

# Software Requirement Specification

## **ESE Team 9**

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# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Purpose . . . . .	3
1.2	Scope of the Project . . . . .	3
1.3	Glossary . . . . .	3
1.4	Stakeholders . . . . .	3
1.5	System Overview . . . . .	4
1.6	References . . . . .	4
<b>2</b>	<b>Overall Description</b>	<b>4</b>
2.1	Product Perspective . . . . .	4
2.2	Product Functions . . . . .	4
2.3	User Classes and Characteristics . . . . .	4
2.3.1	User . . . . .	4
2.3.2	Premium User . . . . .	4
2.4	Operating Environment . . . . .	4
2.5	Design and Implementation Constraints . . . . .	5
<b>3</b>	<b>External Interfaces</b>	<b>5</b>
3.1	User Interfaces . . . . .	5
3.2	Hardware Interfaces . . . . .	5
<b>4</b>	<b>System Features</b>	<b>5</b>
4.1	Use-Cases . . . . .	5
4.1.1	User . . . . .	5
4.1.2	Client . . . . .	10
4.1.3	Advertiser . . . . .	14
4.1.4	Scheduling . . . . .	19

# 1 Introduction

## 1.1 Purpose

This document presents a detailed description of the web application a-Bec. First and foremost, it provides a legally binding contract between the stakeholders and the developer team 9. This document is a RUP conform SRS document.

## 1.2 Scope of the Project

The web application a-Bec will help the participating user to promote or find vacant places.

More specifically, the application will provide methods to search for vacant flats and houses, help to ensure flats with specific parameters are presented for users and that the application will provide enough methods to get in contact with the advertiser. On the other hand, users will be able to place an ad for a vacant flat or house. The website will help to schedule visitation times and provide some other instruments to describe the ads as good as possible.

## 1.3 Glossary

Term	Description
RUP	Stands for Rational Unified Process. Process developed by IBM. Has the SRS document as a requirement for all development activities.
SRS	Stands for Software Requirements Specification. A document that completely describes all of the functions of a proposed system and the constraints under which it must operate.
Stakeholder	Any person with an interest in the project who is not a developer.
User	Participant in the application. Can either be a client/customer, who searches for a property or an advertiser, who wants to sell/rent a property.

Table 1: Glossary

## 1.4 Stakeholders

Table 2 will give an overview of the known Stakeholders.

Name	Contact
Haidar Osman	haidaros on GitHub

Table 2: Stakeholders

## **1.5 System Overview**

Image 1 will introduce a general system overview of the product in development.

## **1.6 References**

# **2 Overall Description**

## **2.1 Product Perspective**

a-bec is a self-contained product that has no connections to other software.

## **2.2 Product Functions**

- Creating / viewing ads for flats and houses
- General search functionality with specific criteria
- Scheduling visits

## **2.3 User Classes and Characteristics**

### **2.3.1 User**

The general user has two main roles which are not necessarily mutually exclusive. These are:

1. Advertiser: A user can place an ad (for free) on the website, which is then publicly visible.
2. Client: A client can look through the ads put up by advertisers and can contact the advertisers via the message functionality or bid on auctions directly.

### **2.3.2 Premium User**

By paying a fee for additional features, the premium user strongly increases the resources of the programming team. The premium user gets notified immediately, if a new alert which fits his criteria is posted and can, in exchange for money, choose to have his ads placed on the homepage of a-bec.

## **2.4 Operating Environment**

a-bec was developed for Google Chrome but runs on most "up to date" browsers, i.e. Firefox, Safari, Microsoft Edge, Internet Explorer.

## 2.5 Design and Implementation Constraints

The template of a-bec was delivered using Java, MySQL, Hibernate and JavaScript. Changing this would present unnecessary additional effort, which is why, in this way, we are constrained by these frameworks and languages. The software should be maintainable, so object-oriented design, and adequate controller testing will be some best-practices. Other than that, there seem to be no requirements.

## 3 External Interfaces

### 3.1 User Interfaces

As is shown by image 2, the user interface is straight forward due to it being a homepage.

