Statement of Work
and
Technical Document

Group 2
Kris Huffman
Andre Nell
Will Nelson

1. Business Problem

Currently, developers do not use a compliant system for sharing code within the organization. Methods being used are non-secure and do not provide version control. This has already resulted in expensive losses from overwriting code. The company has also lost bids to clients as its coding methodology does not comply with Sarbanne-Oxley. Estimates of cost to company along with lost opportunity costs runs into the $10 Million loss per annum. The cost of development is estimated at $800 000. This is a miniscule investment that will result in additional business, greater trust with clients, and most importantly, compliance with federal law.

2. Risk Analysis

ID	Risk Description	Consequence/Impact	Probability Score	Impact Score	Action/Mitigation
1	Scope creep	Delay in delivery, and an increase in cost.	High	High	Establish a change control board (ccb) that consists of key stakeholders and sponsors who will approve/decline any scope change to the original statement of work. Use timeboxing to mitigate scope creep.
2	Code repeatedly fails to meet standards	Poor quality of product delivered to customer.	Medium	High	1. Develop acceptance criteria 2. Establish a user test group 3. Develop user test cases
3	System limitations for application	Delay in delivery	Low	High	Understand the system operating the application before

					determining expectations
4	Employees are resistant to change	Change is challenging, humans generally resist change in favor of what they always do. A change can stir up feelings of uncertainty, insecurity and sometimes hostility.	High	High	Executive sponsor engagement - Executive sponsor is responsible for: 1. Removing roadblocks 2. Helps align project team 3. Acts quickly to resolve issues 4. Voices support in the proposed solution.
5	Failure to meet key deliverables	Delay in project schedule	Medium	Medium	Ensure good communication expectations of key deliverables.

3. Proposed Project

- The application provides a repository for software development projects
- Authorized users can connect to the secured access database.
- Authorized users can query the database.
- Authorized users can save files to the database.
- Authorized users can receive files from the database.
- Authorized users can save files to local storage.
- The database will provide version control.
- Authorized users can access the database remotely via vpn to send and receive files from outside the intranet.

4. Discussion of Chosen SDLC

Rapid Application Development

- CASE tools will be used to speed up analysis, design, and implementation.
- Project is broken down into 4 specific stages, each stage possessing deliverables due at the end of a quarter.
- First version of the application will include the fundamental requirements of the application.
- Throwaway prototyping will be implemented in the first phase of development which will facilitate further clarification and enhancements of application features. This will clarify to the project sponsors the validity of the initial project scope and reveal valuable versus redundant feature requests for approval before next phase of development begins.

- Planning phase - 1 month
    - Complete Technical Feasibility Study
    - Complete Economic Feasibility Study
    - Complete Organizational Feasibility Study
    - Deliverable: Qualified recommendation presentation whether to continue
- Analysis Phase - 1 months
    - Gather end user requirements
    - Develop the analysis model
    - Deliverable: System Proposal
- Design Phase - 2 months
    - Determine hardware, software, and network infrastructure
    - Create basic architecture design
    - Complete database and file specifications
    - Develop the program design.
    - Testing
    - Deliverable: Throwaway Prototype
- Implementation Phase - 5 months
    - Construct application
    - Install application to work parallel to existing application
    - Test application with running parallel to existing application to validate outcomes against desired outcomes
    - Finalize the support and maintenance plan.
    - Switchover from legacy application to new application
    - Deliverable: Live implemented application

5. Team Composition·

Phase 1: Planning Phase

- Project Manager X 1
- Business Analyst X 2

Phase 2: Analysis Phase

- Project Manager X 1
- Business Analyst X 1
- Graphic Designer x 1

Phase 3: Design Phase

- Project Manager X 1
- Business Analyst X 1
- System Analyst X 1
- Infrastructure Analyst X 1
- Graphic Designer x 1
- Java Developer X 1
- Front End Developer x 1

Phase 4: Implementation Phase

- Project Manager X 1
- Business Analyst X 1
- System Analyst X 1
- Infrastructure Analyst X 1
- MySQL Database Developer X 1
- Graphic Designer x 1
- Java Developers X 6
- Web Front End Developer x 1
- Database Administrator x 1
- Technical Support Staff X 1

6. Quality & Assurance Standards and Measures

Include a testing plan
The system will be tested against ISO/IEC 90003:2014 standards.

Testing
Phase 1

- Test has sufficient due diligence been completed to make an informed decision. Ascertained by presenting to President of Software Development and Chief Financial Officer.

Phase 2

- Test has sufficient due diligence been completed to make an informed decision. Ascertained by presenting to
    - President of Software Development
    - Chief Financial Officer.
    - Selected End User Developers
    - Outside Consultant

Phase 3

- Create specific periodic tests for each class, and method. Tests on development of new classes should be performed weekly with an update of the outcomes of each test provided in the next morning's scrum meetings.
- All testing will be overseen by the Project Manager.
- The Project Manager will create these tests together with the Business Analyst, Systems Analyst, and Infrastructure Analysts. All testing methods must be approved by the President of Software Development.

Phase 4

- Create specific periodic tests for each class, and method. Tests on development of new classes should be performed weekly with an update of the outcomes of each test provided in the next morning's scrum meetings.
- All testing will be overseen by the Project Manager.
- The Project Manager will create these tests together with the Business Analyst, Systems Analyst, and Infrastructure Analysts. All testing methods must be approved by the President of Software Development.

7. Project Management Plan

Phase 1

Recruiting -	CIO	5 business days
Technical Feasibility Study	Project Manager Business Analyst	5 business days
Economic Feasibility Study	Project Manager Business Analyst Chief Financial Officer	5 business days
Organizational Feasibility Study	Project Manager Business Analyst Chief Information Officer	5 business days

Phase 2

Recruiting - Graphic Designer X 1	Project Manager	5 business days
Gather End User Requirements. (Graphic Designer will create visuals based on discussions to assist in further clarifying end user requirements).	Project Manager Business Analyst Graphic Designer	12 business days
Create System Proposal	Project Manager Business Analyst Graphic Designer	2 business days
Presentation for approval	Project Manager Business Analysts Chief Information Officer Chief Financial Officer	1 business day

