

School of Engineering and ICT
ICT Discipline



UNIVERSITY of
TASMANIA

Group Assignment Cover Sheet

Unit Code: KIT506 Unit Name: Software Design and Development
 Tutorial Day/Time: Thursday 10 am (of one group member)
 Group Name/#: KIT506 L+u Th/000 #3 Assignment Title/#: Research Assessment Program

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- using an author's ideas without proper acknowledgment and citation; or
- copying another student's work.

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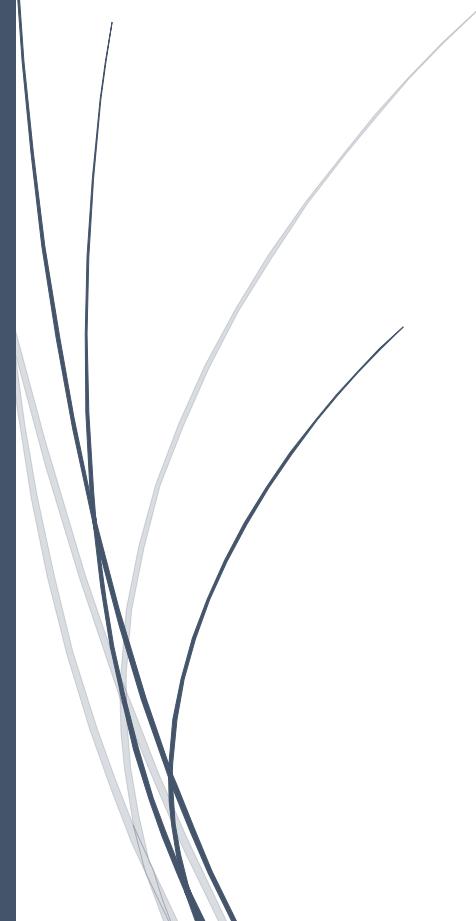
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27/08/2019

Research Assessment Program

RAP



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Structured Scenarios

Use Case #8: User_views_Researchers_List

Requirement:

Upon application start up, the system should present an interactive list of researchers (contain both staff and research students) which can be filtered by conditions.

Overview:

The user views the ResearcherList when the application first loads or when switching to the ResearcherList view. The list may be filtered to show the names of researchers in different job titles: A, Postdoc; B, Lecturer; C, Senior Lecturer; D, Associate Professor; E, Professor. Users can select the “Filter By” checkbox or type in the search field to find more specific researchers.

Preconditions:

Database exists and is populated with data; Combination matching of name is not supported; Researchers' levels have been defined.

Scenario:

Action	Software Reaction
1. User starts application	1. System ensures ResearcherList pane is available 2. System retrieves data of all researchers' full name and title from database 3. System shows Researcher List
2. User selects one or more levels in the “Filter By” checkbox	1. System retrieves list according to the selection value from database 2. System reloads the ResearcherList pane with the filtered list
3. User types some text in the “Search By Name” field and click Search button	1. System retrieves list whose family name or given name matches the input text from database 2. System reloads the ResearcherList pane with desired researchers in required format

Scenario Notes:

Actions 2 and 3 are independent. Actions 2 and 3 requires action 1 to occur first so that the ResearcherList and filter checkbox list are visible to the user.

Post Conditions

ResearcherList displays all or a subset (particular category) of researcher names.

Required Views: (GUIs)

ResearcherListView

Exceptions:

1. If the database is inaccessible or another error occurs, the system should respond with a message to this effect, requesting for application restart. (In a later release the system should be made robust to such exceptions and be able to reload the database without being restarted.)
2. If no researchers match the condition, the system should response with a message and request users to retype the name.
3. If some information is lost due to bad network traffic, inform users to search again.

Use Cases utilised

None

Use Case #16: User_selects_Researcher

Requirement:

When user select a researcher's name in the ResearcherList, the researcher details will be displayed.

Overview:

Upon user selects the researcher's name in the ResearcherList pane, from either the StaffDetail or the StudentDetail pane, researcher's detail information is displayed in the field of personal detail. The display has labels for each piece of information, which includes primary details, Current Job Title, Commenced with institution, Commenced current Position, Tenure and Publications. Additionally, with the values for 3-year average, Performance and Supervisions left blank for students, and the values for Degree and Supervisor left blank for staff.

Preconditions:

Database exists and is populated with data; Researchers' levels have been defined.

Scenario:

Action	Software Reaction
1. User selects one researcher's name from the researcher list	<ol style="list-style-type: none">1. The Detail menu is selected by default.2. System retrieves all data of the selected researcher.3. System applies either the StaffDetail pane or the StudentDetail pane according to the researcher's job title.4. System populates the data in the primary details area and personal detail fields.5. System may display a employment history table if the researcher is a staff
2. user clicks on the "RAP home" menu option	<ol style="list-style-type: none">1. System switches to ResearcherList pane, repeating actions from UC8 action 1.

Scenario Notes:

Action 2 brings the user back to Researcher List so that the user can select another researcher and check details by taking action 1, 2 again.

Post Conditions

The selected researcher detail display in the researcher detail pane;
Selected staff's employment history also displayed in the StaffDetail pane;
StudentDetail pane does not show employment history information.

Required Views: (GUIs)

ResearcherListView
StaffDetailView
StudentDetailView

Exceptions:

1. If the database is inaccessible or another error occurs then the system should respond with a message to this effect, requesting that the user to go back and select researcher name again.
2. If some information is lost due to bad network traffic; inform user to search again.

Use Cases utilised

UC8 User_views_ResearcherList is a required precursor for action (1) above

Use Case #29: User_expands_Supervisions

Requirement:

The system needs to allow the user to expand the number of supervisions displayed to show a list of those students' name.

Overview:

The user views the Supervision Students list upon clicks of “See all students’ names” button in the Personal Detail view of the StaffDetail pane. The total number of supervisions and a list of those students’ names are shown.

Preconditions:

Database exists and is populated with data.

Scenario:

Action	Software Reaction
1. User clicks the “See all students’ names” button in the Personal Detail view of the StaffDetail pane	1. System retrieves all supervision data of the staff from database. 2. System switches to the StaffSupervision Pane. 3. System populates students’ name into the list.
2. User scroll down the current page	1. System displays the number of supervisions and more students’ name.
3. User click “Back to detail” button	1. System goes back to the StaffDetail pane.

Scenario Notes:

Action 2 requires 1 to occur first so that the StaffSupervision Pane is visible to the user. Action 2 and 3 are independent. Action 3 brings the user back to StaffDetail pane so that users can take another action.

Post Conditions

Application goes to StaffSupervision pane and displays the supervised students’ name list.

Required Views: (GUIs)

StaffDetailView

StaffSupervisionView

Exceptions:

1. If the database is inaccessible or another error occurs then the system should respond with a message to this effect, requesting that the user close and restart the software. (In a later release the system should be made robust to such exceptions and be able to reload the database without being restarted.)

Use Cases utilised

UC16 User_Selects_Researcher is a required precursor for action (1) above.

Use Case #32: User_views_CumulativeCount

Requirement:

The system displays a tabular view of a researcher's cumulative number of publications by year.

Overview:

The user views the publications upon user clicks the “See cumulative publications” button in the Personal Detail field of the Researcher Detail pane. The total number of the researcher’s publications is shown and sorted by year, starting with the researcher’s earliest year of employment by default, the order can be inverted by clicking the triangle beside Year in the Year List. User can go back to the Researcher Detail pane by clicking the “Back to detail” button.

Preconditions:

Database exists and is populated with data.

User is currently in ResearcherDetail pane.

Scenario:

Action	Software Reaction
1. User clicks the “See cumulative publications” button in the Personal Detail field of the StaffDetail pane (or the StudentDetail pane).	1. System retrieves year attribute of publication of the staff (or student) from database. 2. System goes to CumulativePublicationByYear pane. 3. System counts the number of publications for each year 4. System sorts the publication list by year, starting with their earliest year of employment.
2. User clicks the triangle symbol besides table header “Year”	1. System inverts the order of publication list.
3. User scroll down the current page.	1. System displays more cumulative publications.
4. User clicks “Back to detail” button	1. System goes to the StaffDetail pane or (the StudentDetail pane).

