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# **StudyAbroad Requirements Specification**

**Version 1.1.0**

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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
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## Revision History

| Date       | Version | Description                    | Author                   |
|------------|---------|--------------------------------|--------------------------|
| 2002-00-00 | 0.01    | Initial Draft                  | DSD staff                |
| 2012-11-02 | 1.0.0   | Requirements definition v1.0.0 | StudyAbroad project team |
| 2012-12-04 | 1.1.0   | First major revision           | StudyAbroad project team |

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

## Table of Contents

|        |   |    |
|--------|---|----|
| 1.     | Introduction                                      | 5  |
| 1.1    | Purpose of this document                          | 5  |
| 1.2    | Intended Audience                                 | 5  |
| 1.3    | Scope   | 5  |
| 1.4    | Definitions and acronyms                          | 5  |
| 1.4.1  | Definitions                                       | 5  |
| 1.4.2  | Acronyms and abbreviations                        | 5  |
| 1.5    | References  | 5  |
| 2.     | Overall Description                               | 6  |
| 2.1    | Product Perspective                               | 6  |
| 2.2    | Product Functions                                 | 6  |
| 2.3    | User Characteristics                              | 6  |
| 2.4    | Constraints                                       | 6  |
| 2.4.1  | Open data sources                                 | 6  |
| 3.     | Requirements Description                          | 7  |
| 3.1    | Introduction                                      | 7  |
| 3.2    | General requirements                              | 7  |
| 3.2.1  | Functional requirements (high priority)           | 7  |
| 3.2.2  | Functional requirements (medium priority)         | 7  |
| 3.2.3  | Functional requirements (low priority)            | 7  |
| 3.3    | Requirements on external systems                  | 8  |
| 3.3.1  | External Data Acquisition                         | 8  |
| 3.4    | Server requirements                               | 8  |
| 3.5    | User interface requirements                       | 8  |
| 3.6    | Non Functional requirements                       | 9  |
| 3.6.1  | Usability requirements                            | 9  |
| 3.6.2  | Security requirements                             | 9  |
| 3.6.3  | System requirements                               | 9  |
| 4.     | Use Cases   | 10 |
| 4.1    | Use case diagram                                  | 10 |
| 4.2    | Use cases   | 11 |
| 4.2.1  | Explore interactive Map                           | 11 |
| 4.2.2  | Getting university suggestions                    | 11 |
| 4.2.3  | Viewing selected university information ( basic ) | 12 |
| 4.2.4  | Viewing selected city information ( basic )       | 12 |
| 4.2.5  | User registration                                 | 13 |
| 4.2.6  | User log in                                       | 13 |
| 4.2.7  | User log out                                      | 14 |
| 4.2.8  | Viewing user profile and preferences              | 14 |
| 4.2.9  | Editing user profile and preferences              | 14 |
| 4.2.10 | Delete user account                               | 15 |
| 4.2.11 | Reviewing university                              | 15 |
| 4.2.12 | Reviewing city                                    | 15 |
| 4.2.13 | Commenting university                             | 16 |
| 4.2.14 | Commenting city                                   | 16 |
| 4.2.15 | Rating university                                 | 17 |
| 4.2.16 | Rating city                                       | 17 |
| 4.2.17 | Direct search                                     | 17 |
| 4.2.18 | Viewing university recommendations                | 18 |

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

|   |    |
|---|----|
| 4.2.19 Viewing selected university information ( advanced ) | 18 |
| 4.2.20 Viewing selected city information ( advanced )       | 19 |
| 4.2.21 Delete reviews                                       | 19 |
| 4.2.22 Modify reviews                                       | 19 |
| 4.2.23 Delete/Modify user's account                         | 20 |
| 5. Requirements Definition                                  | 21 |
| 5.1 Requirement Group Definitions                           | 21 |
| 5.2 Requirement Sources                                     | 21 |
| 5.3 Requirement definitions                                 | 22 |
| 5.3.1 Change Log  | 25 |
| 6. Future Development                                       | 25 |

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

## 1. Introduction

### 1.1 Purpose of this document

This document provides the foundation for the StudyAbroad system. It details the understanding of the business need and its break down into discrete requirements. These requirements will be clearly defined, reviewed, modified and agreed as needed upon with the project stakeholders. Hence it will be the roadmap that will determine the next phases and offer a general overview of the project.