### 3.2 Hardware Interfaces

The homepage will be able to be displayed on a computer, as well as mobile phones and tablets.

## 4 System Features

### 4.1 Use-Cases

#### 4.1.1 User

Use Case ID	1
Use Case Name	Sign up
Trigger	A user wants to create a new profile
Precondition	The user is on the login page
Basic Path	<ol style="list-style-type: none"><li>1. The user clicks on 'sign up as a new user'</li><li>2. The user enters his information in the form</li><li>3. The use clicks the 'Sign up' button</li><li>4. The user is redirected to the login page</li></ol>
Alternative Paths	None
Postconditions	A new profile is created for the user
Exception Paths	If the user enters none or invalid information an error is generated.
Other	n/a

Table 3: Use Case 1

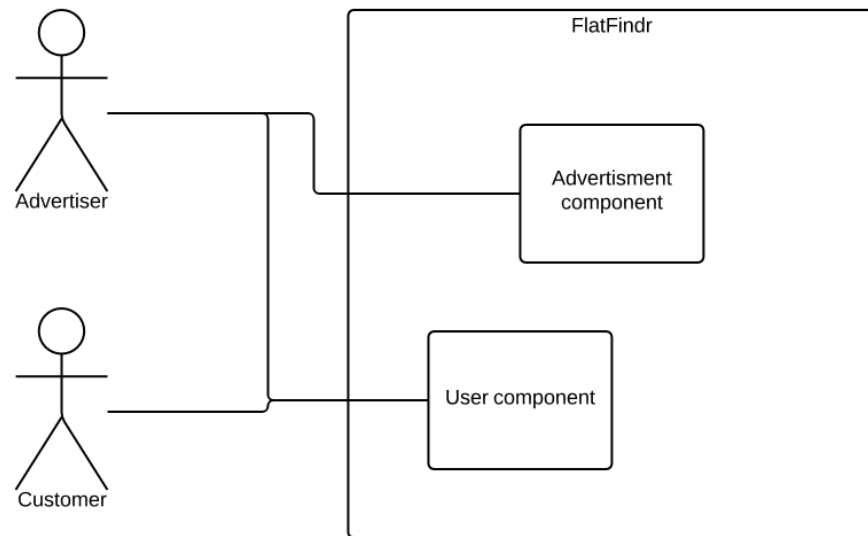


Figure 1: System Overview

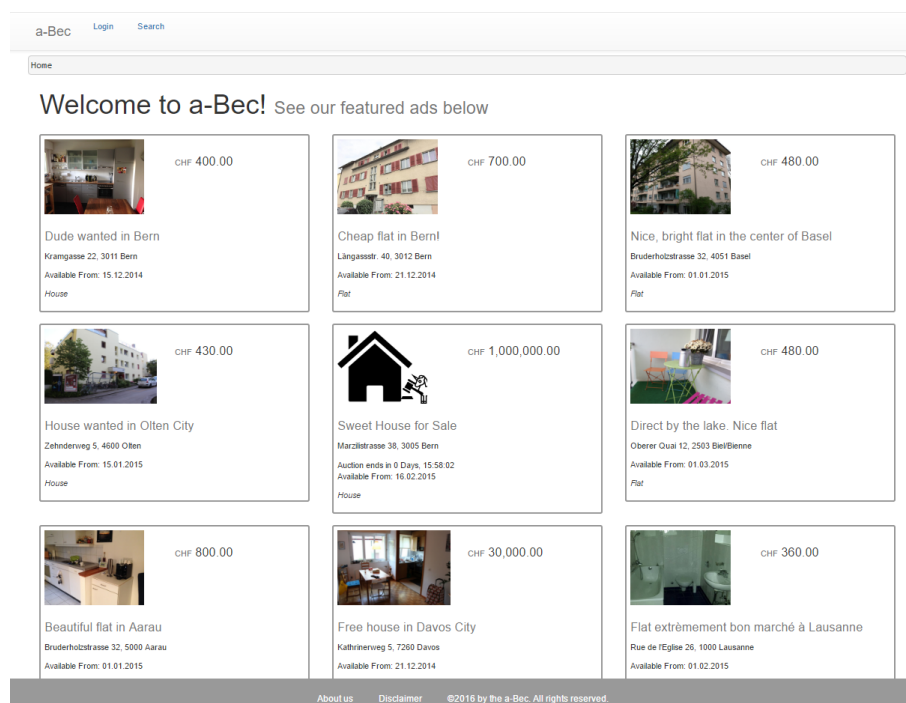


Figure 2: GUI

Use Case ID	2
Use Case Name	Login
Trigger	A user wants to login to the webapplication
Precondition	The user has already an account on the webapplication or has a google account
Basic Path	<ol style="list-style-type: none"> <li>1. The user access the webapplication and selects the link "Login"</li> <li>2. The user enters his credentials for his account</li> <li>3. The user is redirected to the homepage</li> </ol>
Alternative Paths	The user logs in with a google account
Postconditions	The user is logged-in
Exception Paths	In step 2, if the user enters not valid credentials into the system, the system should exit with the error message, that the credentials were wrong
Other	n/a

Table 4: Use Case 2

Use Case ID	3
Use Case Name	Logout
Trigger	A user wants to logout
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user clicks on the link 'Logout' in the account menu</li> </ol>
Alternative Paths	none
Postconditions	The user is logged-out
Exception Paths	
Other	n/a

Table 5: Use Case 3

Use Case ID	4
Use Case Name	Edit public profile
Trigger	A user wants to edit or change his public profile advertiser
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects 'Public profile' in the account menu</li> <li>2. The user clicks on the 'Edit profile' button</li> <li>3. The user changes the information he wants</li> <li>4. The user clicks on the 'Update' button</li> <li>5. The user is redirected to a page that says 'Your profile has been updated!'</li> </ol>
Alternative Paths	None