Scenario Notes:

Action 2 requires 1 to occur first so that the CumulativePublicationByYear pane is visible to users.

Action 2 and 3 are independent. Action 4 brings the user back to StaffDetail pane or (the StudentDetail pane) so that users can take other actions.

Post Conditions

The CumulativePublicationByYear Pane displays a researcher's cumulative number of publications, ordered by year, starting with their earliest year of employment by default.

Required Views: (GUIs)

CumulativePublicationView

Exceptions:

1. If the database is inaccessible or another error occurs, the system should respond with a message to this effect, requesting for application restart. (In a later release the system should be made robust to such exceptions and be able to reload the database without being restarted.)

Use Cases utilised

UC16 User_selects_Researcher is a required precursor for action (1) above.

Use Case #34: User_views_Publications

Requirement:

System needs to show an interactive list of a certain researcher's publications.

Overview:

User views an interactive list of that researcher's publications which is part of the Researcher Details view, located below the researcher's profile. System displays a publication list, with the publication year followed by its title, showing a decreasing order of year by default, and the order can be inverted by clicking the triangle symbol besides table header "Publication Year". User can also filter the content of the list by typing the specific year range in the "Specify a year range" field.

Preconditions:

Database exists and is populated with data.

User is currently in researcher detail pane.

Scenario:

Action	Software Reaction
1. Users clicks "Publication" menu option in researcher detail pane	1. System reads the database, looking up publications whose author is the researcher. 2. System sorts the publication list in a decreasing order of year. 3. System displays publications within the same year alphabetically based on title.
2. User clicks the triangle symbol besides table header "Publication Year"	1. System inverts the publication year and the order of publication list.
3. User types in a specific year range in the "Specify a year range" field.	1. System filters the contents of the list by searching out publications which belongs to the certain range of years. 2. System updates the current window.

Scenario Notes:

Action 2 and 3 require action 1 to occur first so that the PublicationList pane is visible to users.

Action 2 and 3 are independent.

Post Conditions

PublicationList pane displays publication details; a field named “Specify a year range” is displayed for filtering the content of the list.

Required Views: (GUIs)

StaffDetailView (OR StudentDetailView)

PublicationListView

Exceptions:

1. If the database is inaccessible or another error occurs then the system should respond with a message to this effect, requesting for application restart. (In a later release the system should be made robust to such exceptions and be able to reload the database without being restarted.)

Use Cases utilised

UC16 User_selects_Researcher is a required precursor for action (1) above.

Use Case #40: User_selects_Publication

Requirement:

When the user selects a publication in the list the PublicationDetails view will be displayed.

Overview:

The user views the details of a specific publication in the main window upon selecting a publication, the publication details are shown with the following details: DOI; Title; Authors; Publication year; Type; Cite as; Availability date and age.

Preconditions:

Database exists and is populated with data.

User is currently in PublicationList pane

Scenario:

Action	Software Reaction
1. User clicks one of publication names	<ol style="list-style-type: none">1. Looking up the database, the system finds the specific publication.2. System splits the publication details into separate rows of content.3. System updates the current window.
2. User clicks “back to list” button	<ol style="list-style-type: none">1. System goes to the PublicationList pane.2. System updates the current window.

Scenario Notes:

Action 2 brings the user back to previous window so that the user can view another publication's detail by taking action 1 again.

Post Conditions

Detailed publication information will be displayed in PublicationDetails pane.

Required Views: (GUIs)

PublicationListView

PublicationDetailView

Exceptions:

1. The database is currently under maintenance; inform user and ask them to try again later
2. Some information is lost due to bad network traffic; inform user to refresh the page

Use Cases utilised

UC34 User_views_Publications is a required precursor for action (1) above.

Use Case #43: User_generates_Report

Requirement:

User can generate lists of researchers performing well and those performing poorly, based on their publication performance metric.

Overview:

The user views the Reports upon clicking the Reports tab of the main menu. The system displays 4 groups of researchers based on their performance in separate tables, including Poor, Below Expectations, Meeting Minimum and Star Performers; each group is shown by 3 columns of information with the researcher's performance in the left column, his/her name in the middle and others in the right. The Poor and Below Expectations reports should be sorted by increasing order of performance, while the other two reports should be sorted by decreasing order of performance.

Preconditions:

Database exists and is populated with data

Scenario:

Action	Software Reaction
1. Users clicks "Reports" tab of the main menu.	1. System takes the user to the Reports window. 2. Connecting to the database, the system sorts each group of researchers either in increasing order or in decreasing order by their performance rate. 3. System displays 4 groups of researchers including Poor, Below Expectations, Meeting Minimum and Star Performers in separate tables.

Scenario Notes:

None

Post Conditions

Reports pane displays 4 groups of researchers according to their performance rate in the main window.

Required Views: (GUIs)

ReportsView

Exceptions:

1. The database is currently under maintenance; inform user and ask them to try again later
2. No researchers match the condition; inform user the result.

Use Cases utilised

None

Use Case #51: User_copies_ReportEmails

Requirement:

The system should be able to allow the user to copy the email addresses of those listed in a report to the clipboard.

Overview:

The user clicks “Copy Emails” button, then the system copies all relevant emails to clipboard and pop up a window telling the user status of the operation.

Preconditions:

The desired researcher data has been successfully displayed in the main window.

Scenario:

Action	Software Reaction
1. Users clicks “Copy Emails” button on the top right of the researcher group.	1. System copies all listed researcher emails to the clipboard. 2. A pop-up window shows up, informing the user number of emails copied and the status.

Scenario Notes:

There is only one action in this scenario, but user can repeat this action in the same window to copy different emails.

Post Conditions

All listed researcher emails are copied to the clipboard.

Required Views: (GUIs)

ReportsView

Exceptions:

1. Data lost due to network traffic; inform user to try again later.
2. Number of emails does not match number of researchers; inform user through the pop-up window.

Use Cases utilised

UC43 User_generates_Report is a required precursor for action (1) above.

Low-fidelity (lo-fi) prototypes of the UI view

ResearcherListView

filter by employment level using checkbox

menu bar

search by partial name

researcher list

ID	Name	Other Information
1	Eintesin Albert (Pd)	"some string"
2	Gareth Han (Le)	"some string"
3	Kelvin Zhang (St)	"some string"
4	Frank Li (SL)	"some string"
5	Grace Jiang (AP)	"some string"
6	Tony G (Pr)	"some string"

StaffDetailView

primary detail personal detail

Profile

Einstein Albert
Postdoc
UTAS(ICT)
Launceston
Email: ein.a@utas.edu.au

Detail Publication

Personal Detail

Current Job Title: Postdoc
Commenced with institution: 01/Jan/2010
Commenced current position: 01/Feb/2019
Tenure: 9
Publications: 30
3-year Average: 3
Performance: 175%
Supervision: 210
Degree: left blank
Supervisor:

button goes to cumulative publication view
button goes to supervision view

See cumulative publications
See all students' names

Employment History

position	start date	end date
lecturer	XX/XX/XXXX	XX/XX/XXXX
.....		

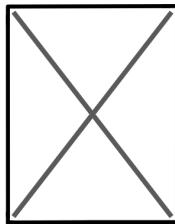
employment history

StudentDetailView

StudentDetail

RAP Home Researcher Reports About Help

Profile



Kelvin Zhang
Student
KIT506
Launceston
Email: kelvin.z@utas.edu.au

Detail Publication

Personal Detail

Current Job Title:	Student
Commenced with institution:	01/Feb/2019
Commenced current position:	01/Feb/2019
Tenure:	1
Publications:	1
3-year Average:	
Performance:	left blank
Supervision:	
Degree:	ITS
Supervisor:	Einstein Albert

See cumulative publications

StaffSupervisionView

StaffSupervision

RAP Home Researcher Reports About Help

Profile

Einstein Albert
Postdoc
UTAS(ICT)
Launceston
Email: ein.a@utas.edu.au

supervised student name list

Detail Publication

< Back to detail button goes back to researcher detail view

Supervision Students: Total 210 .