### 1.2 Intended Audience

Includes:

- Team members
- Team leader
- Project leader
- Project supervisor
- Customers (students)

### 1.3 Scope

This document presents the use case scenarios and requirements descriptions for the StudyAbroad system. StudyAbroad will be a website that presents a collection of information gathered from different data sources in a organized and easily readable format. Additionally it will supply the user with powerful recommendation options based on different types of criteria (parameters) such as: language, country, university, city, climate, social life, finances, culture, people of interest etc.

Initially the system will provide information about specific programs and geographies. Students, with interest to study abroad, will benefit from having a singular location where they can get all the necessary information they need to make a decision.

### 1.4 Definitions and acronyms

#### 1.4.1 Definitions

| Keyword    | Definitions                        |
|------------|------------------------------------|
| <i>NFR</i> | <i>Non-functional Requirements</i> |

#### 1.4.2 Acronyms and abbreviations

| Acronym or abbreviation | Definitions                              |
|-------------------------|--|
| <i>XML</i>              | <i>Extensible Markup Language</i>        |
| <i>DS</i>               | <i>Data Source</i>                       |
| <i>API</i>              | <i>Application programming interface</i> |
| <i>DB</i>               | <i>Database</i>                          |

### 1.5 References

[1] Project Homepage: <http://www.fer.unizg.hr/rasip/dsd/projects/studyabroad>

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

## **2. Overall Description**

### **2.1 Product Perspective**

The final product is a complete system and it is not part of any other larger system. It consists of two basic components: the server and the client interface. The user of the system communicates with the server using Question-Response principle via user interface. Communication between client side and server takes place over Internet using predefined interfaces. However, the product depends on external systems that provide open data. Communication with external systems is provided via Internet using mainly the application programming interface (API).

### **2.2 Product Functions**

In the final product users should be able to search for information and suggestions via the user interface. Users must be able to access the application using a browser on their home computer. Users must be able to search for universities based on geographical location, their own preferences, or by keywords. Also, users should be able to register in order to save their preferences, to get personalized recommendations, but also to comment and rate universities.

### **2.3 User Characteristics**

Our users are mainly students, prospective students or students who are finishing their studies and plan to go to PhD program, regardless of age. It is assumed that these people have finished high school and they know the basics of using the computer. No additional technical skills are required.

### **2.4 Constraints**

#### **2.4.1 Open data sources**

The availability of open source data affects the system. If any of the systems that provide open data is not available, the usability of StudyAbroad service is reduced.

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

### 3. Requirements Description

#### 3.1 Introduction

The purpose of our project is to make a service that will provide information and recommendations to people who want to go to study in a foreign country. Our service should be available on the Internet and easy to use for all kinds of users. The user will enter his personal preferences, and the system will provide recommendations of the universities based on those preferences. With each recommendation, there will be some basic information about the city and country where the university is located.

#### 3.2 General requirements

##### 3.2.1 Functional requirements (high priority)

- Viewing selected university information (basic) (UC3)
- Viewing selected location information (basic) (UC4)
- Explore interactive map (UC1)

##### 3.2.2 Functional requirements (medium priority)

- Getting university suggestions ( UC2)
- Direct university search (UC15)
- Viewing selected university information (advanced) (UC16)
- Viewing selected location information (advanced) (UC17)
- User registration (UC5)
- User log in (UC6)
- User log out (UC7)

##### 3.2.3 Functional requirements (low priority)

- Viewing user profile and preferences (UC8)
- Editing user profile and preferences (UC9)
- Delete user account (UC10)
- Commenting university (UC11)
- Commenting city (UC12)
- Rating university (UC13)
- Rating city (UC14)
- Delete user's comments (UC19)
- Modify user's comments (UC20)
- Delete/Modify user's account (UC21)
- Viewing university recommendations (UC16)
- Reviewing university (UC22)
- Reviewing city (UC23)

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

### 3.3 Requirements on external systems

The StudyAbroad service depends on the service of external systems.