Postconditions	The information is updated on the public profile of the user and the user is logged out
Exception Paths	None
Other	n/a

Table 6: Use Case 4

Use Case ID	5
Use Case Name	Get premium
Trigger	A user wants to be a premium user
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user accesses the webapplication and selects the link 'Get Premium' in the user menu</li> <li>2. The user is redirected to a form, where he enters the payment data.</li> <li>3. After submitting the form the user is redirected to his profile page with the message 'You are now a premium user'</li> </ol>
Alternative Paths	None
Postconditions	The user is now a marvelous premium user with an unicorn next to his name.
Exception Paths	The form isn't filled in completely in step 2
Other	n/a

Table 7: Use Case 5



Use Case ID	6
Use Case Name	Message user
Trigger	A user wants to send a message to another user
Precondition	The user is logged in and on the profile page of the receiver
Basic Path	<ol style="list-style-type: none"> <li>1. The user clicks on the 'Message' button</li> <li>2. A message form opens</li> <li>3. The user types a subject</li> <li>4. The user types a message</li> <li>5. The user clicks on the send button</li> </ol>
Alternative Paths	The client clicks on the 'Cancel' button to abort
Postconditions	A message is sent to the receiver
Exception Paths	None
Other	n/a

Table 8: Use Case 6

Use Case ID	7
Use Case Name	See list of incoming/sent messages
Trigger	A user wants to see his incoming/sent messages advertiser
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects 'Messages' in the account menu</li> <li>2. The user clicks on 'Inbox' to see the list of all incoming messages</li> <li>3. The user clicks on a Message to see it in detail</li> </ol>
Alternative Paths	The user clicks in step 2 on 'Sent' to see the list of all sent messages
Postconditions	None
Exception Paths	None
Other	n/a

Table 9: Use Case 7

#### 4.1.2 Client

Use Case ID	8
Use Case Name	See through list of ads
Trigger	A user wants to look at some ads/visits the website
Precondition	None
Basic Path	<ol style="list-style-type: none"> <li>1. The user visits the home page by entering the url or when already on the page clicking on the 'a-Bec' logo</li> </ol>
Alternative Paths	None
Postconditions	The user is on the homepage and sees the ads
Exception Paths	None
Other	n/a