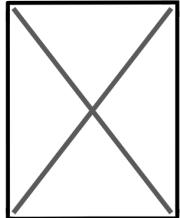
Student ID	Student Name
100001	A K
100002	B K
100003	C K
100004	D K
100005	E K
100006	F K
100007	G K
100008	H K

CumulativePublicationView

CumulativePublicationByYear

RAP Home Researcher Reports About Help

Profile



Einstein Albert
Postdoc
UTAS(ICT)
Launceston
Email: ein.a@utas.edu.au

Detail Publication

< Back to detail → button goes back to researcher detail view

Publications: Total 30 |

Year ▲	Number of Publications
2010	2
2011	2
2012	3
2013	3
2014	2
2015	3
2016	3
2017	4
2018	4

→ number of cumulative publication by year in ascending order

PublicationListView

The screenshot shows a web-based application for managing publications. At the top, there is a navigation bar with links: RAP Home, Researcher (which is highlighted in blue), Reports, About, and Help. Below the navigation bar, the page title is "PublicationList".

The main content area is titled "Profile". It displays a placeholder image of a person's face with an 'X' over it. To the right of the image, the user's information is listed: Einstein Albert (Postdoc at UTAS(ICT) in Launceston, Email: ein.a@utas.edu.au). A red arrow points from the text "indicates user the current position" to the word "Postdoc". Another red arrow points from the text "specify a year range to filter the contents" to the email address.

Below the profile section, there are two tabs: "Detail" and "Publication". The "Publication" tab is selected and highlighted in blue. A red arrow points from this tab to the text "Total Publication: 30 Specify a year range: to ".

The publication list table has two columns: "Publication Year" and "Title". The data in the table is:

Publication Year	Title
2019	A man
2019	Beatles
2019	The Kingdom
2019	Zoo
2018	Chaos
2018	Shaman
...	...
...	...
...	...

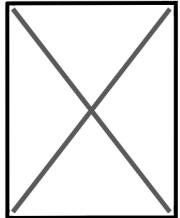
A red arrow points from the bottom of the table to the text "publication list, order by descending year, sorted alphabetically based on title within the same year".

PublicationDetailView

PublicationDetail

RAP Home Researcher Reports About Help

Profile



Einstein Albert
Postdoc
UTAS(ICT)
Launceston
Email: ein.a@utas.edu.au

Detail Publication

< Back to list  button goes back to publication list view

DOI:	Digital Objective Identifier
Title:	Publication title
Authors:	Author
Publication year:	Publication year
Type:	Conference/Journal/Other
Cite as:	"Single string obtained from the Employment and Researcher Database"
Available date:	the date when the publication was first available, which may differ from the publication year
Age:	the days elapsed since the publication became available, can be negative if the availability date is in the future

 publication detail table

ReportsView

indicates user the current position

button used to copy a group of researchers' emails

four reports, each report is sorting by performance desc or asc

Star Performers	Name	Others
250%	Kelvin K	"some string"

Meeting Minimum	Name	Others
199%	Kelvin K	"some string"
110%	Kelvin A	"some string"

Below Expectations	Name	Others
71%	Kelvin K	"some string"
109%	Kelvin A	"some string"

Poor	Name	Others
60%	Kelvin K	"some string"
70%	Kelvin A	"some string"