#### 3.3.1 External Data Acquisition

- DS1: <http://www.4icu.org>
- DS2: <http://dev.mendeley.com/>
- DS3: <http://www.freebase.com/>
- DS4: <http://www.numbeo.com/>
- DS5: <http://www.panoramio.com/>
- DS6: <http://www.google.com/places/>

### 3.4 Server requirements

- Parsing data source - DS1
- Developing application domain model
- Interfacing server with client
- Saving user preferences to database
- Developing a recommendation system
- Dynamic loading of data from data sources
- Interfacing with data source – DS3
- Interfacing with data source – DS4
- Data access layer
- Direct search using keywords
- Interfacing with data source DS2
- Defining and implementing the database
- Populating the database with data

### 3.5 User interface requirements

- General Template
  - Header
  - Navigation Menu
  - Login/Register Buttons
  - Search button
- Home page
  - General descriptions
  - Entry point for map exploration and suggestions
  - Top universities and city access
- Suggestion page
  - Questions wizard
  - Data visualization map ( not interactive )
- Exploration map page
  - Interactive Map
  - Top universities Boxes
  - Basic universities descriptions
- University Page template
  - Global informations
  - Tabbed pane ( for basic and advanced contents )
  - Comment/Reviews Box



|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

- City Page template
  - Global informations
  - Tabbed pane ( for basic and advanced contents )
  - Comment/Reviews Box
- Direct search results page
- User preferences Page
  - Saved preferences
  - Personal informations
- User registration page
- User login page

### **3.6 Non Functional requirements**

#### *3.6.1 Usability requirements*

- Intuitive interfaces (easy to use)
- Correct and up to date informations.
- Presenting data in clear and logical way
- Fast access to content ( in terms of click of clicks )

#### *3.6.2 Security requirements*

- Confidentiality of users informations
- Integrity of users informations
- Availability ( in terms of robustness against denials of service )

#### *3.6.3 System requirements*

- The service should work on all major platforms (in their lastest versions)
- The service should work on all major web browsers (in their lastest versions)
- The server should work with .Net (version 4.5) and C#