Table 10: Use Case 8

Use Case ID	9
Use Case Name	Search for ads
Trigger	A user wants to look for ads
Precondition	The user is logged in and on the search page
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects in the search criterias that he wants to look for ads</li> <li>2. All properties on sale (directly or through an auction) matching his other search criterias are displayed to the user</li> <li>3. The user can sort the results by different criteria</li> <li>4. The user can click on the tab 'Map' to see where the results are located</li> </ol>
Alternative Paths	None
Postconditions	None
Exception Paths	None
Other	n/a

Table 11: Use Case 9

Use Case ID	10
Use Case Name	Buy or rent a property
Trigger	A user wants buy and rent the property described in an ad
Precondition	The user is logged in and on the ad page of the property he wants to buy or rent
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Contact advertiser'</li> <li>2. The user gets a form through which he can contact the seller</li> </ol>
Alternative Paths	None
Postconditions	None
Exception Paths	None
Other	n/a

Table 12: Use Case 10

Use Case ID	11
Use Case Name	Bid on a property
Trigger	A user wants to bid on the auction of a property
Precondition	The user is logged in and on an ad page with an auction
Basic Path	<ol style="list-style-type: none"> <li>1. The user can enter a bid, which has to be higher than the present highest bid plus the minimum increment.</li> </ol>
Alternative Paths	None
Postconditions	The highest bid now displays the bid made by the user
Exception Paths	In step 3 if the bid is not higher than the present one an error flashes to point the fact out.
Other	n/a

Table 13: Use Case 11

Use Case ID	12
Use Case Name	Bookmark an ad
Trigger	A client wants to add an ad to his bookmarks
Precondition	The user is logged in and the ad isn't bookmarked yet
Basic Path	<ol style="list-style-type: none"> <li>1. The client visits an ad</li> <li>2. The client presses the 'Bookmark Ad' Button</li> </ol>
Alternative Paths	None
Postconditions	The ad is added to the list 'My Bookmarks' the 'Bookmark Ad' and Button turns to 'Bookmarked'
Exception Paths	None
Other	n/a

Table 14: Use Case 12

Use Case ID	13
Use Case Name	Create an alert
Trigger	A user wants to create an alert
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Alerts' in the menu</li> <li>2. The user is redirected to a form where he can select the search criterias he want to cover with his alert</li> <li>3. After submitting the form the new alert is showed in the list 'Your active alerts'</li> </ol>
Alternative Paths	None
Postconditions	The search alert is attached to the profile of the user and he gets an email notification every time a new ad for a property matching his alert criterias is created
Exception Paths	None
Other	n/a

Table 15: Use Case 13

Use Case ID	14
Use Case Name	Delete an alert
Trigger	A user wants to delete a previously created alert
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Alerts' in the menu</li> <li>2. The user is redirected to the search alerts page, where all his search alerts are displayed. He can now delete each alert with the 'delete' buttons</li> </ol>
Alternative Paths	None
Postconditions	The user gets no longer notifications for deleted alerts and they dissappear from the active alerts list
Exception Paths	None
Other	n/a

Table 16: Use Case 14

Use Case ID	15
Use Case Name	See list of bookmarked ads
Trigger	A client wants to look at all his bookmarked ads
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The client selects 'My bookmarks' in the account menu</li> </ol>
Alternative Paths	None
Postconditions	The list 'My Bookmarks' is presented
Exception Paths	None
Other	n/a

Table 17: Use Case 15

Use Case ID	16
Use Case Name	See a list of all auctions you participated in
Trigger	A client wants to look at all auctions he participated in
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The client selects 'My participated auctions' in the account menu</li> </ol>
Alternative Paths	None
Postconditions	The list 'My participated auctions' is presented with the most important information for every auction
Exception Paths	None
Other	n/a

