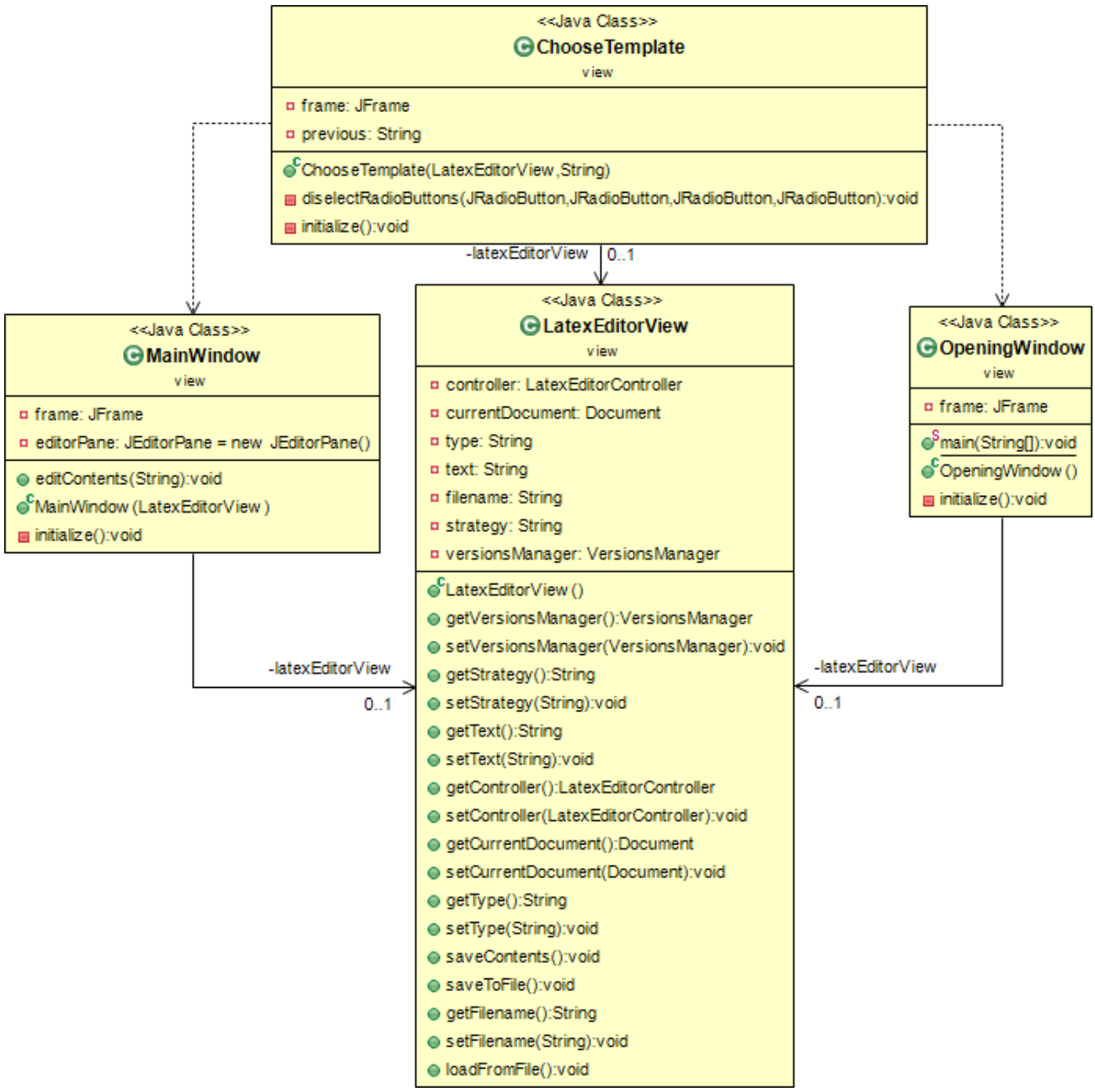
MODEL:


<<Java Class>>
DocumentManager
model
DocumentManager()
createDocument(String):Document
getContents(String):String
-templates
0..*
<<Java Class>>
VersionsManager
model
enabled: boolean
strategy: VersionsStrategy
latexEditorView : LatexEditorView
VersionsManager(VersionsStrategy,LatexEditorView)
isEnabled():boolean
enable():void
disable():void
setStrategy(VersionsStrategy):void
setCurrentVersion(Document):void
setPreviousVersion():Document
rollbackToPreviousVersion():void
getType():String
saveContents():void
saveToFile():void
loadFromFile():void
enableStrategy():void
changeStrategy():void
putVersion(Document):void
rollback():void
getStrategy():VersionsStrategy
<<Java Class>>
Document
model
author: String
date: String
copyright: String
versionID: String = "0"
contents: String
Document(String,String,String,String,String)
Document()
getContents():String
setContents(String):void
save(String):void
clone():Document
changeVersion():void
getVersionID():String