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |

## 4. Use Cases

### 4.1 Use case diagram

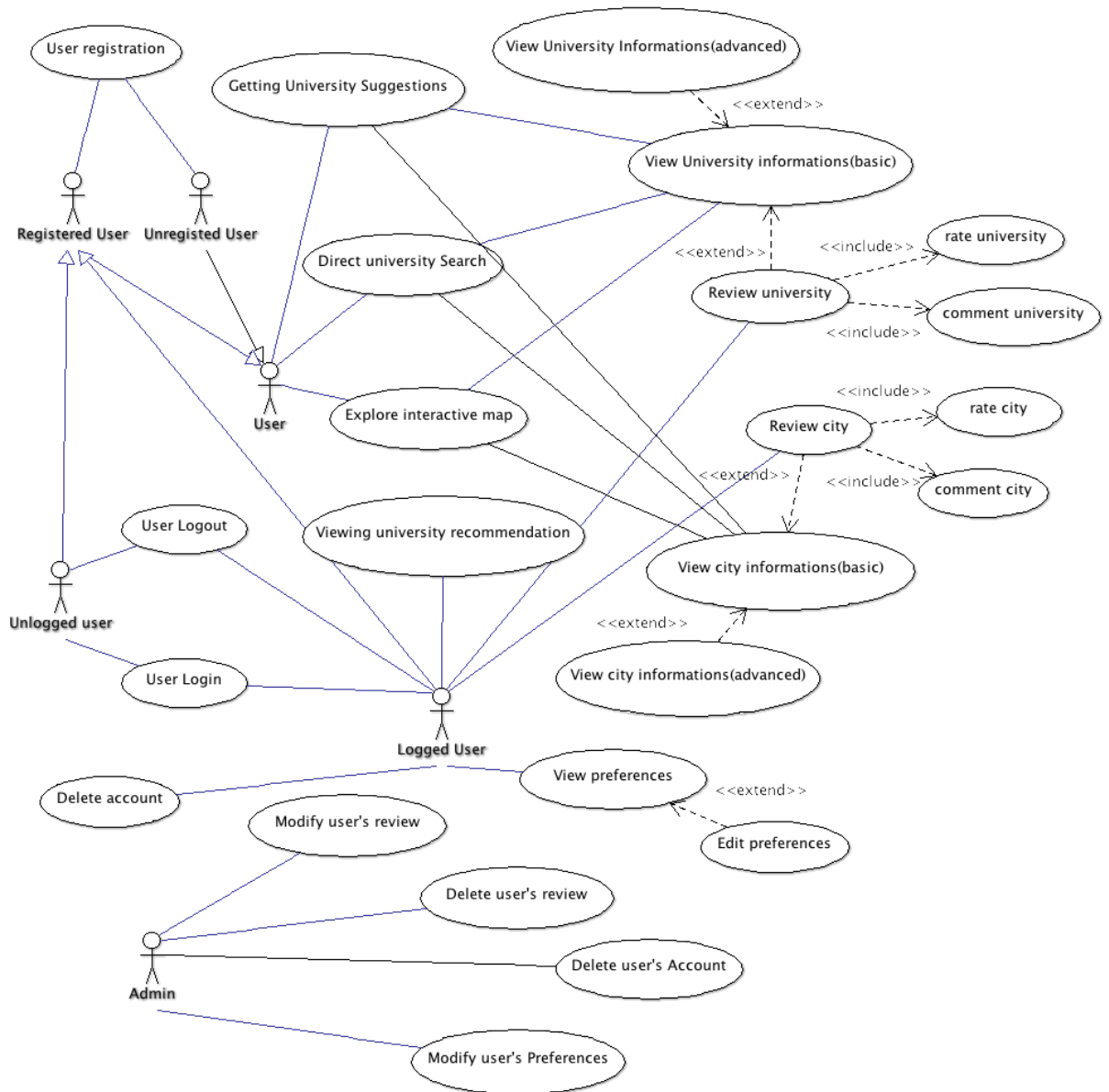


Figure 1. Use case diagram

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

## 4.2 Use cases

### 4.2.1 Explore interactive Map

|                      |  |
|----------------------|--|
| Use case ID          | UC1  |
| Name                 | <i>Explore interactive Map</i>   |
| Priority             | High   |
| Goal                 | <i>The user can find basic information about university directly playing with the interactive map. The map presents 4 different levels of zoom: World, Region, Continent, Country. Landmarks with universities locations are shown at Country level zoom. Top university list for the corresponding zoom level is displayed on the page</i>  |
| Participating actors | User ( registered, unregistered )  |
| Precondition         | User must be on the <b>explore page</b>  |
| Main scenario        | <i>1. he selects a continent<br/>2. the map of selected continent, list of continent and top universities in that continent are displayed<br/>3. he selects a region<br/>4. the map of selected region, list of regions and top universities in that region are displayed<br/>5. he selects a country<br/>6. the map of selected country top universities in that country are displayed. Landmark for universities location(cities) are shown on the map. (Note2)<br/>7. he clicks on a city landmark<br/>8. Basic informations about that city are shown ( name, abstract ) and univerties list for that city<br/>9. he clicks on a university link and start UC3 ( viewing university informations )</i> |
| Exceptions           | if there are no universities in selected Continent/Region/coutry a warning message is displayed  |
| Extensions           | First case: 2. 4. 6. if user selects one link from top universities list UC3 starts<br>Second case: 9bis. he clicks on a city link and start UC4 ( viewing city information )  |
| Notes                | <i>Note1: at every level of zoom there is the possibility for the user to go back using the breadcrumb present into the page<br/>Note2: if the selected country is USA there will be an additional level of zoom. States view. City landmarks are shown on that view</i>   |
| Dependent UC         |  |

### 4.2.2 Getting university suggestions

|                      |   |
|----------------------|---|
| Use case ID          | UC2   |
| Name                 | <i>Getting university suggestions</i>   |
| Priority             | Medium  |
| Goal                 | <i>The goal of this page is to help our user to understand what is the best suited university for him. The will display a list of questions used in order to understand user's preferences and a map ( non interactive ) that helps to visualize the university locations</i>   |
| Participating actors | User ( registered, unregistered )   |
| Precondition         | User must be on <b>suggestion page</b>  |
| Main scenario        | <i>1 a list of questions will be presented to the user (Note1)<br/>2. he answers them ( finite number of choices) and submits<br/>3. The map is updated to help data visualization<br/>4. a List of suggested universities is presented (Note3)<br/>5 .he clicks on a university link and start UC3 ( viewing university informations )</i> |
| Exceptions           | If no universities, for the selected preferences, are found a warning message is shown  |