Phase 3

Recruiting - System Analyst x 1 - Infrastructure Analyst X 1 - Java Developer x 1 - Front End Developer x 1 - MySQL Database Specialist	Project Manager	7 business days
Gather End User Requirements. (Graphic Designer will create visuals based on discussions to assist in further clarifying end user requirements).	Project Manager Business Analyst Graphic Designer	3 business days
Determine hardware, software, and network infrastructure	Project Manager System Analyst Infrastructure Analyst	2 business days
Create basic architecture design	Project Manager System Analyst Infrastructure Analyst	2 business day
Complete database and file specifications	Project Manager MySQL Database Specialist	1 business Day
Develop the program design.	Project Manager System Analyst Infrastructure Analyst	5 business days
Testing	Project Manager Business Analyst System Analyst Infrastructure Analyst Chief Information Officer	4 business days
Deliverable: Throwaway Prototype	Project Manager Java Developer Graphic Designer Web Front End Developer	15 business days

Phase 4

Recruiting - Java Developers X 5 - Database Administrator x 1 - Technical Support Staff X 1	Project Manager (*Database Administrator and Technical Support can be outsourced, and must be recruited 2 months before deadline)	7 business days
Develop	Project Manager will determine deliverables	6 months (Weekdays)
Test	Project Manager will determine deliverables	6 months (Weekdays)
Implement	Project Manager will determine deliverables	6 months (Weekdays)
Train	Project Manager will determine deliverables	1 months (Weekdays)

8. Works Cited

Rapid application development: https://en.wikipedia.org/wiki/Rapid_application_development

ISO/IEC 90003:2014 : https://www.iso.org/standard/66240.html

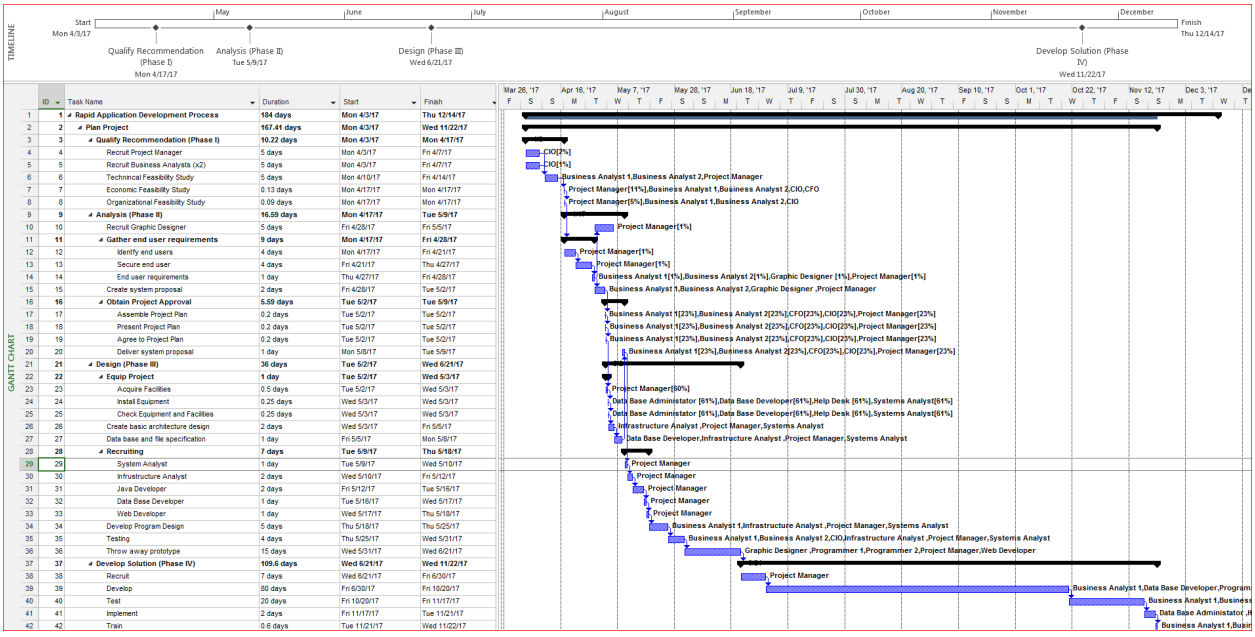
Appendix A —Technical Problem Description

Use Case ID / Link:	USE CASE	Use Case Name:	Send Code
Description	Send code in JMessenger		
Primary Actor or Persona	JMessenger USER		
Pre-Conditions	*None*		
Post-Conditions	*None*		
Triggers	*User clicks the send*		
Main/Happy Path	• *User opens program* • *User pastes code into message window* • *User selects send* • *Message / file sent to recipient* • *User selects receive* • *Waiting message / file are retrieved*		
Alternative / Exception Flows	• *User opens program* • *User selects remote send* • *Message / file sent to recipient*		
Use Case Frequency	*2 Times per user per day*		
Non-functional Requirements	*Not Applicable*		

Use Case ID / Link:	USE CASE	Use Case Name:	Receive
Description	Receive code in JMessenger		
Primary Actor or Persona	JMessenger USER		
Pre-Conditions	*Code exists to receive*		
Post-Conditions	*None*		
Triggers	*User clicks the receive*		
Main/Happy Path	• *User opens program* • *User selects receive* • *Message / file received to recipient*		
Alternative / Exception Flows	• *User opens program* • *User selects remote receive* • *Message / file received*		
Use Case Frequency	*2 Times per user per day*		
Non-functional Requirements	*Not Applicable*		