Table 18: Use Case 16

#### 4.1.3 Advertiser

Use Case ID	17
Use Case Name	Place a renting ad
Trigger	A user wants to place a renting ad
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Place a renting ad'</li> <li>2. The user is redirected to the page 'Place an ad'.</li> </ol>
Alternative Paths	None
Postconditions	The user is now able to fill out a sheet of information to place a new renting ad (see use cases 20-24)
Exception Paths	None
Other	n/a

Table 19: Use Case 17

Use Case ID	18
Use Case Name	Place a selling ad
Trigger	A user wants to place a selling ad
Precondition	The user is logged in.
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Place a selling ad'</li> <li>2. The user is redirected to the page 'Place an ad'.</li> </ol>
Alternative Paths	None
Postconditions	The user is now able to fill out a sheet of information to place a new selling ad (see use cases 20-24)
Exception Paths	None
Other	n/a

Table 20: Use Case 18

Use Case ID	19
Use Case Name	Edit ad
Trigger	A user wants to edit one of his existing ads
Precondition	The user is logged in and on the homepage
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects his ad from the shown ads.</li> <li>2. The user then selects the 'Edit ad' button.</li> </ol>
Alternative Paths	None
Postconditions	The user is now able to edit all information concerning his placed ad.
respective button.	
Exception Paths	None
Other	n/a

Table 21: Use Case 19

Use Case ID	20
Use Case Name	Insert general information
Trigger	The user want to insert or change general information about an ad.
Precondition	The user is logged in and on the place/edit ad page.
Basic Path	<ol style="list-style-type: none"> <li>1. The user inserts/edits general information(Ad Title, Type, Street, City, move-in date, move-out date, prize per month and square meters) about his ad in the first box.</li> </ol>
Alternative Paths	None
Postconditions	The user now sees the changed information of his ad.
Exception Paths	In point 1, when: <ol style="list-style-type: none"> <li>1. City, Ad Title, move-in date, street is left empty.</li> <li>2. Prize per month or square meters etc. are not filled in correct.</li> </ol>
Other	n/a

Table 22: Use Case 20

Use Case ID	21
Use Case Name	Describe house
Trigger	The user wants to describe the house he's placing an ad for.
Precondition	The user is logged in and on the place/edit ad page.
Basic Path	<ol style="list-style-type: none"> <li>1. The user adds the house information about his ad in the second box.</li> </ol>
Alternative Paths	None
Postconditions	The user now sees the filled in describtion of his house.
Exception Paths	None
Other	n/a

Table 23: Use Case 21



Use Case ID	22
Use Case Name	Insert pictures
Trigger	The user wants to add pictures of the house hes placing an. ad for.
Precondition	The user is logged in and on the place/edit ad page.
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Choose File' from the fifth box, which opens a new window.</li> <li>2. In the new window the user is able to choose the wanted pictures from his file system. He finishes with the 'Open' button.</li> </ol>
Alternative Paths	None
Postconditions	The user sees the table 'Uploaded picture', where his selected pictures are listed.
Exception Paths	None
Other	n/a

Table 24: Use Case 22

Use Case ID	23
Use Case Name	Inserting visiting hours
Trigger	The user wants to add the possible visiting hours
Precondition	The user is logged in and on the place/edit ad page
Basic Path	<ol style="list-style-type: none"> <li>1. The user enters his preferes visiting date and time in the sixth box of the form.</li> <li>2. By selecting the '+' button he confirms his choices.</li> </ol>
Alternative Paths	None
Postconditions	The user now sees the chosen date and time for the visits.
Exception Paths	In point 1, when the end time of visit is entered as earlier as the start time.
Other	n/a

Table 25: Use Case 23

:

Use Case ID	24
Use Case Name	Start an auction
Trigger	The user wants to add an auction to his selling ad
Precondition	The user is logged in and on the 'place selling ad' page
Basic Path	<ol style="list-style-type: none"> <li>1. The user activates the box next to 'Start an auction'</li> <li>2. The user enters the starting price, ending date and time</li> </ol>
Alternative Paths	None
Postconditions	The user has started an auction after submitting the form.
Exception Paths	When not all information are filled in the user is reminded to do so
Other	n/a