MODEL STRATEGIES:



VIEW:


<<Java Class>>
ChooseTemplate
view
frame: JFrame
previous: String
ChooseTemplate(LatexEditorView,String)
diselectRadioButtons(JRadioButton,JRadioButton,JRadioButton,JRadioButton):void
initialize():void
-latexEditorView
0..1
<<Java Class>>
MainWindow
view
frame: JFrame
editorPane: JEditorPane = new JEditorPane()
editContents(String):void
MainWindow (LatexEditorView)
initialize():void
<<Java Class>>
LatexEditorView
view
controller: LatexEditorController
currentDocument: Document
type: String
text: String
filename: String
strategy: String
versionsManager: VersionsManager
LatexEditorView ()
getVersionsManager():VersionsManager
setVersionsManager(VersionsManager):void
getStrategy():String
setStrategy(String):void
getText():String
setText(String):void
getController():LatexEditorController
setController(LatexEditorController):void
getCurrentDocument():Document
setCurrentDocument(Document):void
getType():String
setType(String):void
saveContents():void
saveToFile():void
getFilename():String
setFilename(String):void
loadFromFile():void
<<Java Class>>
OpeningWindow
view
frame: JFrame
main(String[]):void
OpeningWindow ()
initialize():void
-latexEditorView
0..1
-latexEditorView
0..1

IMPLEMENTATION

VIEW PACKAGE CRC CARDS

Class Name: OpeningWindow	
Responsibilities	**Collaborations**
▪ This class is responsible for initializing the selection window so the user can choose: o Create a new latex Document o Load an existing latex Document o Exit the application	▪ ChooseTemplate ▪ LatexEditorView

Class Name: MainWindow	
Responsibilities	**Collaborations**
▪ This class is responsible for initializing the main window of the app, where the user can: o edit the contents of the Document	▪ ChooseTemplate ▪ LatexEditorView

Class Name: LatexEditorView	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Organizing the document, it's contents and version	▪ VersionsManager ▪ ChooseTemplate ▪ MainWindow ▪ OpeningWindow

Class Name: ChooseTemplate	
Responsibilities	**Collaborations**
▪ This class is responsible for initializing the window that allows the user to choose: o The template of the latex Document he wants to create	▪ MainWindow ▪ OpeningWindow ▪ LatexEditorView

MODEL STRATEGIES CRC CARDS:

Class Name: VolatileVersionStrategy	
Responsibilities	**Collaborations**
▪ Puts Version ▪ Gets Version ▪ Removes Version ▪ Sets History ▪ Modifies the Document using an index	▪ VersionsManager ▪ VersionsStrategyFactory ▪ VersionsStrategy (Interface)

Class Name: StableVersionsStrategy	
Responsibilities	**Collaborations**
▪ Puts Version ▪ Gets Version ▪ Removes Version ▪ Sets History ▪ Modifies the Document using an index	▪ VersionsStrategyFactory ▪ VersionsManager ▪ VersionsStrategy (Interface)

Class Name: VersionsStrategyFactory	
Responsibilities	**Collaborations**
▪ Maps the strategies	▪ VolatileVersionsStrategy ▪ StableVersionsStrategy ▪ VersionsStrategy (Interface)

Class Name: VersionsStrategy (Interface)	
Responsibilities	**Collaborations**
▪ A generic interface for the strategies	▪ VolatileVersionsStrategy ▪ StableVersionsStrategy ▪ VersionsStrategyFactory ▪ Opening Window

MODEL CRC CARDS:

Class Name: DocumentManager	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Mapping the available templates for the document	▪ CommandFactory ▪ CreateCommand

Class Name: VersionsManager	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Enabling the available strategies o Updates the strategy o Rolling back the file to a previous version o Updates the history	▪ AddLatexCommand ▪ ChangeVersionsStrategy ▪ CommandFactory ▪ CreateCommand ▪ DisableVersionsManagerCommand ▪ EditCommand ▪ EnableVersionsManagerCommand ▪ LoadCommand ▪ RollbackToPreviousVersionCommand ▪ SaveCommand ▪ LatexEditorController ▪ LatexEditorView ▪ MainWindow ▪ OpeningWindow

Class Name: Document	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating the basic properties of the latex file	▪ CommandFactory ▪ CreateCommand ▪ DocumentManager ▪ VersionsManager ▪ ChooseTemplate ▪ LatexEditorView ▪ MainWindow ▪ OpeningWindow