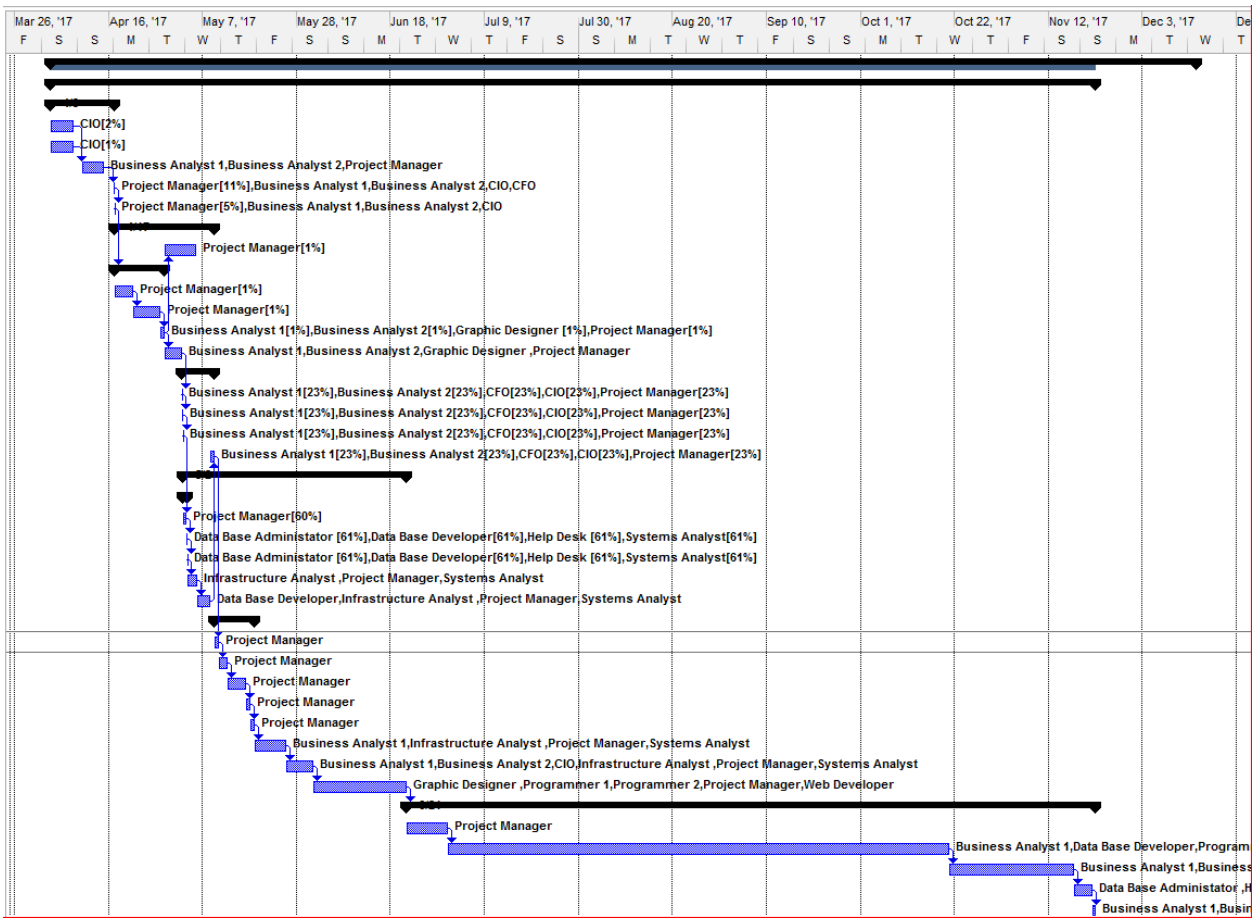
Use Case ID / Link:	USE CASE	Use Case Name:	Save
Description	Save and Open in the JMessenger		
Primary Actor or Persona	JMessenger USER		
Pre-Conditions	*none*		
Post-Conditions	*none*		
Triggers	*User clicks the save button* *User clicks the open button*		
Main/Happy Path	• *User opens program* • *User sends and receives messages / files* • *User selects save as* • *Pop-up window with save destination location* • *User inputs name for file* • *User selects save* • *File saved with name in destination location*		
Alternative / Exception Flows	• *User opens program* • *User selects open* • *Pop-up window with files to open* • *User selects what file to open* • *File is opened and displayed to user*		
Use Case Frequency	*20 per day*		
Non-functional Requirements	*n/a*		

Appendix B: Project Management Detail



GANTT CHART

	ID	Task Name	Duration	Start	Finish
1	**1**	**Rapid Application Development Process**	**184 days**	**Mon 4/3/17**	**Thu 12/14/17**
2	**2**	**Plan Project**	**167.41 days**	**Mon 4/3/17**	**Wed 11/22/17**
3	**3**	**Qualify Recommendation (Phase I)**	**10.22 days**	**Mon 4/3/17**	**Mon 4/17/17**
4	4	Recruit Project Manager	5 days	Mon 4/3/17	Fri 4/7/17
5	5	Recruit Business Analysts (x2)	5 days	Mon 4/3/17	Fri 4/7/17
6	6	Technincal Feasibility Study	5 days	Mon 4/10/17	Fri 4/14/17
7	7	Economic Feasibility Study	0.13 days	Mon 4/17/17	Mon 4/17/17
8	8	Organizational Feasibility Study	0.09 days	Mon 4/17/17	Mon 4/17/17
9	**9**	**Analysis (Phase II)**	**16.59 days**	**Mon 4/17/17**	**Tue 5/9/17**
10	10	Recruit Graphic Designer	5 days	Fri 4/28/17	Fri 5/5/17
11	**11**	**Gather end user requirements**	**9 days**	**Mon 4/17/17**	**Fri 4/28/17**
12	12	Identfy end users	4 days	Mon 4/17/17	Fri 4/21/17
13	13	Secure end user	4 days	Fri 4/21/17	Thu 4/27/17
14	14	End user requirements	1 day	Thu 4/27/17	Fri 4/28/17
15	15	Create system proposal	2 days	Fri 4/28/17	Tue 5/2/17
16	**16**	**Obtain Project Approval**	**5.59 days**	**Tue 5/2/17**	**Tue 5/9/17**
17	17	Assemble Project Plan	0.2 days	Tue 5/2/17	Tue 5/2/17
18	18	Present Project Plan	0.2 days	Tue 5/2/17	Tue 5/2/17
19	19	Agree to Project Plan	0.2 days	Tue 5/2/17	Tue 5/2/17
20	20	Deliver system proposal	1 day	Mon 5/8/17	Tue 5/9/17
21	**21**	**Design (Phase III)**	**36 days**	**Tue 5/2/17**	**Wed 6/21/17**
22	**22**	**Equip Project**	**1 day**	**Tue 5/2/17**	**Wed 5/3/17**
23	23	Acquire Facilities	0.5 days	Tue 5/2/17	Wed 5/3/17
24	24	Install Equipment	0.25 days	Wed 5/3/17	Wed 5/3/17
25	25	Check Equipment and Facilities	0.25 days	Wed 5/3/17	Wed 5/3/17
26	26	Create basic architecture design	2 days	Wed 5/3/17	Fri 5/5/17
27	27	Data base and file specification	1 day	Fri 5/5/17	Mon 5/8/17
28	**28**	**Recruiting**	**7 days**	**Tue 5/9/17**	**Thu 5/18/17**
29	29	System Analyst	1 day	Tue 5/9/17	Wed 5/10/17
30	30	Infrustructure Analyst	2 days	Wed 5/10/17	Fri 5/12/17
31	31	Java Developer	2 days	Fri 5/12/17	Tue 5/16/17
32	32	Data Base Developer	1 day	Tue 5/16/17	Wed 5/17/17
33	33	Web Developer	1 day	Wed 5/17/17	Thu 5/18/17
34	34	Develop Program Design	5 days	Thu 5/18/17	Thu 5/25/17
35	35	Testing	4 days	Thu 5/25/17	Wed 5/31/17
36	36	Throw away prototype	15 days	Wed 5/31/17	Wed 6/21/17
37	**37**	**Develop Solution (Phase IV)**	**109.6 days**	**Wed 6/21/17**	**Wed 11/22/17**
38	38	Recruit	7 days	Wed 6/21/17	Fri 6/30/17
39	39	Develop	80 days	Fri 6/30/17	Fri 10/20/17
40	40	Test	20 days	Fri 10/20/17	Fri 11/17/17
41	41	Implement	2 days	Fri 11/17/17	Tue 11/21/17
42	42	Train	0.6 days	Tue 11/21/17	Wed 11/22/17