Copy Emails

Copy Emails

Copy Emails

Copy Emails

Reports

RAP Home Researcher Reports About Help

Researcher Reports

Star Performers

Meeting Minimum

Below Expectations

Poor

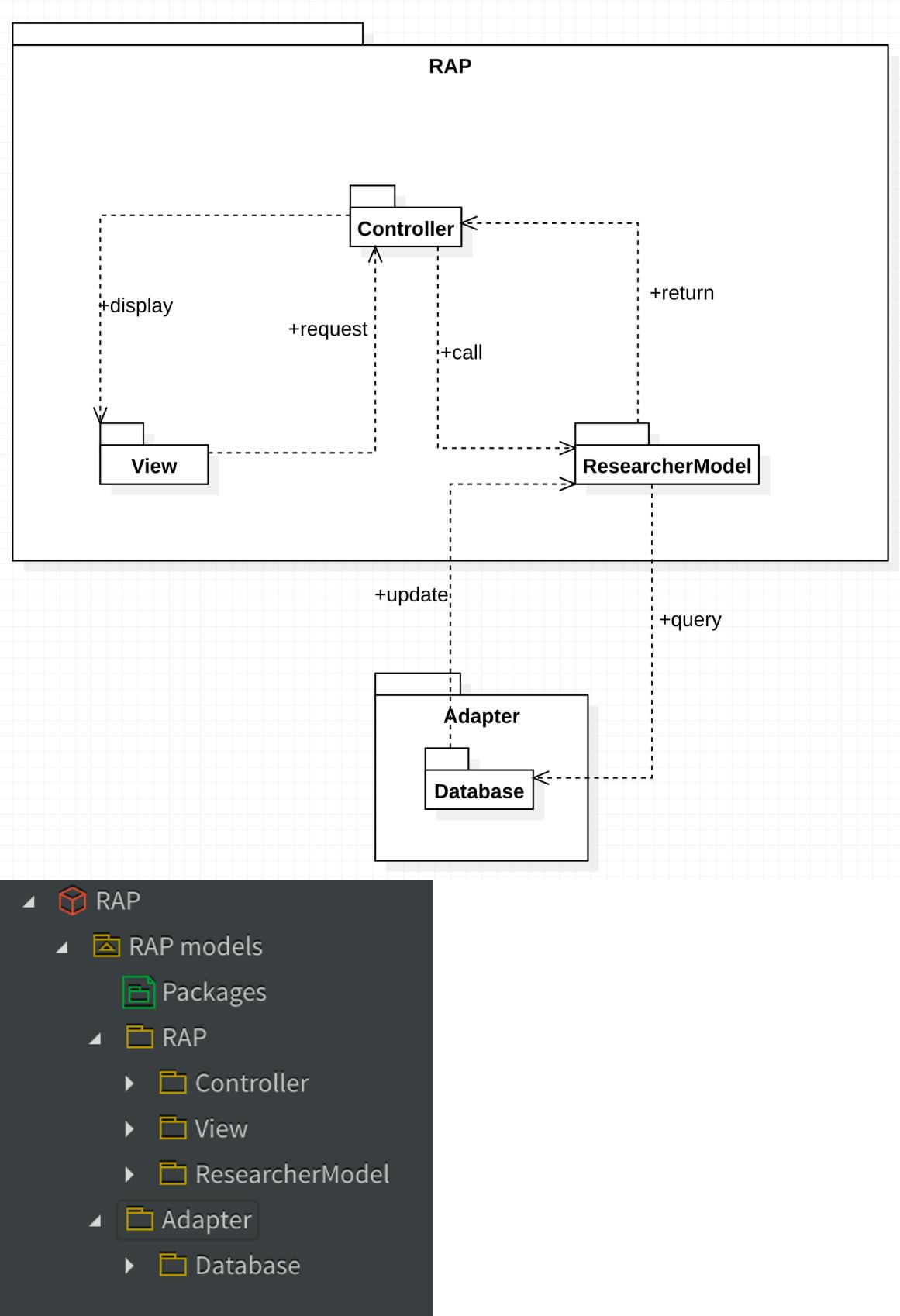
Copy Emails