CONTROLLER COMMANDS CRC CARDS:

Class Name: SaveCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Saving the contents of the Document inside a latex file in the users Computer	▪ LatexEditorController ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface)

Class Name: RollbackToPreviousVersionCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Removing the current version of the Document o Setting the current Document	▪ LatexEditorController ▪ CommandFactory ▪ Command (Interface) ▪ VersionsManager

Class Name: LoadCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Loading the Contents of an existing latex file from the users Computer	▪ LatexEditorController ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface)

Class Name: EnableVersionsManagementCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Activating the strategy buttons o Setting a strategy o Setting the history	▪ LatexEditorController ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface)

Class Name: EditCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Updating the version of the Document o Setting the contents of the Document	▪ LatexEditorController ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface)

Class Name: DisableVersionsManagementCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Disabling the strategy buttons	▪ LatexEditorController ▪ CommandFactory ▪ Command (Interface) ▪ VersionsManager

Class Name: CreateCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating a new Document o Setting it as the current Document	▪ LatexEditorController ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface) ▪ DocumentManager

Class Name: CommandFactory	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating Command type objects o Mapping Command type objects	▪ LatexEditorController ▪ VersionsManager ▪ DocumentManager ▪ Command (Interface) ▪ AddLatexCommand ▪ ChangeVersionsStrategyCommand ▪ CreateCommand ▪ DisableVersionsManagerCommand ▪ EditCommand ▪ EnableVersionsManagerCommand ▪ LoadCommand ▪ RollbackToPreviousVersionCommand ▪ SaveCommand

Class Name: ChangeVersionsStrategyCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Changing the Strategy type from volatile to stable and vice versa	▪ LatexEditorController ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface)

Class Name: AddLatexCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Updating the version of the Document o Setting the contents of the Document	▪ LatexEditorController ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface)

Class Name: Command (Interface)	
Responsibilities	**Collaborations**
▪ A generic interface for the commands	▪ LatexEditorController ▪ CommandFactory ▪ AddLatexCommand ▪ ChangeVersionsStrategyCommand ▪ CreateCommand ▪ DisableVersionsManagerCommand ▪ EditCommand ▪ EnableVersionsManagerCommand ▪ LoadCommand ▪ RollbackToPreviousVersionCommand ▪ SaveCommand

CONTROLLER CRC CARDS:

Class Name: LatexEditorController	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating a HashMap with all the available commands o Executing a specified Command	▪ CommandFactory ▪ Command (Interface) ▪ AddLatexCommand ▪ ChangeVersionsStrategyCommand ▪ CreateCommand ▪ DisableVersionsManagerCommand ▪ EditCommand ▪ EnableVersionsManagerCommand ▪ LoadCommand ▪ RollbackToPreviousVersionCommand ▪ SaveCommand

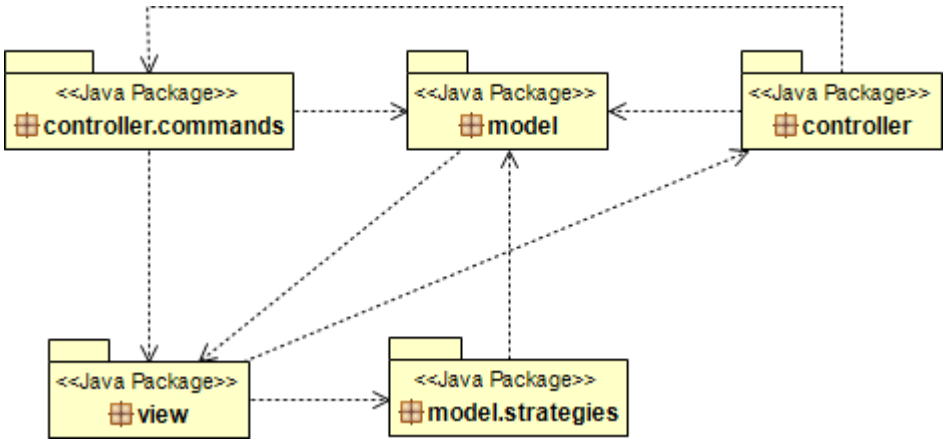
QUALITY PROBLEMS

There were some classes with no specific use in the code.
Some of the commands were not working properly, or some of them were doing exactly the same thing.
There were bits of dead code and a lot of duplicate code in most of the classes.
Some of the classes were used to do things different than their normal operations.