Mar 26, '17
Apr 16, '17
May 7, '17
May 28, '17
Jun 18, '17
Jul 9, '17
Jul 30, '17
Aug 20, '17
Sep 10, '17
Oct 1, '17
Oct 22, '17
Nov 12, '17
Dec 3, '17
CIO[2%]
CIO[1%]
Business Analyst 1,Business Analyst 2,Project Manager
Project Manager[11%],Business Analyst 1,Business Analyst 2,CIO,CFO
Project Manager[5%],Business Analyst 1,Business Analyst 2,CIO
Project Manager[1%]
Project Manager[1%]
Project Manager[1%]
Business Analyst 1[1%],Business Analyst 2[1%],Graphic Designer [1%],Project Manager[1%]
Business Analyst 1,Business Analyst 2,Graphic Designer ,Project Manager
Business Analyst 1[23%],Business Analyst 2[23%],CFO[23%],CIO[23%],Project Manager[23%]
Business Analyst 1[23%],Business Analyst 2[23%],CFO[23%],CIO[23%],Project Manager[23%]
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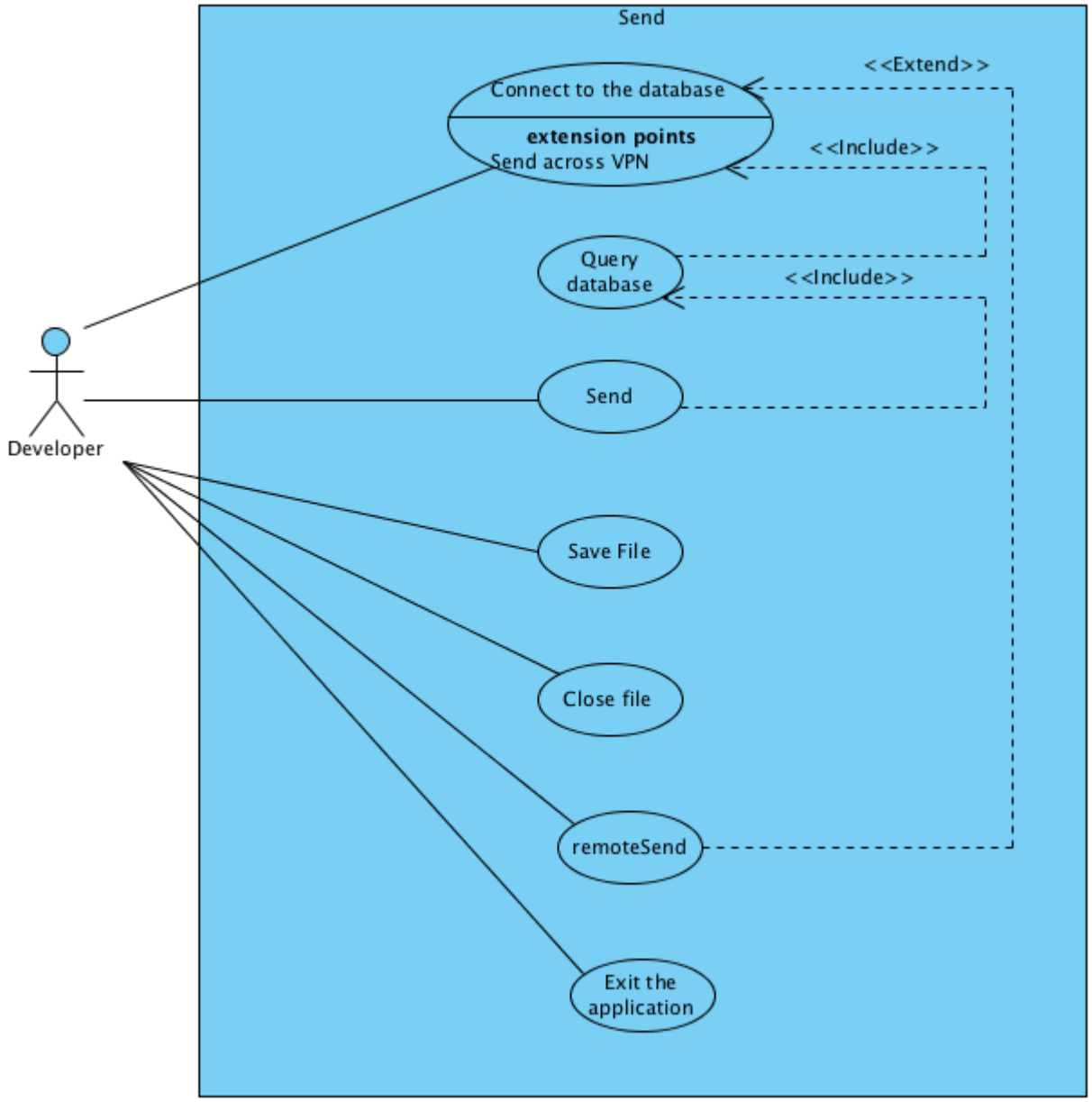
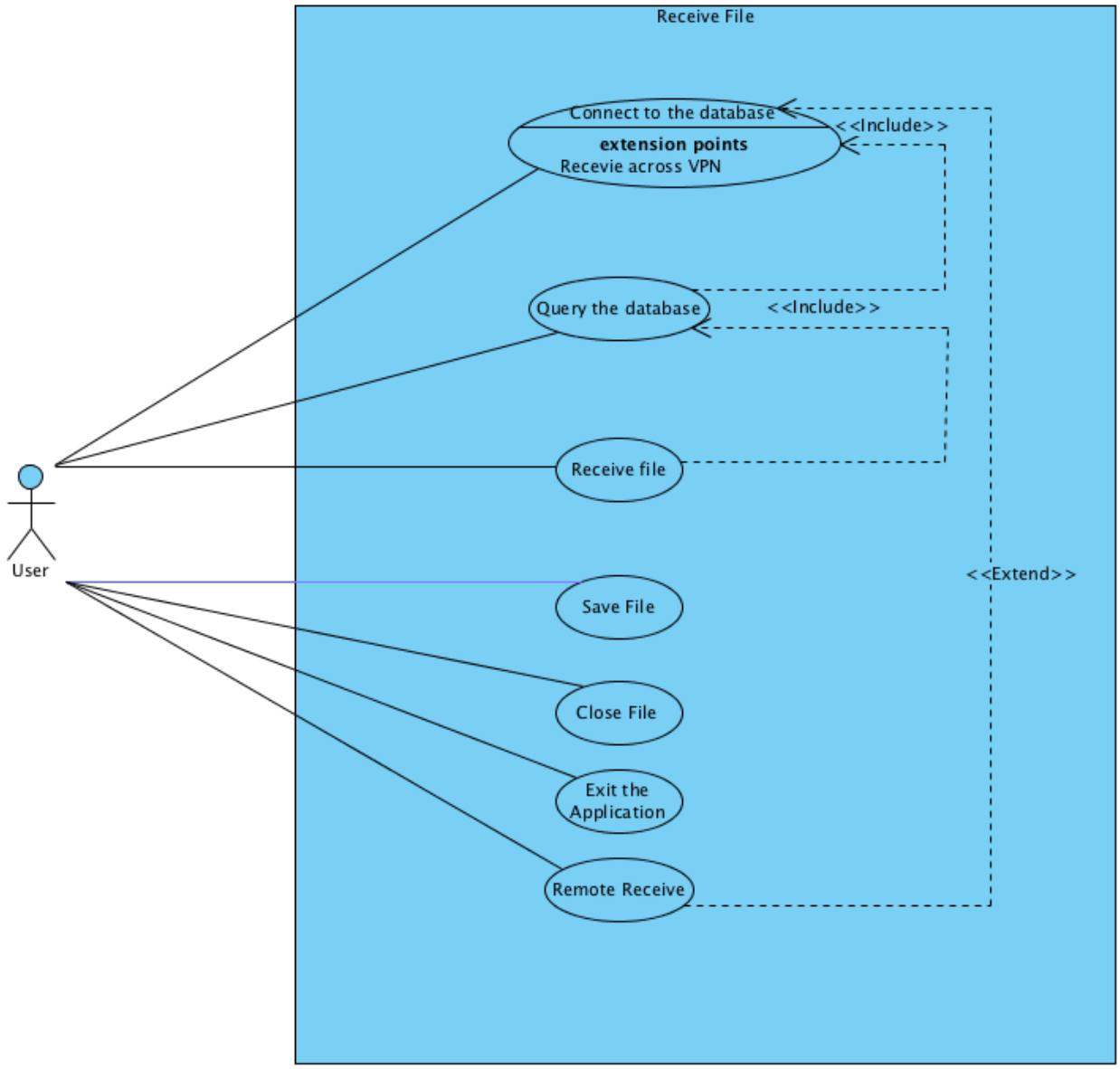
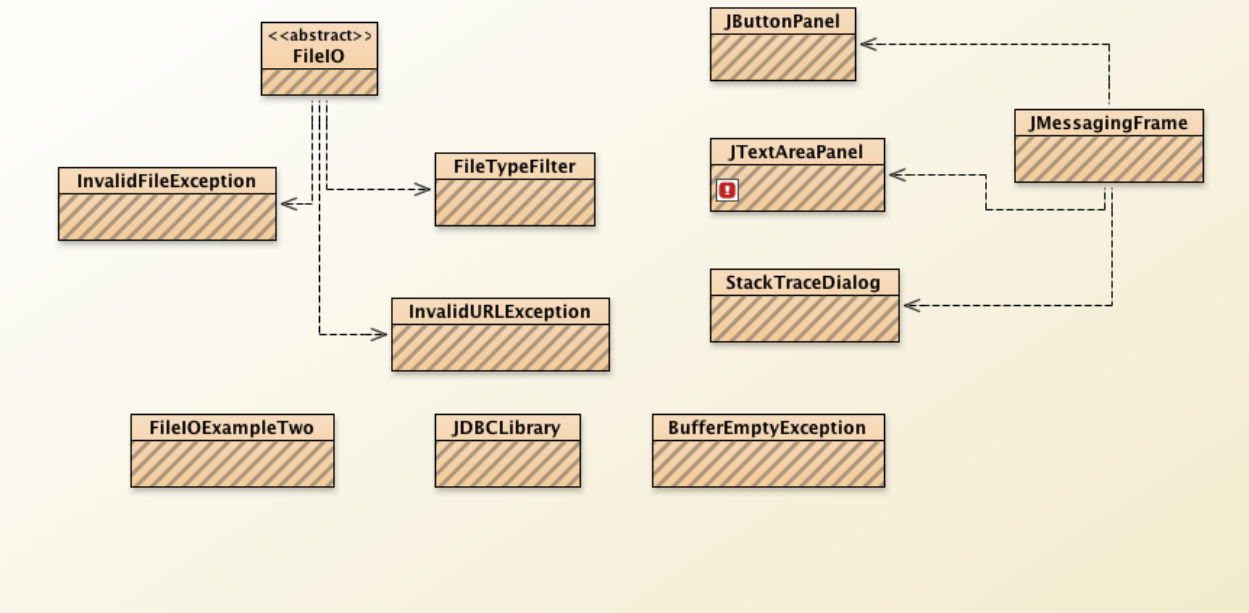
Business Analyst 1[23%],Business Analyst 2[23%],CFO[23%],CIO[23%],Project Manager[23%]
Project Manager[50%]
Data Base Administator [61%],Data Base Developer[61%],Help Desk [61%],Systems Analyst[61%]
Data Base Administator [61%],Data Base Developer[61%],Help Desk [61%],Systems Analyst[61%]
Infrastructure Analyst ,Project Manager,Systems Analyst
Data Base Developer,Infrastructure Analyst ,Project Manager,Systems Analyst
Project Manager
Project Manager
Project Manager
Project Manager
Project Manager
Business Analyst 1,Infrastructure Analyst ,Project Manager,Systems Analyst
Business Analyst 1,Business Analyst 2,CIO,Infrastructure Analyst ,Project Manager,Systems Analyst
Graphic Designer ,Programmer 1,Programmer 2,Project Manager,Web Developer
Project Manager
Business Analyst 1,Data Base Developer,Program
Business Analyst 1,Business
Data Base Administator ,H
Business Analyst 1,Busir