Copy Emails

Copy Emails

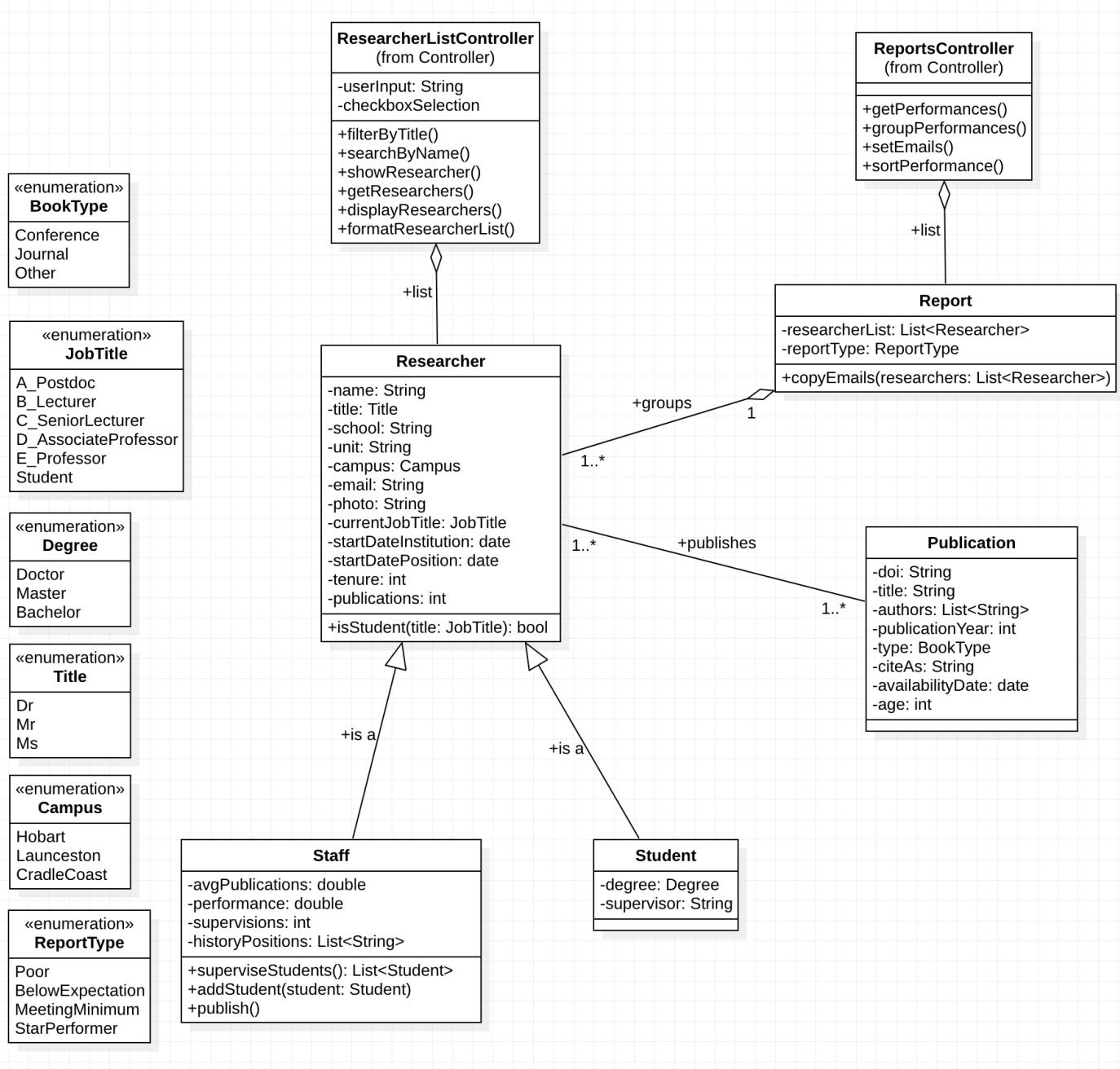
Copy Emails

Package Diagram

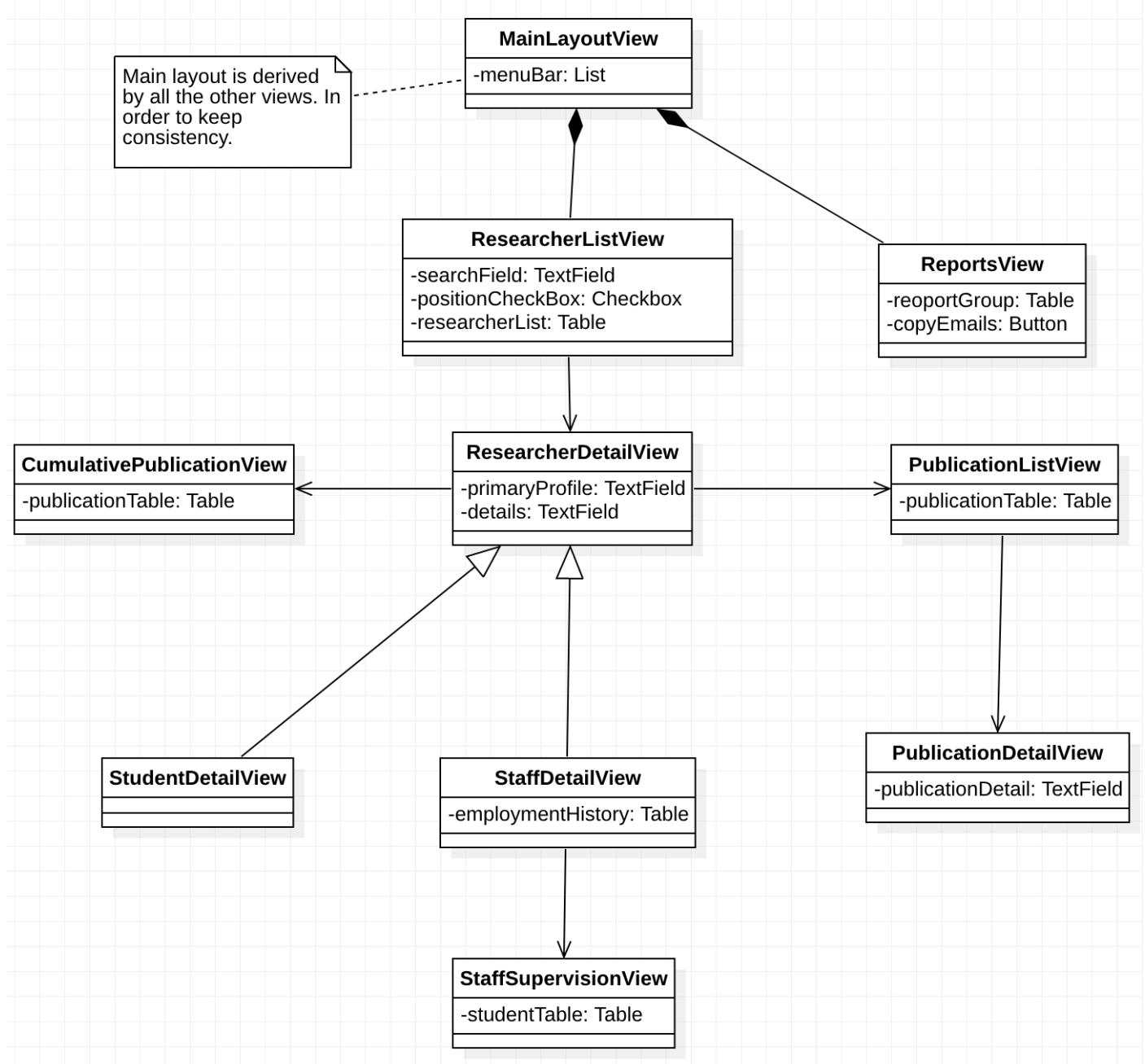


Class Diagram

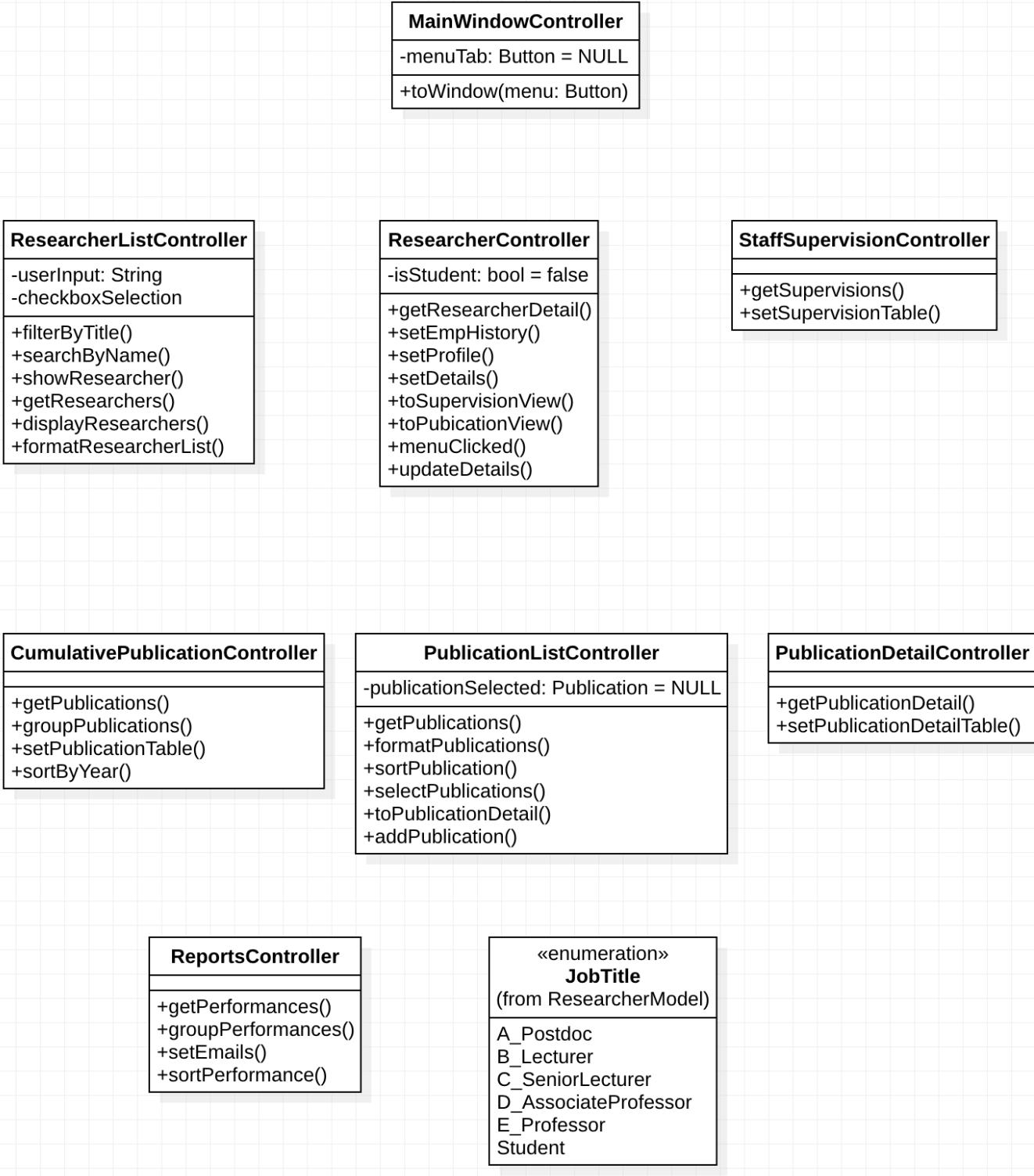
Class Diagram – ResearcherModel