NEW DESIGN

ARCHITECTURE

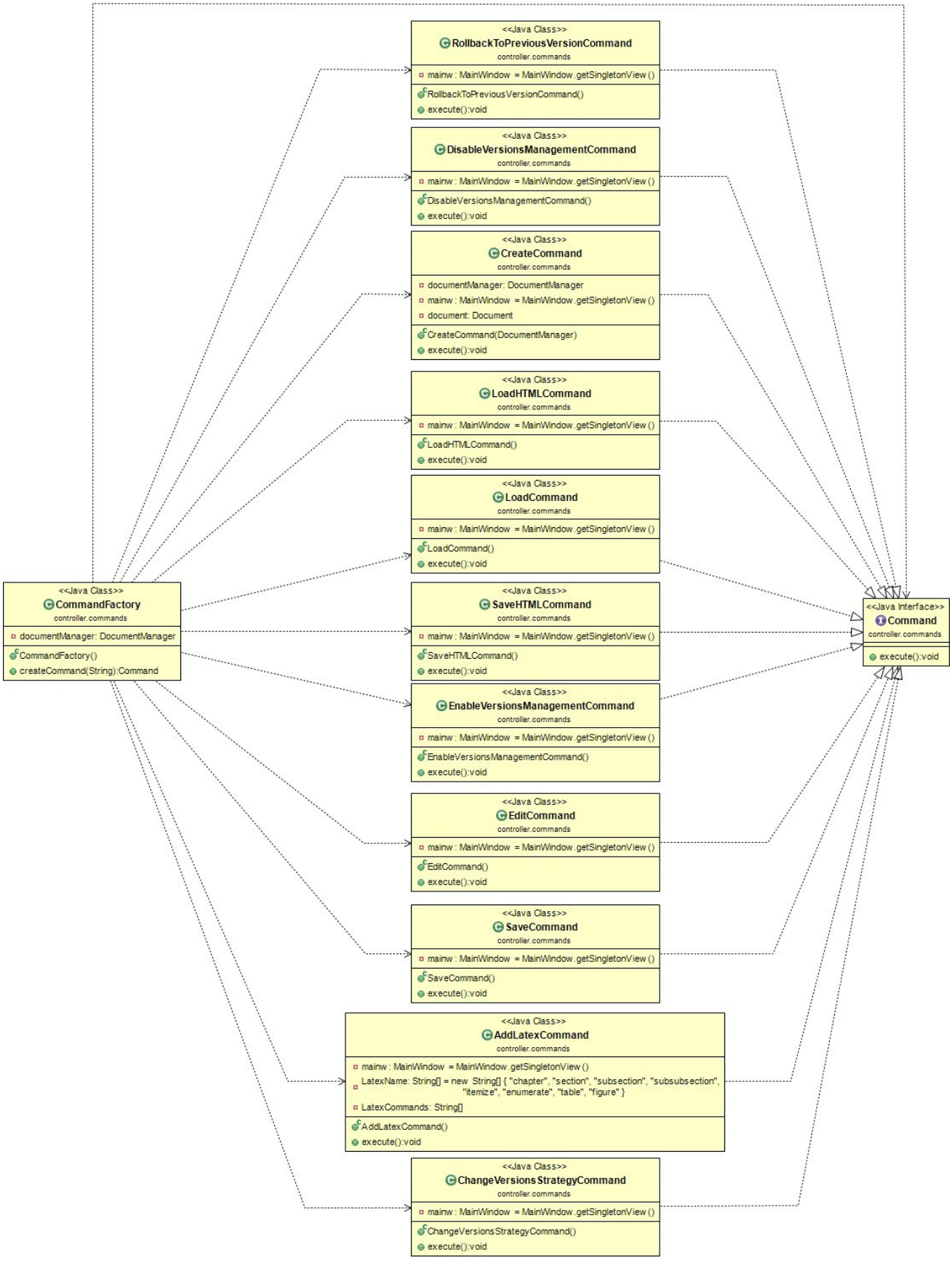
PACKAGES:



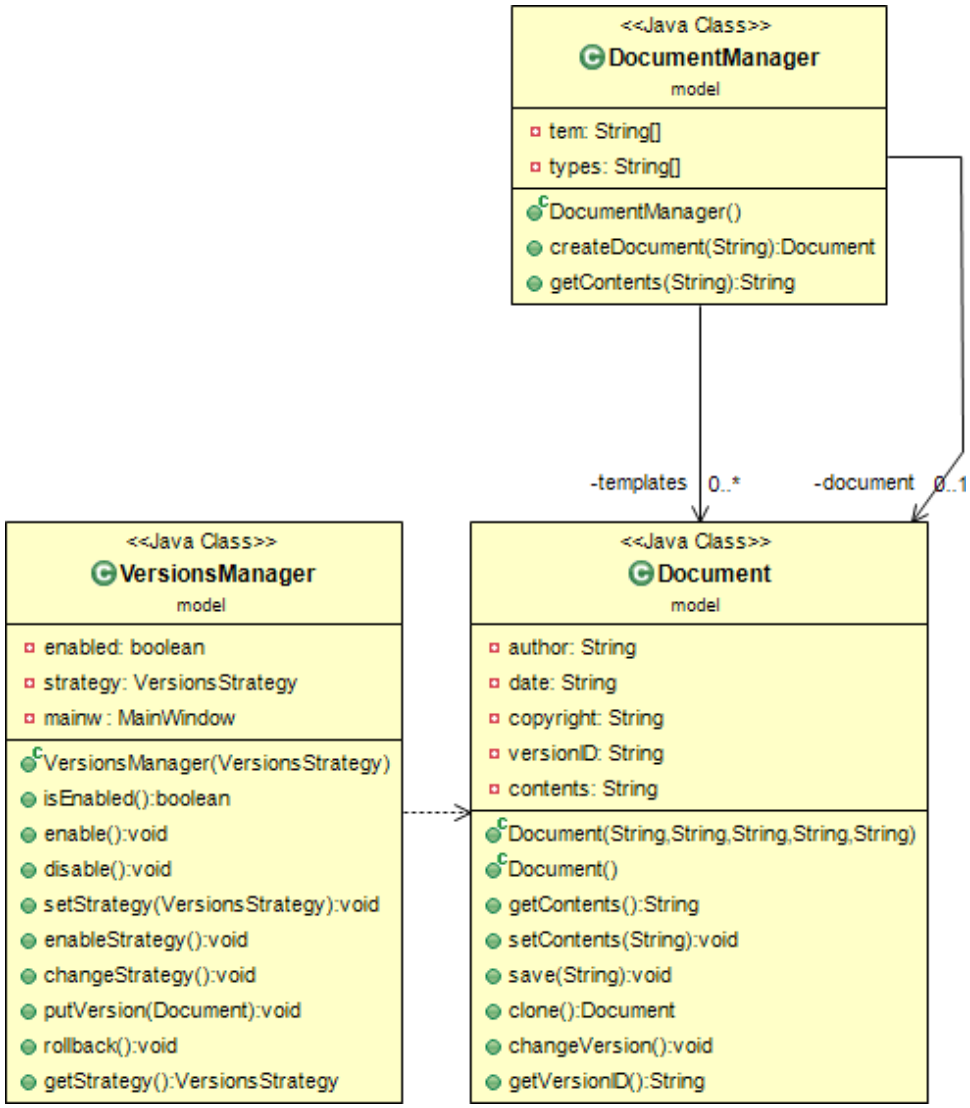
DETAILED DESIGN

CONTROLLER PACKAGE:

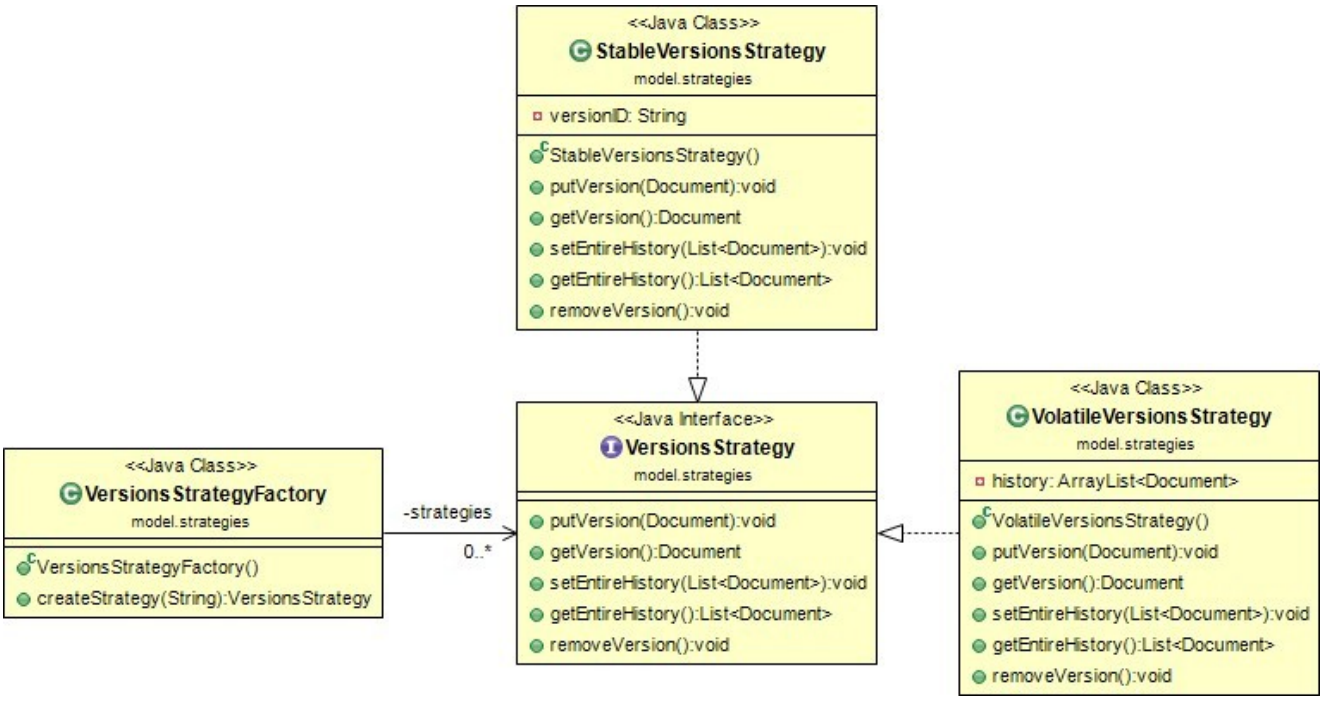
COMMANDS:


<<Java Class>>
RollbackToPreviousVersionCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
RollbackToPreviousVersionCommand()
execute():void
<<Java Class>>
DisableVersionsManagementCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
DisableVersionsManagementCommand()
execute():void
<<Java Class>>
CreateCommand
controller.commands
documentManager: DocumentManager
mainw : MainWindow = MainWindow.getSingletonView()
document: Document
CreateCommand(DocumentManager)
execute():void
<<Java Class>>
LoadHTMLCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
LoadHTMLCommand()
execute():void
<<Java Class>>
LoadCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
LoadCommand()
execute():void
<<Java Class>>
CommandFactory
controller.commands
documentManager: DocumentManager
CommandFactory()
createCommand(String):Command
<<Java Class>>
SaveHTMLCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
SaveHTMLCommand()
execute():void
<<Java Interface>>
Command
controller.commands
execute():void
<<Java Class>>
EnableVersionsManagementCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
EnableVersionsManagementCommand()
execute():void
<<Java Class>>
EditCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
EditCommand()
execute():void
<<Java Class>>
SaveCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
SaveCommand()
execute():void
<<Java Class>>
AddLatexCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
LatexName: String[] = new String[] { "chapter", "section", "subsection", "subsubsection", "itemize", "enumerate", "table", "figure" }
LatexCommands: String[]
AddLatexCommand()
execute():void
<<Java Class>>
ChangeVersionsStrategyCommand
controller.commands
mainw : MainWindow = MainWindow.getSingletonView()
ChangeVersionsStrategyCommand()
execute():void