Appendix C: UML System Use Case

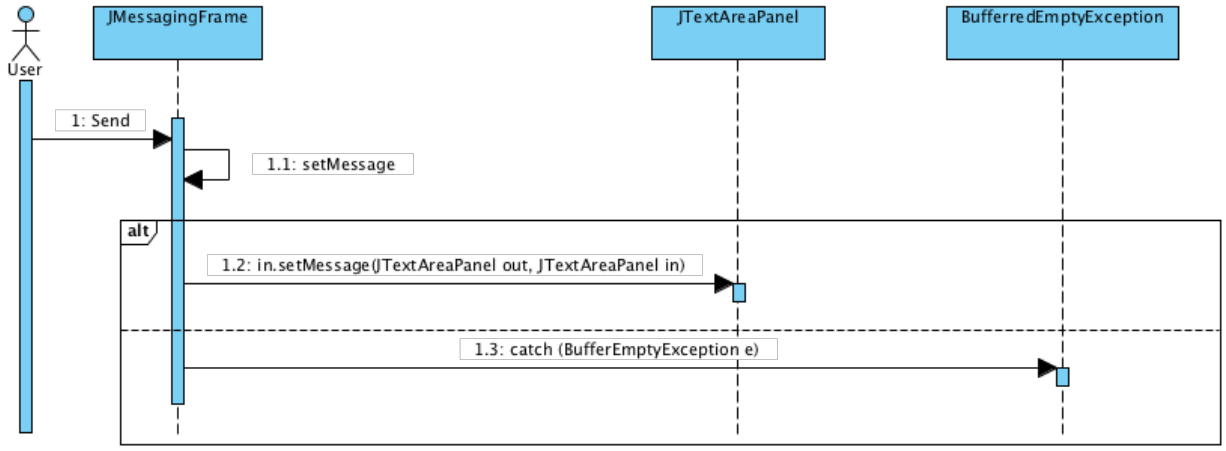


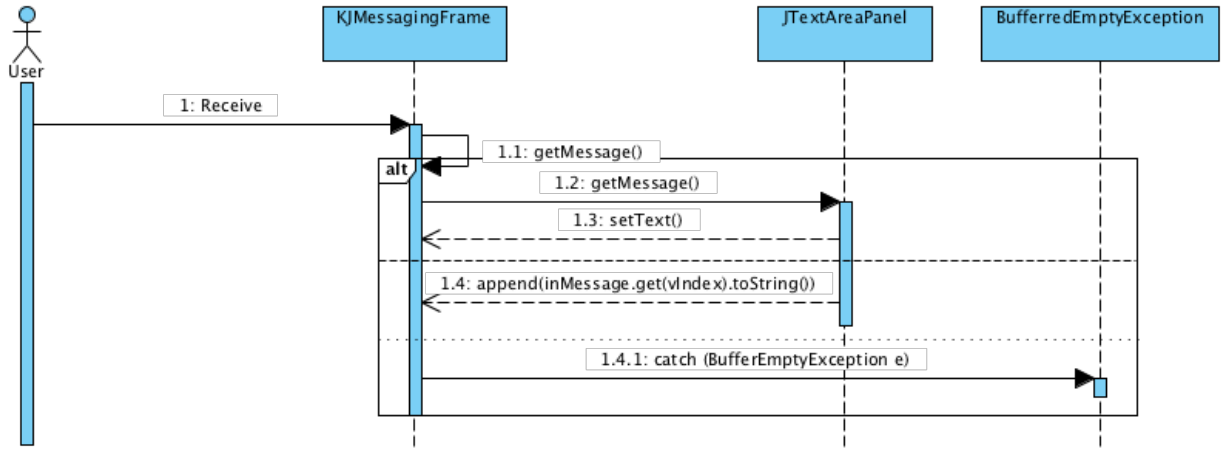

Receive File
Connect to the database
extension points
Recevie across VPN
<<Include>>
Query the database
<<Include>>
Receive file
User
<<Extend>>
Save File
Close File
Exit the Application
Remote Receive

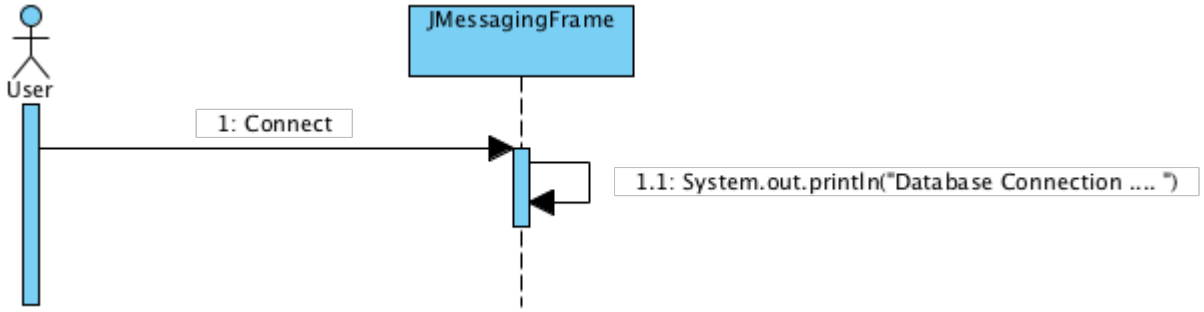
Appendix D: UML Class Diagram of Proposed Solution