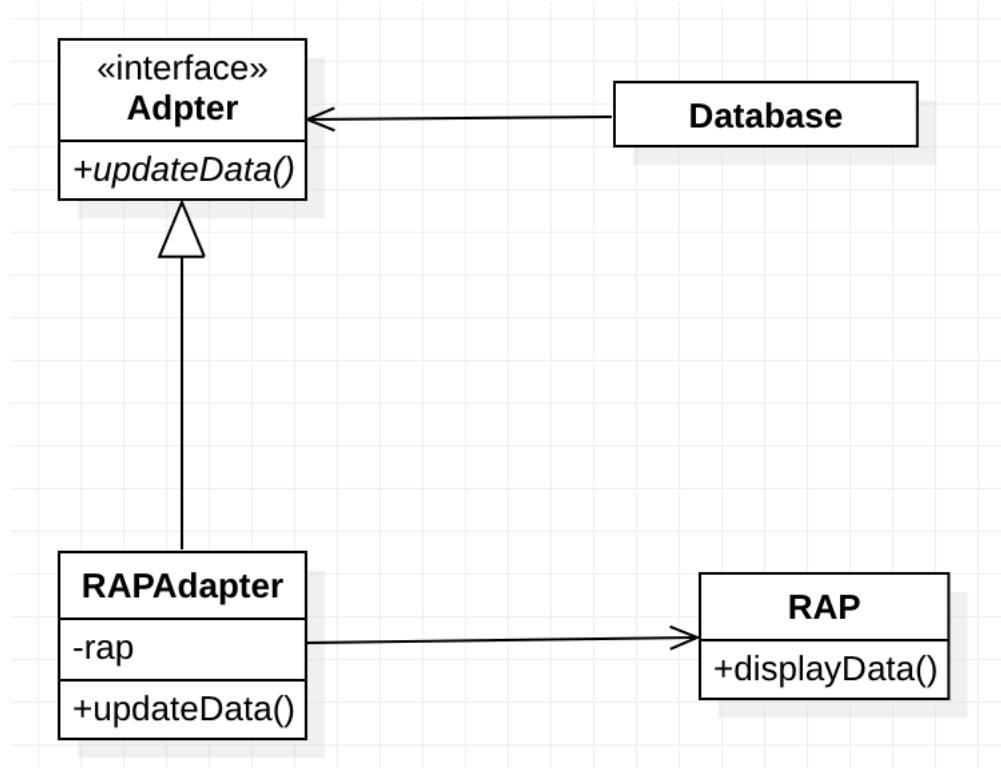
Class Diagram – View



Class Diagram – Controller

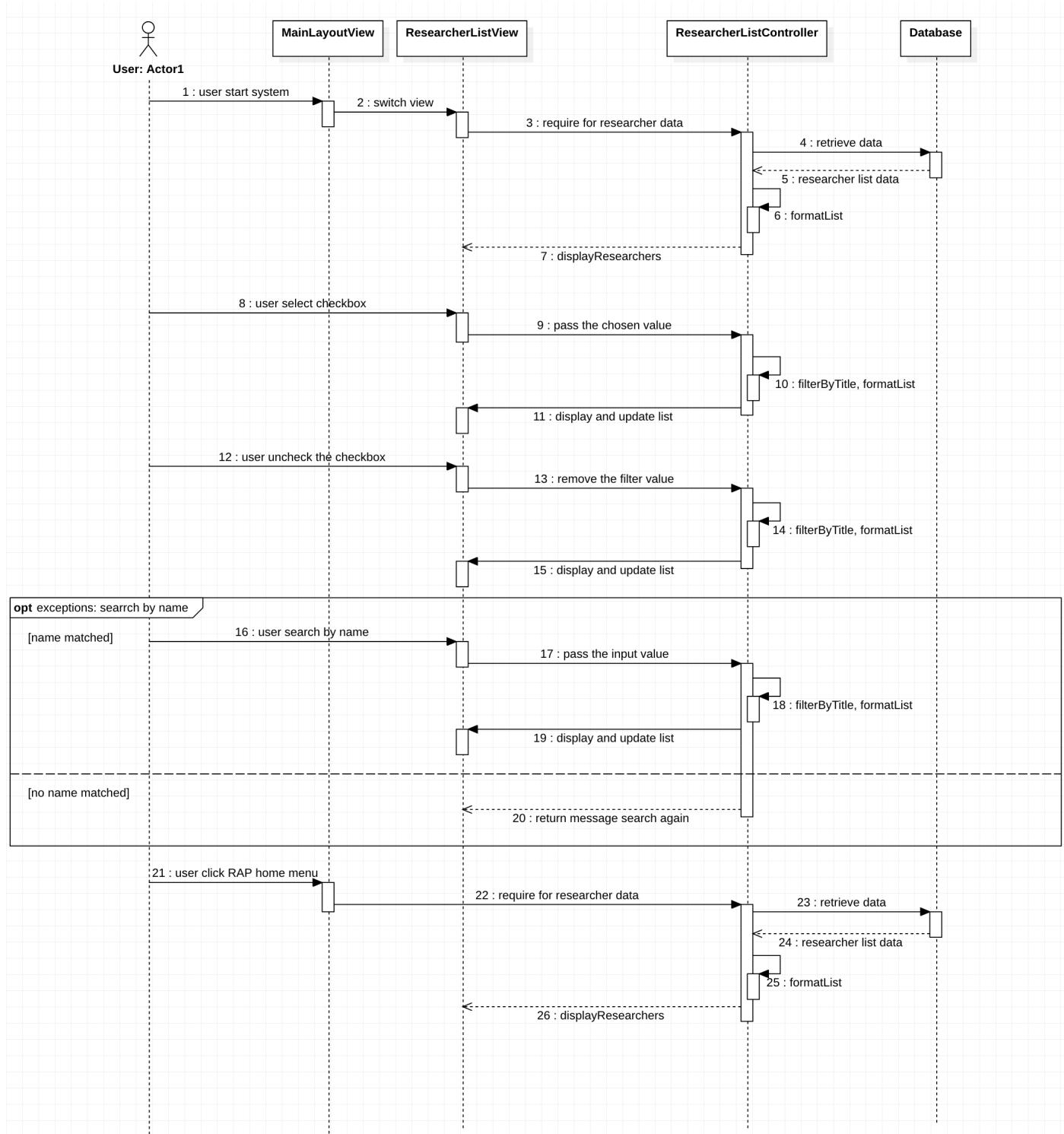


Class Diagram – Database

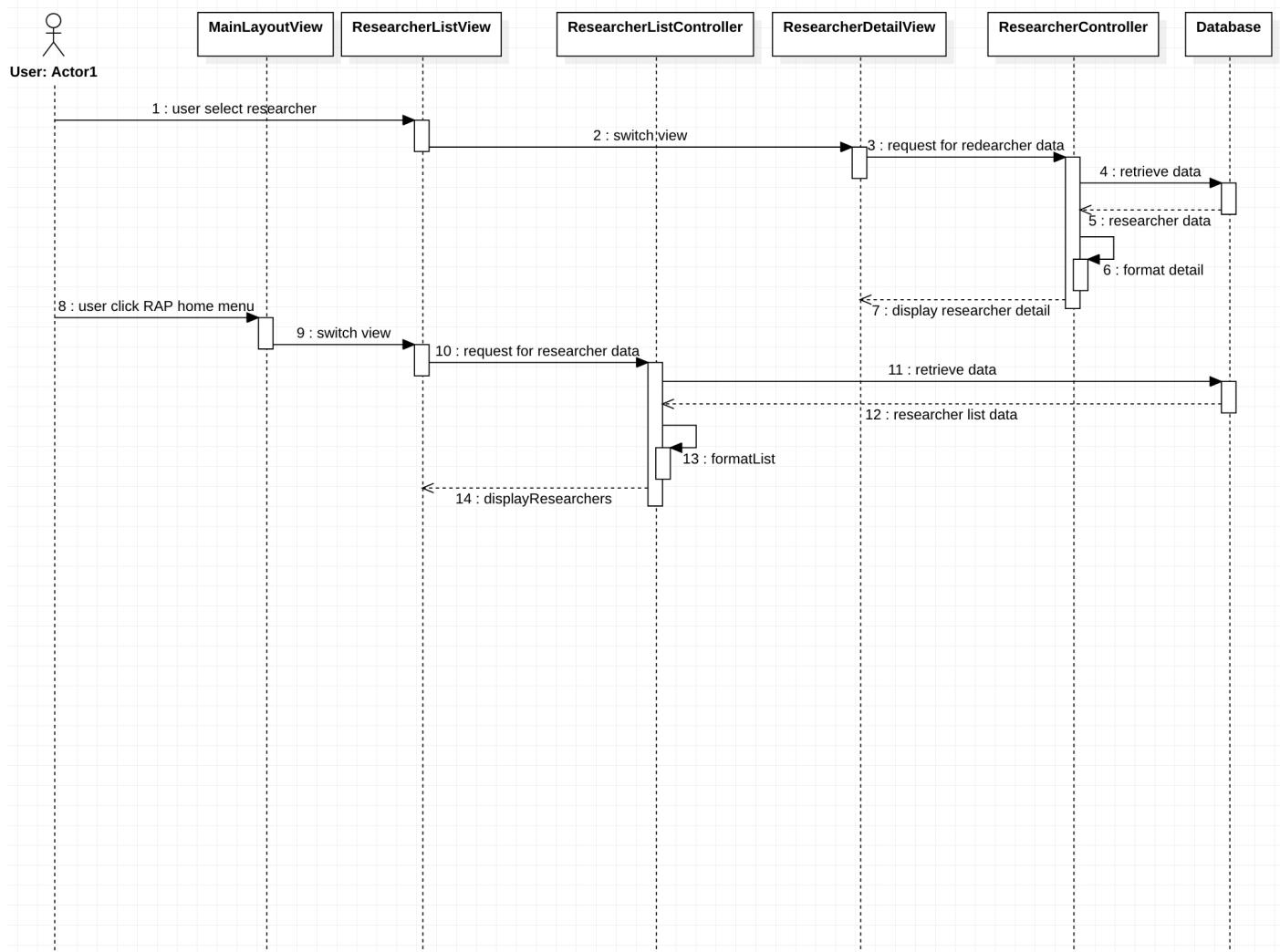


Sequence Diagram