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

|              |   |
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| Extensions   | 1bis. if the user is registered and logged in, last suggestion is displayed<br>4bis. if the user is registered and logged in, the recommendations are stored.<br>9bis. he clicks on a location link and start UC4 ( viewing location information )  |
| Notes        | <i>Note1: the notes can be presented sequentially or all together on the same page. In the latter case 1. 2. are repeated N times, where N is the number of the questions.</i><br><i>Note2: a button to reset the preferences is present into the page</i><br><i>Note3: the map will use different color scheme to reflect the given suggestions, and highlight with markers the location of suggested universities</i> |
| Dependent UC |   |

#### 4.2.3 Viewing selected university information ( basic )

|                      |   |
|----------------------|---|
| Use case ID          | UC3   |
| Name                 | <i>Viewing selected university information ( basic )</i>  |
| Priority             | High  |
| Goal                 | <i>Show university basic information to the user.</i><br><i>For basic information we mean name, category, location, abstract and a long textual description</i><br><i>*Other informations on this page has to be Decided*</i> |
| Participating actors | User (registered, unregistered)   |
| Precondition         | User must be on a university page   |
| Main scenario        | <i>1. Basic information of the university is shown into the page(Note1)</i>   |
| Exceptions           |   |
| Extensions           | 2. he clicks on one other tab of the Tabbed pane and start UC17 ( viewing selected university ( advanced ) )<br>3. he clicks on the related city name and start UC4 ( viewing city information)                               |
| Note                 | Note1: the page shows name, location abstract in the higher part. The central part of the page contains a tabbed pane. In this use case we consider only “general” pane that only contains a long textual description.        |
| Dependent UC         | UC16  |

#### 4.2.4 Viewing selected city information ( basic )

|                      |   |
|----------------------|---|
| Use case ID          | UC4   |
| Name                 | <i>Viewing selected city information ( basic )</i>  |
| Priority             | High  |
| Goal                 | <i>Show city basic information to the user.</i><br><i>For basic information we mean name, country, abstract and a long textual description.</i><br><i>*Other informations on this page has to be Decided*</i> |
| Participating actors | User ( registered, unregistered )   |
| Precondition         | User must be on a city page   |
| Main scenario        | <i>1. Basic information of the city is shown into the page(Note1)</i>   |
| Exceptions           | 2. he clicks on one other tab of the Tabbed pane and start UC18 ( viewing selected city ( advanced ) )  |

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

|              |  |
|--------------|--|
|              | 3. he clicks on one of the universities presented into the page and start UC3 ( viewing university information)  |
| Extensions   |  |
| Notes        | <i>Notes1: the page shows name, country, flag and abstract in the higher part. The central part of the page is a tabbed pane. In this use case we consider only "general" pane that contains a long textual description.</i> |
| Dependent UC | UC17   |

#### 4.2.5 User registration

|                      |  |
|----------------------|--|
| Use case ID          | UC5  |
| Name                 | <i>User registration</i>   |
| Priority             | Medium   |
| Goal                 | <i>Let the user create an account to our service. The account is needed in order to save his preferences and to comment/rate universities and cities.</i>  |
| Participating actors | User ( unregistered )  |
| Precondition         | <i>Can be on any page, user can't be logged in</i>   |
| Main scenario        | <i>1. he presses „register“ link located under the header<br/>2. he is redirected to registration page<br/>3. he enters his personal information, username and password (Note1)<br/>4. he pressed „register“ button<br/>5. he is redirected to the personal page and DB is updated (Note2)</i> |
| Exceptions           | <i>If the data inserted is in a wrong format, error message may be displayed<br/>If the username is already taken, error message is displayed.</i>   |
| Extensions           |  |
| Notes                | <i>Note1: password must be conform to our security policy<br/>Note2 the user after the registration is logged in. ( no email confirmation? )</i>   |
| Dependent UC         |  |