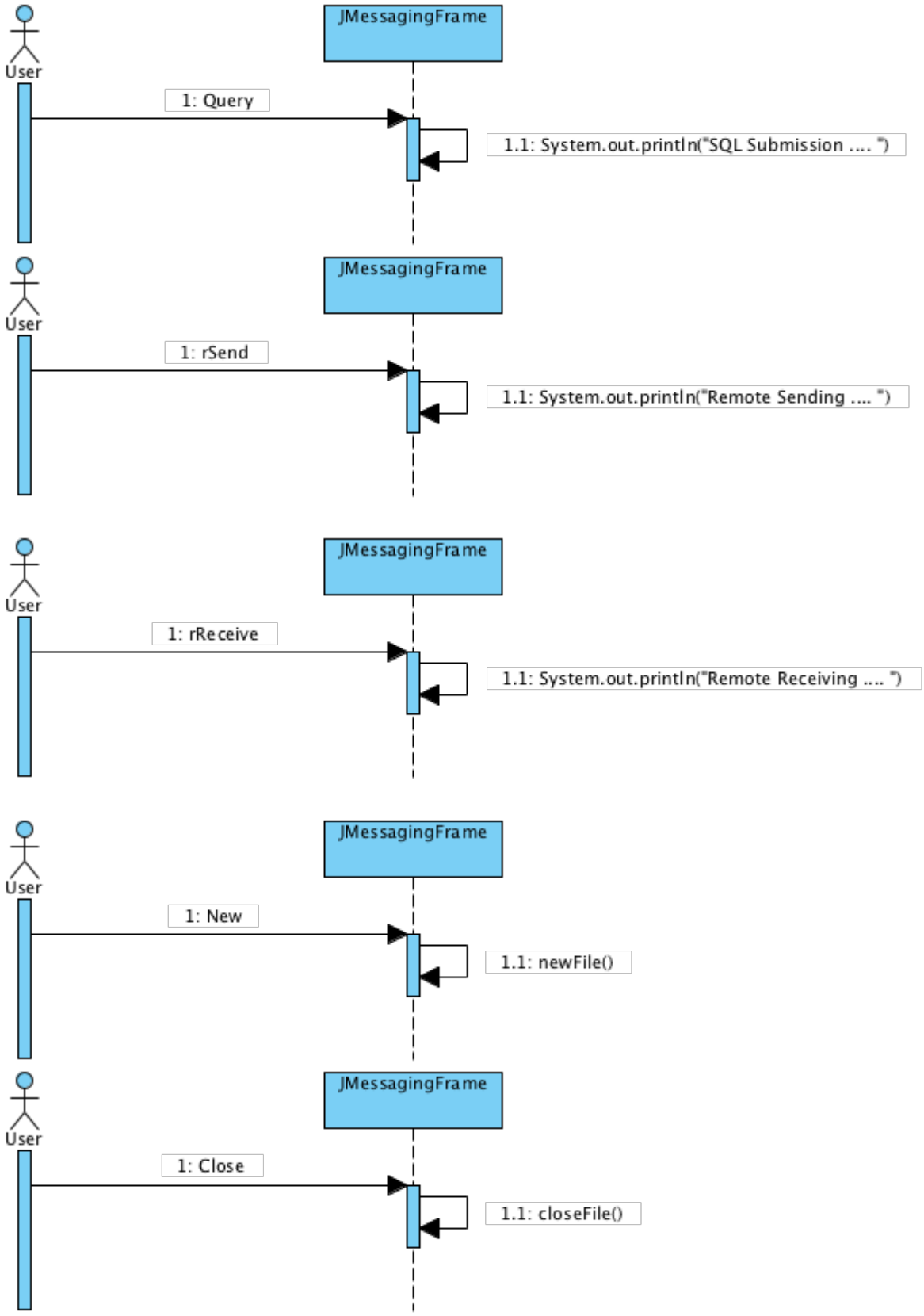


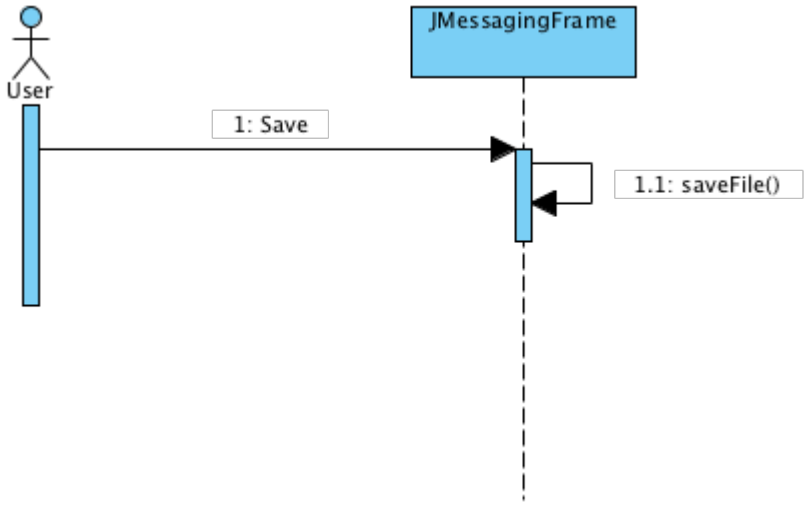
Appendix E: UML Sequence Diagram of Proposed Solution