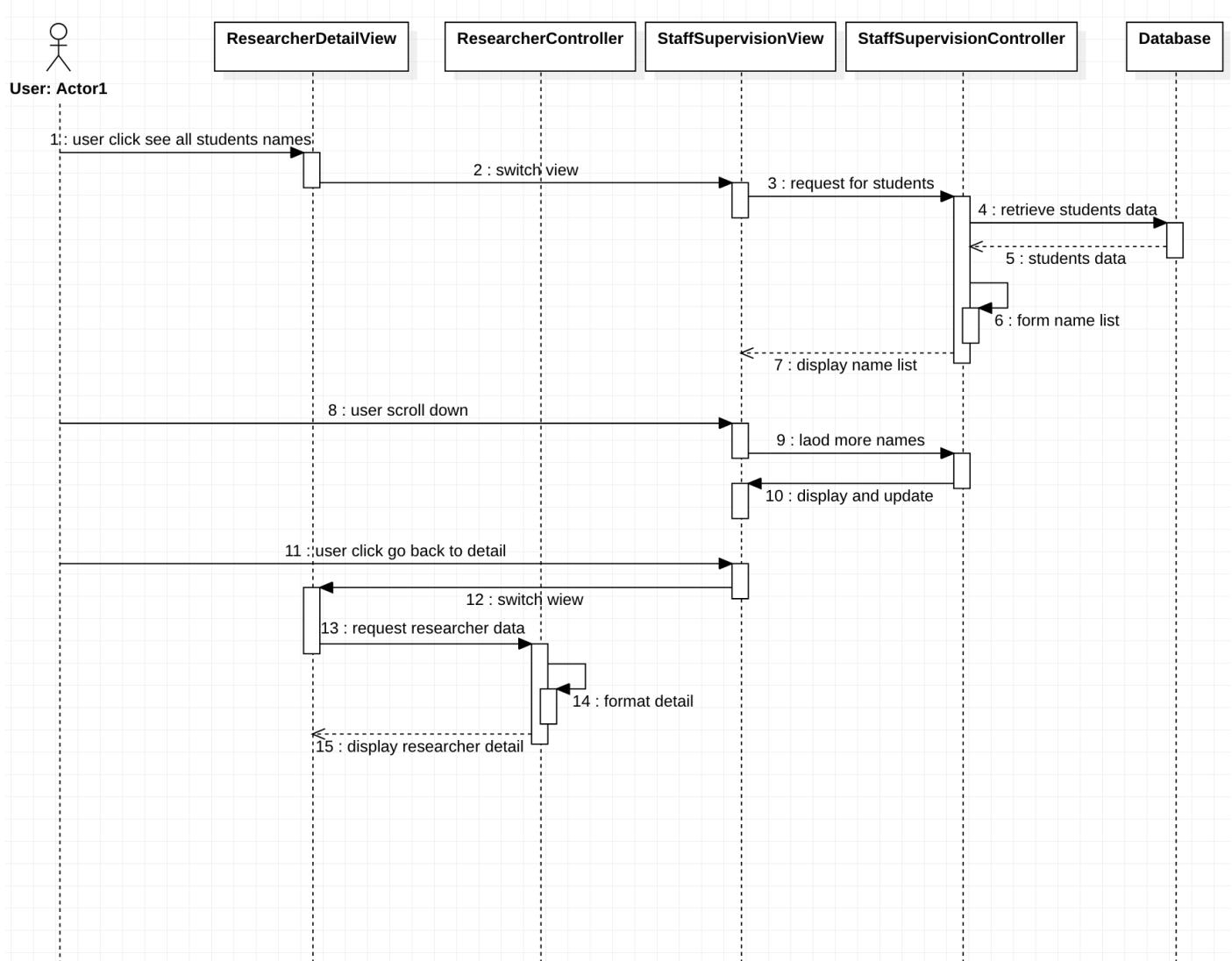
UC8_User_views_ResearcherList



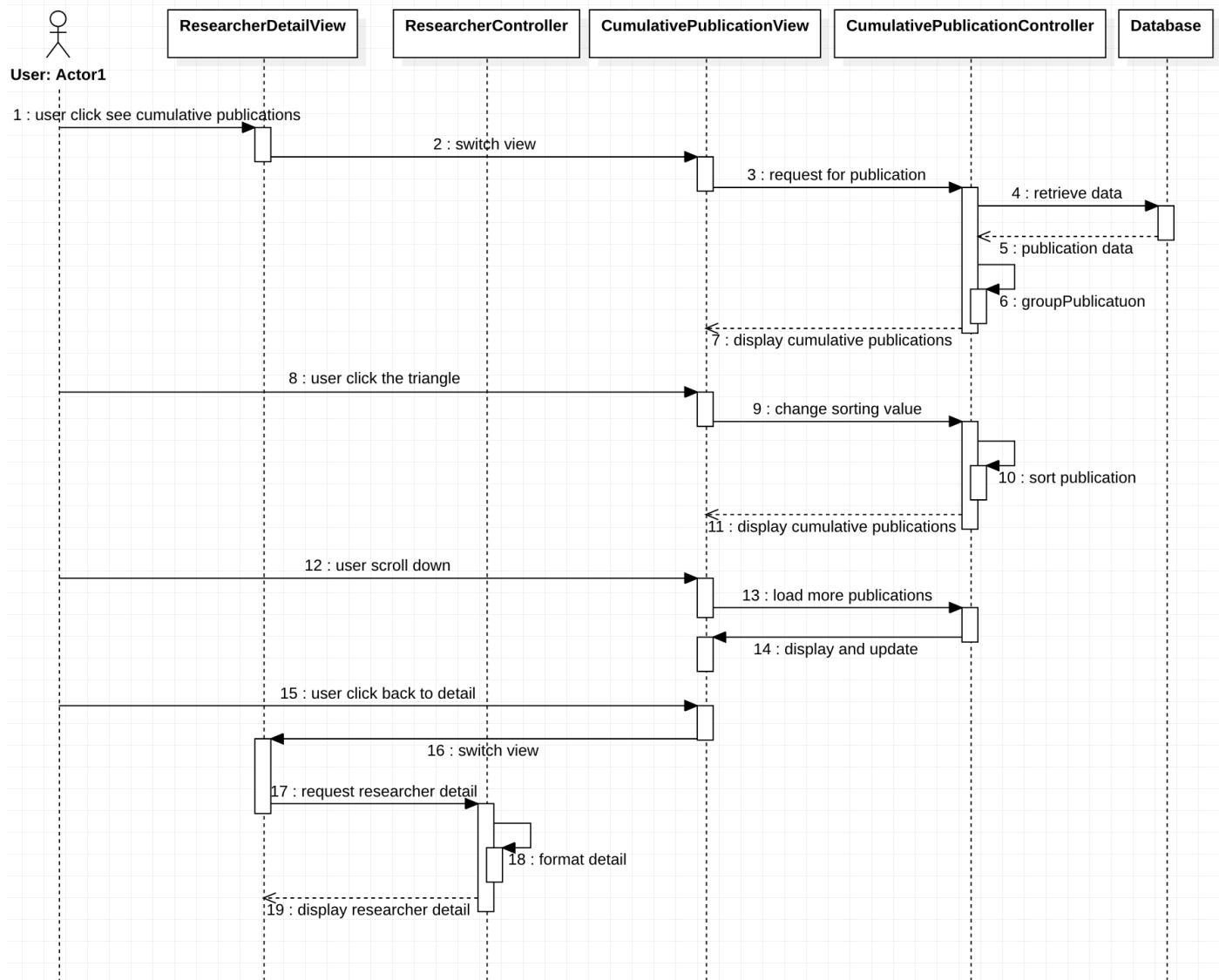
UC16_User_selects_Researcher



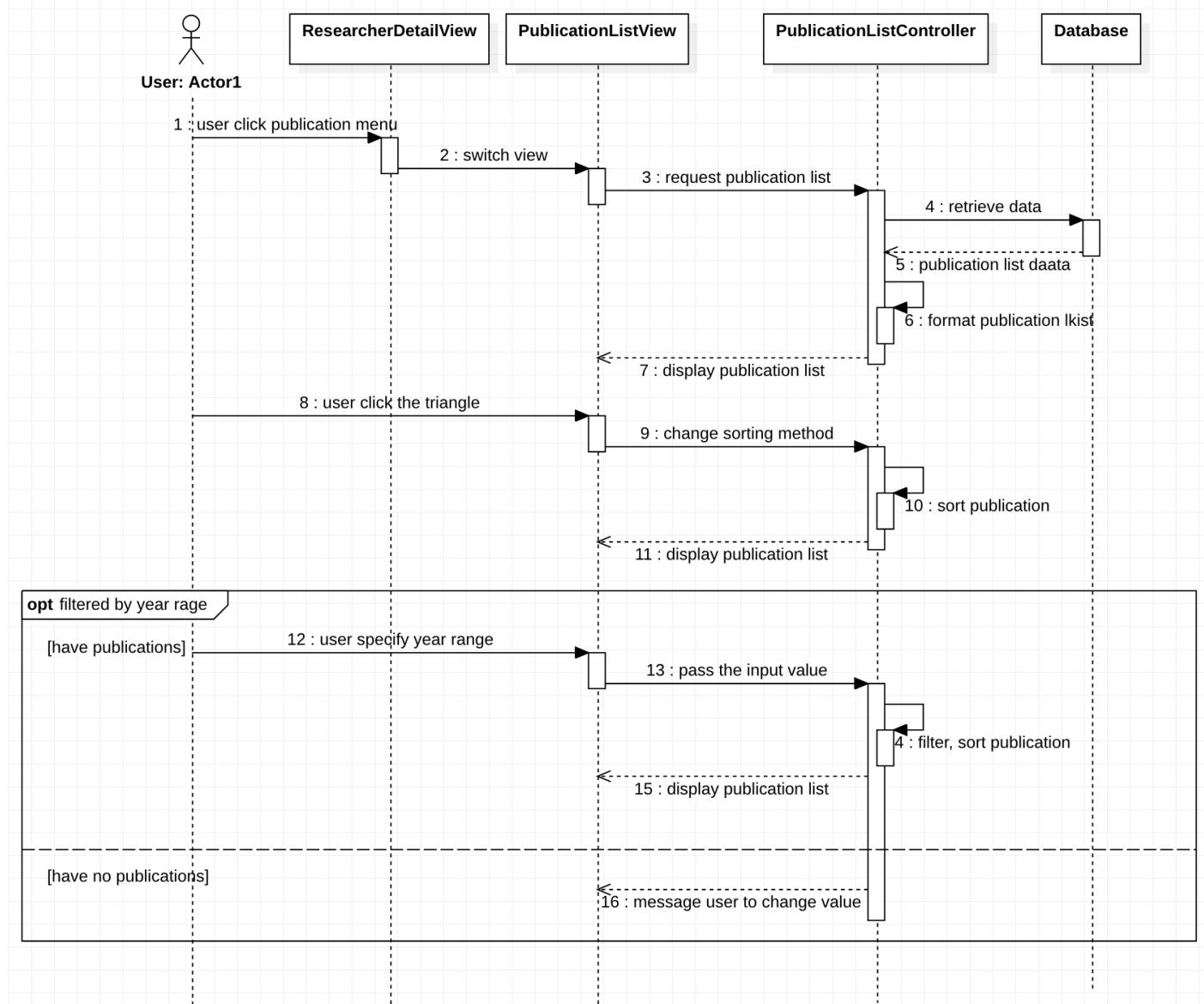
UC29_User_expends_Supervisions