#### 4.2.6 User log in

|                      |   |
|----------------------|---|
| Use case ID          | UC6   |
| Name                 | <i>User log in</i>  |
| Priority             | Medium  |
| Goal                 | <i>Identify guest in order to give him personalized services</i>  |
| Participating actors | User ( registered )   |
| Precondition         | <i>Can be done from any page, User can't be logged in</i>   |
| Main scenario        | <i>1. he presses „login“ link located under the header<br/>2. he is redirected to login page<br/>3. he enters his username and password<br/>4. he pressed „login“ button<br/>5. he is redirected back to the page where he pressed the „login“ button (Note1)</i> |
| Exceptions           | <i>if the data are not valid, an error message will be displayed</i>  |
| Extensions           | <i>4bis. he presses "lost password" to reset password</i>   |
| Notes                | <i>Note1: from this step the user is logged in</i>  |
| Dependent UC         |   |

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|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

#### 4.2.7 User log out

|                      |  |
|----------------------|--|
| Use case ID          | UC7  |
| Name                 | <i>User log out</i>  |
| Priority             | Medium   |
| Goal                 | <i>Let the user exit from our servire and not being identified anymore</i>   |
| Participating actors | User ( registered )  |
| Precondition         | <i>Can be done from any page, User must be logged in</i>   |
| Main scenario        | <ol style="list-style-type: none"> <li>1. he presses „log out“ link located under the header</li> <li>2. page is reloaded (Note1)</li> </ol> |
| Exceptions           |  |
| Extensions           |  |
| Notes                | <i>Note1: from this step the user is logged out from our service</i>   |
| Dependent UC         |  |

#### 4.2.8 Viewing user profile and preferences

|                      |  |
|----------------------|--|
| Use case ID          | UC8  |
| Name                 | <i>Viewing user profile and preferences</i>  |
| Priority             | Low  |
| Goal                 | <i>Show to the user his personal informations and preferences</i>  |
| Participating actors | User ( registered )  |
| Precondition         | <i>User must be logged in</i>  |
| Main scenario        | <ol style="list-style-type: none"> <li>1. he presses on „personal page“ button located under the header</li> <li>2. he is redirected to his personal page</li> </ol> |
| Exceptions           |  |
| Extensions           |  |
| Notes                |  |
| Dependent UC         |  |

#### 4.2.9 Editing user profile and preferences

|                      |  |
|----------------------|--|
| Use case ID          | UC9  |
| Name                 | <i>Editing user profile and preferences</i>  |
| Priority             | Low  |
| Goal                 | <i>let the user edit his personal information</i>  |
| Participating actors | User   |
| Precondition         | User must be logged in, must be on his personal page   |
| Main scenario        | <ol style="list-style-type: none"> <li>1. he presses the “edit” button near the data he wants to edit</li> <li>2 the page is updated letting the user edit that field</li> <li>3. edit data</li> <li>4. press “ Ok “ Button</li> <li>5. page will be updated with the new data and changes are made into the DB</li> </ol> |

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

|              |  |
|--------------|--|
| Exceptions   | <i>If the data inserted are in a wrong format and error message may be displayed</i> |
| Extensions   |  |
| Dependent UC |  |

#### 4.2.10 Delete user account

|                      |   |
|----------------------|---|
| Use case ID          | UC10  |
| Name                 | <i>Delete user account</i>  |
| Priority             | Low   |
| Goal                 | <i>let the user remove himself from our service's database</i>  |
| Participating actors | User ( registered )   |
| Precondition         | User must be logged in, must be on his personal page  |
| Main scenario        | <i>1. he presses the „delete account“ button<br/>2 he is redirected to a confirmation page<br/>3 he presses „ok“ button in the confirmation page<br/>4. the account is removed from the database<br/>5 he's redirected to the homepage(Note1)</i> |
| Exceptions           |   |
| Extensions           | <i>3bis. he presses „back“ button in the confirmation page<br/>4bis. he's redirected to his personal page</i>   |
| Notes                | <i>Note1: the user now is not logged anymore into our system</i>  |
| Dependent UC         |   |

#### 4.2.11 Reviewing university

|                      |  |
|----------------------|--|
| Use case ID          | UC22   |
| Name                 | <i>Reviewing university</i>  |
| Priority             | Low  |
| Goal                 | <i>let the user interact by reviewing the university</i>                                 |
| Participating actors | User ( registered)   |
| Precondition         | User must be logged in, must be on an university page                                    |
| Main scenario        | <i>1. do UC11<br/>2. do UC13</i>   |
| Exceptions           |  |
| Extensions           |  |
| Notes                | <i>In order to review the university, the user must comment and rate the university.</i> |
| Dependent UC         | UC11, UC13   |