Table 26: Use Case 24

Use Case ID	25
Use Case Name	Display an ad on the homepage
Trigger	A client wants one of his ads to be shown on the home page
Precondition	The client is logged in and is a premium user
Basic Path	<ol style="list-style-type: none"> <li>1. The user visits his ad</li> <li>2. The user clicks on 'Place on homepage'</li> <li>3. The user enters his payment data and clicks 'Place ad on the homepage'</li> </ol>
Alternative Paths	None
Postconditions	The user is redirected to the ad page and the ad shows up on the homepage
Exception Paths	When not all criteria are filled in and the client clicks on subscribe, an error message next to the empty criteria shows up
Other	n/a

Table 27: Use Case 25

#### 4.1.4 Scheduling

Use Case ID	26
Use Case Name	Contact advertiser
Trigger	A client wants to contact of an ad
Precondition	The user is logged in and on an 'Ad Description' page
Basic Path	<ol style="list-style-type: none"> <li>1. The client clicks on the 'Contact Advertiser' button</li> <li>2. A contact form opens</li> <li>3. The client types a subject</li> <li>4. The client types a message</li> <li>5. The client clicks on the send button</li> </ol>
Alternative Paths	The client clicks on the 'Cancel' button to abort
Postconditions	A message is sent to the receiver
Exception Paths	None
Other	n/a

Table 28: Use Case 26

Use Case ID	27
Use Case Name	Send enquiry for visitation
Trigger	A client wants to send an enquiry for visitation to an advertiser
Precondition	The user is logged in and on an 'Ad Description' page
Basic Path	<ol style="list-style-type: none"> <li>1. The client clicks on the 'Send enquiry to advertiser' button</li> <li>2. A message that asks 'Send enquiry to advertiser?' shows up.</li> <li>3. The client clicks the 'Send' button</li> </ol>
Alternative Paths	The client clicks on the 'Cancel' button to abort
Postconditions	An enquiry is sent to the advertiser and the 'Send enquiry to advertiser' button turns grey saying 'Enquiry sent'
Exception Paths	None
Other	n/a

Table 29: Use Case 27

Use Case ID	28
Use Case Name	See list of enquiries
Trigger	A client wants to see the enquiries for visitation of his ads
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The client clicks on 'Enquiries' in the account menu</li> <li>2. A list with all enquiries shows up.</li> <li>3. The can accept or decline every enquiry with the corresponding buttons</li> </ol>
Alternative Paths	none
Postconditions	Next to the enquiries is showed, if they are accepted or declined
Exception Paths	None
Other	n/a

Table 30: Use Case 28

Use Case ID	29
Use Case Name	See schedule of presentations
Trigger	A user wants to see the date, time and location of all his presentations
Precondition	The user is logged in
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Schedule' in the menu</li> <li>2. The user is redirected to the schedule page.</li> </ol>
Alternative Paths	None
Postconditions	The user can now see the date, time and location of all his visits and presentations.
Exception Paths	None
Other	n/a

Table 31: Use Case 29

Use Case ID	30
Use Case Name	List of visits
Trigger	A user wants to see a list of all his visits
Precondition	The user is logged
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the link 'Schedule'</li> <li>2. The user is redirected to the page 'Schedule'.</li> </ol>
Alternative Paths	None
Postconditions	The user now sees below the table 'Your Presentations' a table where the location, time and date of all his visits.
Exception Paths	None
Other	n/a

Table 32: Use Case 30

Use Case ID	31
Use Case Name	See list of visitors of your presentations
Trigger	A user wants to see a list of all visitors that attend one of his presentation
Precondition	The user is logged in and on the schedule page
Basic Path	<ol style="list-style-type: none"> <li>1. The user selects the button 'See List' in the row of the presentation he is interested in.</li> <li>2. The user is redirected to the page 'Visitor of your property'.</li> </ol>
Alternative Paths	None
Postconditions	The user now sees the name, username and rating of each visitor and is able to visit their profile page.
Exception Paths	None
Other	n/a

Table 33: Use Case 31