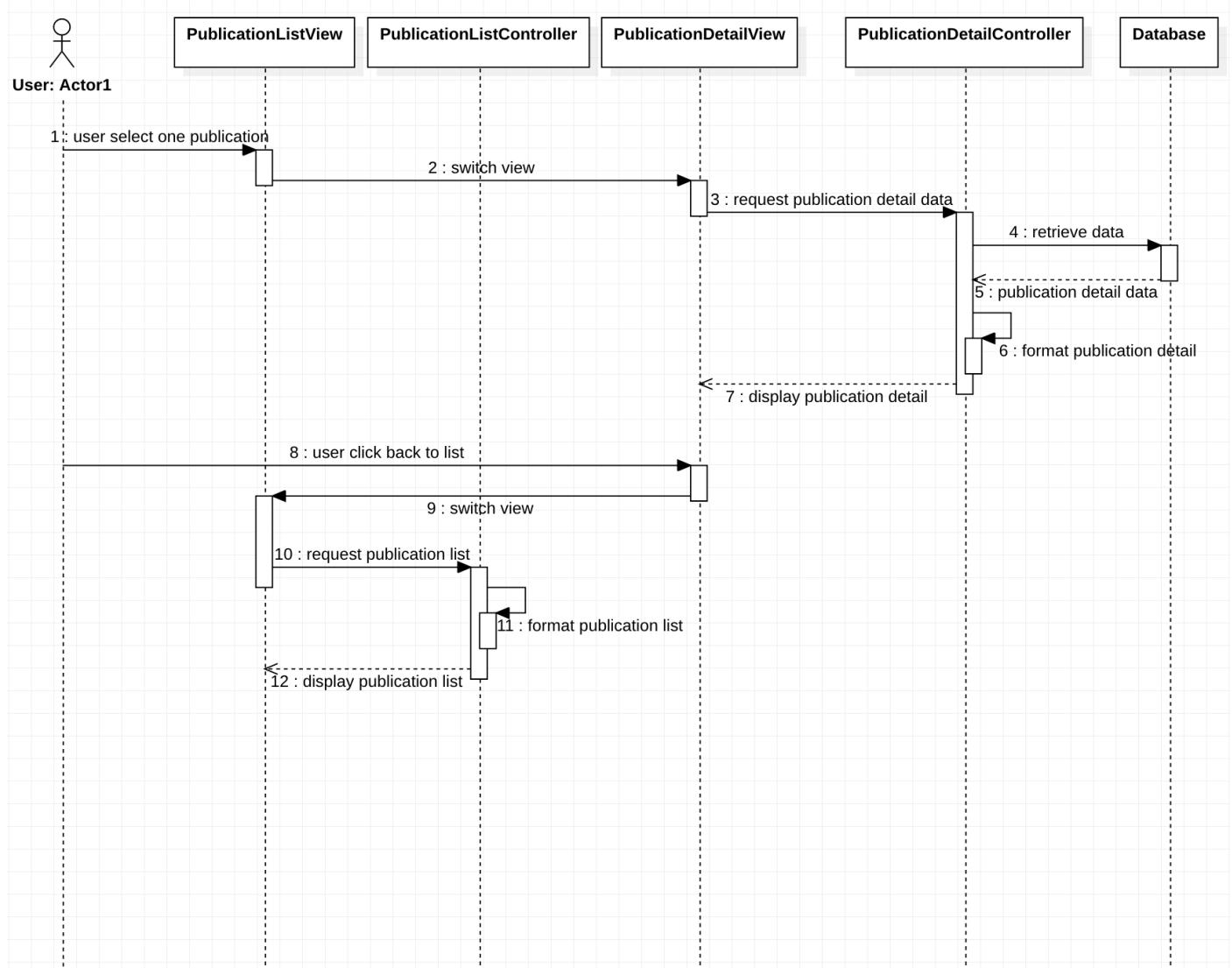
UC32_User_views_CumulativeCount



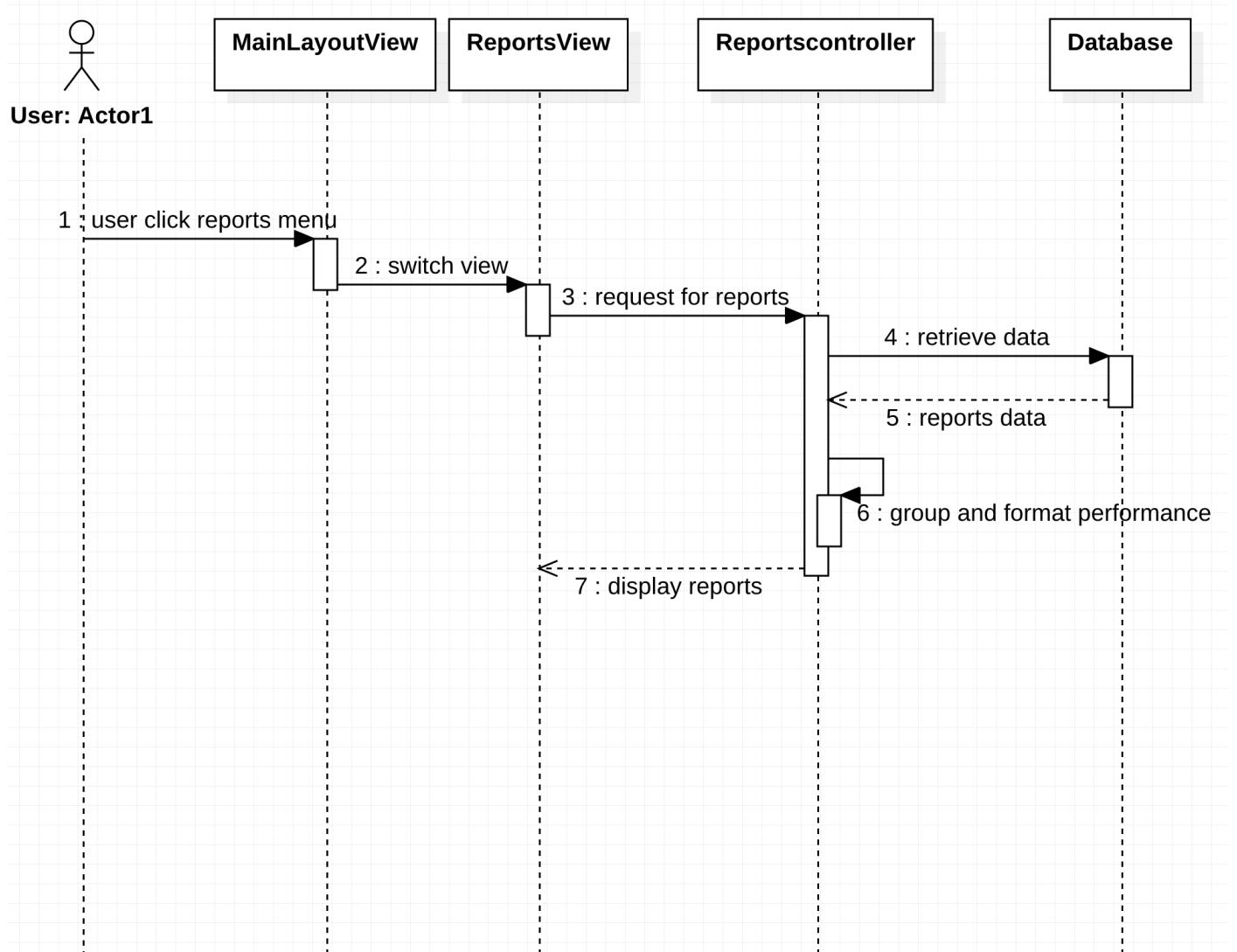
UC34_User_views_Publications



UC40_User_selects_Publication



UC43_User_generates_Report



UC51_User_copies_ReportEmails