#### 4.2.12 Reviewing city

|                      |  |
|----------------------|--|
| Use case ID          | UC23   |
| Name                 | <i>Reviewing city</i>                              |
| Priority             | Low  |
| Goal                 | <i>let the user interact by reviewing the city</i> |
| Participating actors | User ( registered )                                |
| Precondition         | User must be logged in, must be on a city page     |

|                         |                  |
|-------------------------|------------------|
| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

|               |  |
|---------------|--|
| Main scenario | 1. do UC12<br>2. do UC14   |
| Exceptions    |  |
| Extensions    |  |
| Notes         | <i>In order to review the city, the user must comment and rate the city.</i> |
| Dependent UC  | UC12, UC14   |

#### 4.2.13 Commenting university

|                      |  |
|----------------------|--|
| Use case ID          | UC11   |
| Name                 | <i>Commenting university</i>   |
| Priority             | Low  |
| Goal                 | <i>let the user interact by commenting the university</i>  |
| Participating actors | User ( registered)   |
| Precondition         | User must be logged in, must be on an university page  |
| Main scenario        | 1. write his comment into the dedicated text box<br>2. press comment button<br>3. page will be updated showing the comment and DB will be updated (Note1)          |
| Exceptions           | <i>If the data inserted are in a wrong format and error message may be displayed ( Data Validation )</i>   |
| Extensions           |  |
| Notes                | <i>Note1: the comments are global to that university. It means the box doesn't change if a user switch tab to display different content about that university.</i> |
| Dependent UC         |  |

#### 4.2.14 Commenting city

|                      |   |
|----------------------|---|
| Use case ID          | UC12  |
| Name                 | <i>Commenting city</i>  |
| Priority             | Low   |
| Goal                 | <i>let the user interact by commenting the city</i>   |
| Participating actors | User ( registered )   |
| Precondition         | User must be logged in, must be on a city page  |
| Main scenario        | 1. write the comment into the dedicated text box<br>2. press comment button<br>3. page will be updated showing the comment and DB will be updated (Note1) |
| Exceptions           | <i>If the data inserted are in a wrong format and error message may be displayed ( Data Validation )</i>  |
| Extensions           |   |
| Notes                | <i>Note1: the comments are global to that city. It means the box doesn't change if a user switch tab to display different content about that city</i>     |
| Dependent UC         |   |



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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

#### 4.2.15 Rating university

|                      |  |
|----------------------|--|
| Use case ID          | UC13   |
| Name                 | <i>Rating university</i>   |
| Priority             | Low  |
| Goal                 | <i>Let the user interact giving his feedback on a university</i>   |
| Participating actors | User ( registered )  |
| Precondition         | User must be logged in, must be on a university page   |
| Main scenario        | <ol style="list-style-type: none"> <li>1. The user click on the rating panel (Note1)</li> <li>2. The rating is stored into the database and the page is updated accordingly</li> </ol> |
| Exceptions           |  |
| Extensions           |  |
|                      | <i>Note1: the rating choice will be from 1 ( bad ) to 5 ( excellent ) using classical stars display</i>  |
| Dependent UC         |  |

#### 4.2.16 Rating city

|                      |  |
|----------------------|--|
| Use case ID          | UC14   |
| Name                 | <i>Rating city</i>   |
| Priority             | Low  |
| Goal                 | <i>Let the user interact giving his feedback on a city</i>   |
| Participating actors | User ( registered )  |
| Precondition         | User must be logged in, must be on a city page   |
| Main scenario        | <ol style="list-style-type: none"> <li>1. The user click on the rating panel (Note1)</li> <li>2. The rating is stored into the database and the page is updated accordingly</li> </ol> |
| Exceptions           |  |
| Extensions           |  |
| Notes                | <i>Note1: the rating choice will be from 1 ( bad ) to 5 ( excellent ) using classical stars display</i>  |
| Dependent UC         |  |