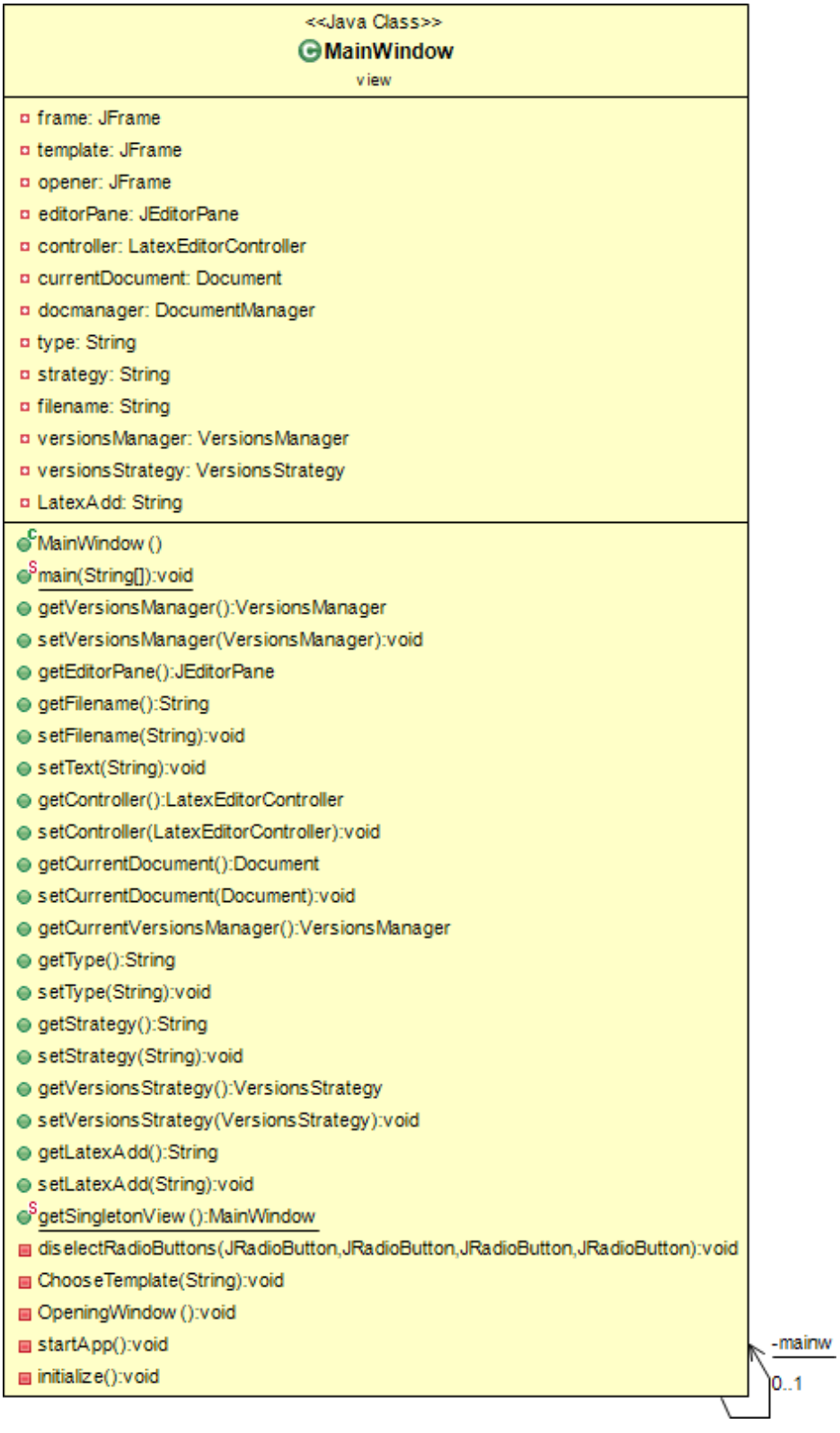
MODEL:


<<Java Class>>
DocumentManager
model
tem: String[]
types: String[]
DocumentManager()
createDocument(String):Document
getContents(String):String
-templates
0..*
-document
0..1
<<Java Class>>
VersionsManager
model
enabled: boolean
strategy: VersionsStrategy
mainw : MainWindow
VersionsManager(VersionsStrategy)
isEnabled():boolean
enable():void
disable():void
setStrategy(VersionsStrategy):void
enableStrategy():void
changeStrategy():void
putVersion(Document):void
rollback():void
getStrategy():VersionsStrategy
<<Java Class>>
Document
model
author: String
date: String
copyright: String
versionID: String
contents: String
Document(String,String,String,String,String)
Document()
getContents():String
setContents(String):void
save(String):void
clone():Document
changeVersion():void
getVersionID():String

MODEL STRATEGIES:



VIEW:


<<Java Class>>
MainWindow
view
frame: JFrame
template: JFrame
opener: JFrame
editorPane: JEditorPane
controller: LatexEditorController
currentDocument: Document
docmanager: DocumentManager
type: String
strategy: String
filename: String
versionsManager: VersionsManager
versionsStrategy: VersionsStrategy
LatexAdd: String
MainWindow ()
main(String[]):void
getVersionsManager():VersionsManager
setVersionsManager(VersionsManager):void
getEditorPane():JEditorPane
getFilename():String
setFilename(String):void
setText(String):void
getController():LatexEditorController
setController(LatexEditorController):void
getCurrentDocument():Document
setCurrentDocument(Document):void
getCurrentVersionsManager():VersionsManager
getType():String
setType(String):void
getStrategy():String
setStrategy(String):void
getVersionsStrategy():VersionsStrategy
setVersionsStrategy(VersionsStrategy):void
getLatexAdd():String
setLatexAdd(String):void
getSingletonView ():MainWindow
diselectRadioButtons(JRadioButton,JRadioButton,JRadioButton,JRadioButton):void
ChooseTemplate(String):void
OpeningWindow ():void
startApp():void
initialize():void
-mainw
0..1

IMPLEMENTATION

VIEW PACKAGE CRC CARDS

Class Name: MainWindow	
Responsibilities	**Collaborations**
▪ This class now contains ChooseTemplate, OpeningWindow and LatexEditorView. They are not used anymore ▪ This class is responsible for initializing the main window of the app, where the user can: o edit the contents of the Document	▪ All Commands ▪ VersionsManager