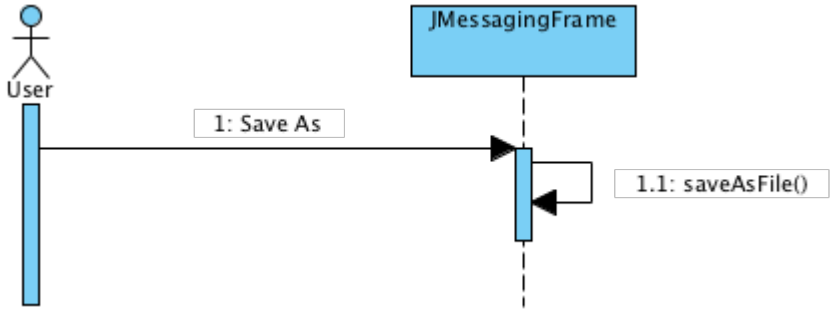


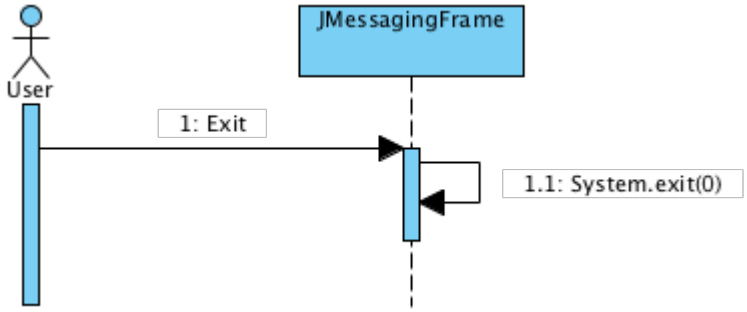


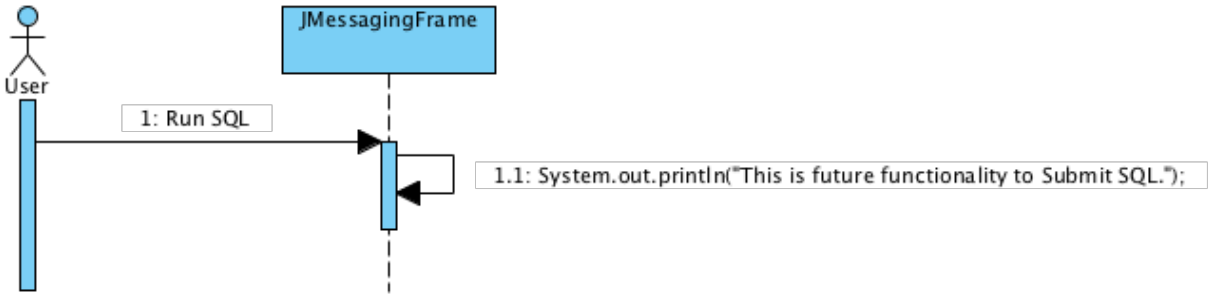


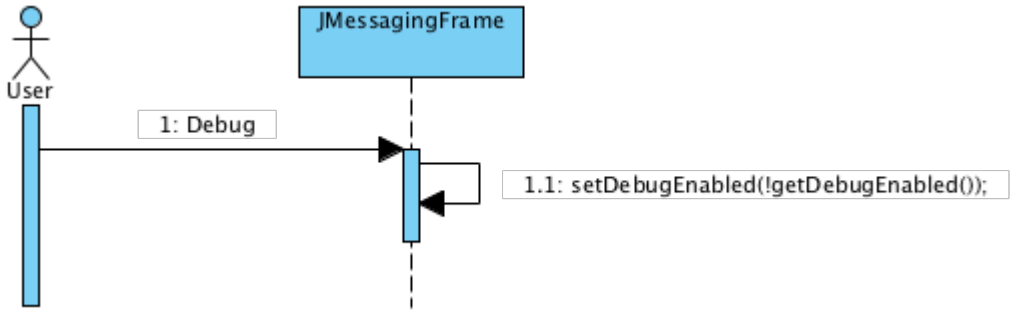

User
JMessagingFrame
1: Query
1.1: System.out.println("SQL Submission .... ")
User
JMessagingFrame
1: rSend
1.1: System.out.println("Remote Sending .... ")
User
JMessagingFrame
1: rReceive
1.1: System.out.println("Remote Receiving .... ")
User
JMessagingFrame
1: New
1.1: newFile()
User
JMessagingFrame
1: Close
1.1: closeFile()

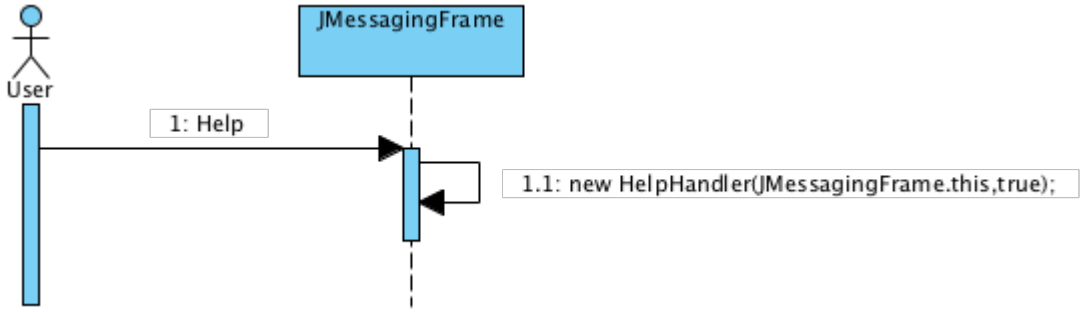

User
JMessagingFrame
1: Save
1.1: saveFile()


User
JMessagingFrame
1: Save As
1.1: saveAsFile()

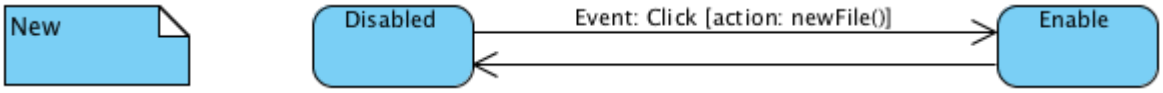

User
JMessagingFrame
1: Exit
1.1: System.exit(0)

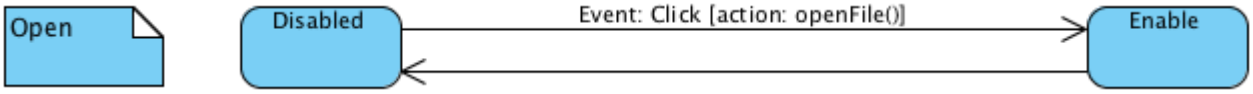

User
JMessagingFrame
1: Run SQL
1.1: System.out.println("This is future functionality to Submit SQL.");

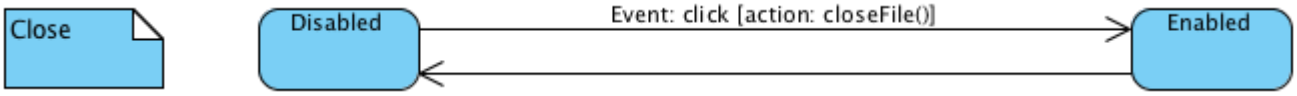

User
JMessagingFrame
1: Debug
1.1: setDebugEnabled(!getDebugEnabled());

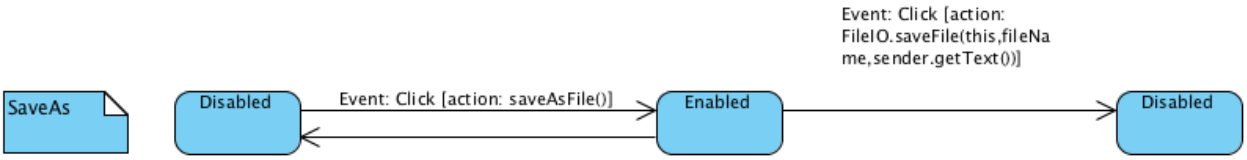

User
JMessagingFrame
1: Help
1.1: new HelpHandler(JMessagingFrame.this,true);

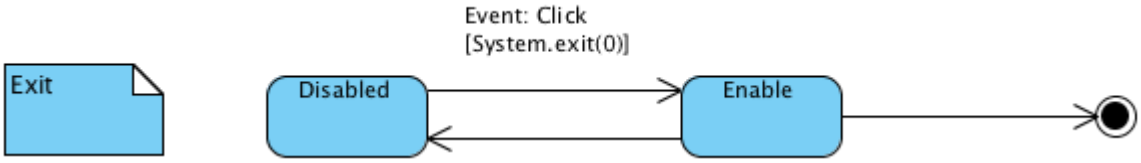
Appendix F: UML State Diagram of Proposed Solution


New
Disabled
Event: Click [action: newFile()]
Enable


Open
Disabled
Event: Click [action: openFile()]
Enable


Close
Disabled
Event: click [action: closeFile()]
Enabled


Event: Click [action:
FileIO.saveFile(this,fileNa
me,sender.getText())]
SaveAs
Disabled
Event: Click [action: saveAsFile()]
Enabled
Disabled


Event: Click
[System.exit(0)]
Exit
Disabled
Enable