MODEL STRATEGIES CRC CARDS:

Class Name: VolatileVersionStrategy	
Responsibilities	**Collaborations**
▪ Puts Version ▪ Gets Version ▪ Removes Version ▪ Sets History ▪ Modifies the Document using an index	▪ VersionsManager ▪ VersionsStrategyFactory ▪ VersionsStrategy (Interface) ▪ MainWindow

Class Name: StableVersionsStrategy	
Responsibilities	**Collaborations**
▪ Puts Version ▪ Gets Version ▪ Removes Version ▪ Sets History ▪ Modifies the Document using an index	▪ VersionsStrategyFactory ▪ VersionsManager ▪ VersionsStrategy (Interface) ▪ MainWindow

Class Name: VersionsStrategyFactory	
Responsibilities	**Collaborations**
▪ Maps the strategies	▪ VolatileVersionsStrategy ▪ StableVersionsStrategy ▪ VersionsStrategy (Interface)

Class Name: VersionsStrategy (Interface)	
Responsibilities	**Collaborations**
▪ A generic interface for the strategies	▪ VolatileVersionsStrategy ▪ StableVersionsStrategy ▪ VersionsStrategyFactory ▪ MainWindow ▪ VersionsManager

MODEL CRC CARDS:

Class Name: DocumentManager	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Mapping the available templates for the document	▪ CommandFactory ▪ CreateCommand ▪ MainWindow

Class Name: VersionsManager	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Enabling the available strategies o Updates the strategy o Rolling back the file to a previous version o Updates the history	▪ MainWindow ▪ LatexEditorController ▪ CommandFactory

Class Name: Document	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating the basic properties of the latex file	▪ CommandFactory ▪ CreateCommand ▪ DocumentManager ▪ VersionsManager ▪ MainWindow

CONTROLLER COMMANDS CRC CARDS:

Class Name: SaveCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Saving the contents of the Document inside a latex file in the users Computer	▪ MainWindow ▪ CommandFactory ▪ Command (Interface) ▪ LatexEditorController

Class Name: RollbackToPreviousVersionCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Removing the current version of the Document o Setting the current Document	▪ MainWindow ▪ CommandFactory ▪ Command (Interface) ▪ LatexEditorController

Class Name: LoadCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Loading the Contents of an existing latex file from the users Computer	▪ MainWindow ▪ CommandFactory ▪ Command (Interface) ▪ LatexEditorController

Class Name: EnableVersionsManagementCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Activating the strategy buttons o Setting a strategy o Setting the history	▪ CommandFactory ▪ MainWindow ▪ Command (Interface) ▪ LatexEditorController

Class Name: EditCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Updating the version of the Document o Setting the contents of the Document	▪ MainWindow ▪ CommandFactory ▪ VersionsManager ▪ Command (Interface) ▪ LatexEditorController

Class Name: DisableVersionsManagementCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Disabling the strategy buttons	▪ MainWindow ▪ CommandFactory ▪ Command (Interface) ▪ LatexEditorController

Class Name: CreateCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating a new Document o Setting it as the current Document	▪ MainWindow ▪ CommandFactory ▪ Command (Interface) ▪ DocumentManager

Class Name: CommandFactory	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating Command type objects o Mapping Command type objects	▪ LatexEditorController ▪ VersionsManager ▪ DocumentManager ▪ Command (Interface) ▪ All Commands

Class Name: ChangeVersionsStrategyCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Changing the Strategy type from volatile to stable and vice versa	▪ MainWindow ▪ CommandFactory ▪ Command (Interface)

Class Name: AddLatexCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Adding a particular LatexCommand in the document	▪ MainWindow ▪ CommandFactory ▪ Command (Interface)

Class Name: Command (Interface)	
Responsibilities	**Collaborations**
▪ A generic interface for the commands	▪ LatexEditorController ▪ CommandFactory ▪ All Commands

Class Name: SaveHTMLCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating a Html document and turning the contents of the file to html.	▪ MainWindow ▪ CommandFactory ▪ Command (Interface) ▪ LatexEditorController

Class Name: LoadHTMLCommand	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Turning the contents of an Html file to latex and setting the contents of the document.	▪ MainWindow ▪ CommandFactory ▪ Command (Interface) ▪ LatexEditorController

CONTROLLER CRC CARDS:

Class Name: LatexEditorController	
Responsibilities	**Collaborations**
▪ This class is responsible for: o Creating a HashMap with all the available commands o Executing a specified Command	▪ MainWindow ▪ CommandFactory ▪ Command