#### 4.2.17 Direct search

|                      |   |
|----------------------|---|
| Use case ID          | UC15  |
| Name                 | <i>Direct search</i>  |
| Priority             | Medium  |
| Goal                 | <i>let the user search a university using some kind of keywords (E.g. course, publication, professor, network, research area)</i>   |
| Participating actors | User ( unregistered, registered )   |
| Precondition         | User can be on any page   |
| Main scenario        | <ol style="list-style-type: none"> <li>1. write the keyword into the search box</li> <li>2. press "search" button</li> <li>3. he will be redirected to the result page</li> <li>4. he clicks on the university name from the result page</li> </ol> |

|                         |                  |
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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

|              |   |
|--------------|---|
|              | <i>5 he will be redirected to the university page and UC3 starts</i>  |
| Exceptions   | <i>If the data inserted are in a wrong format and error message may be displayed ( Data validation)<br/>In case of no result an error page is displayed</i> |
| Extensions   | <i>5bis. he clicks on the city name displayed near the related university link.<br/>6bis he is redirected to the city page and UC4 starts</i>               |
| Notes        |   |
| Dependent UC |   |

#### 4.2.18 Viewing university recommendations

|                      |   |
|----------------------|---|
| Use case ID          | UC16  |
| Name                 | <i>Viewing university raccomandations</i>   |
| Priority             | Low   |
| Goal                 | <i>Let the user get advanced raccomandations based both on his preferences and to the preferences of similar users of the system. (Note1)</i>   |
| Participating actors | User ( registered )   |
| Precondition         | User must be logged in, he has saved preferences into the system  |
| Main scenario        | <i>1.[TBD] where to put the recom. box is still to be defined.<br/>2. he clicks on the university name from the box<br/>3 he will be redirected to the university page and UC3 starts</i> |
| Exceptions           |   |
| Extensions           | <i>2bis. he clicks on the city name displayed near the related university link.<br/>3bis he is redirected to the city page and UC4 starts</i>   |
| Notes                | <i>Note1: more detail about the design of that system will be defined in a separate document</i>  |
| Dependent UC         |   |

#### 4.2.19 Viewing selected university information ( advanced )

|                      |  |
|----------------------|--|
| Use case ID          | UC17   |
| Name                 | <i>Viewing selected university information ( advanced )</i>  |
| Priority             | Medium   |
| Goal                 | <i>Show university advanced information to the user.<br/>The advanced information heavily depends on the data source. At the moment we don't know exactly what we can get, for further details refer to data source document.<br/>* informations on these sub-pages has to be Decided*</i> |
| Participating actors | User (registered, unregistered)  |
| Precondition         | User must be on a university page  |
| Main scenario        | <i>2. user click on a tab (different from „general“) of the tabbed pane displayed in the central part of the page<br/>3. that box is updated in order to display the selected content.</i>   |
| Exceptions           |  |
| Extensions           |  |
| Note                 |  |
| Dependent UC         |  |

|                         |                  |
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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
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#### 4.2.20 Viewing selected city information ( advanced )

|                      |  |
|----------------------|--|
| Use case ID          | UC18   |
| Name                 | <i>Viewing selected city information ( advanced )</i>  |
| Priority             | Medium   |
| Goal                 | <i>Show city advanced information to the user.<br/>The advanced information heavily depends on the data source. At the moment we don't know exactly what we can get, for further details refer to data source document.<br/>* informations on these sub-pages has to be Decided*</i> |
| Participating actors | User (registered, unregistered)  |
| Precondition         | User must be on a city page  |
| Main scenario        | <i>2. user click on a tab (different from „general“) of the tabbed pane displayed in the central part of the page<br/>3. that box is updated in order to display the selected content.</i>   |
| Exceptions           |  |
| Extensions           |  |
| Note                 |  |
| Dependent UC         |  |

#### 4.2.21 Delete reviews

|                      |  |
|----------------------|--|
| Use case ID          | UC19   |
| Name                 | <i>Delete reviews</i>  |
| Priority             | Low  |
| Goal                 | <i>Let the user delete the reviews he made.<br/>Let the admin delete a user's review.</i>  |
| Participating actors | User ( registered )<br>Admin   |
| Precondition         | User must be logged in, must be on a city page or on a university page.<br>Admin must be on a city page or university page   |
| Main scenario        | <i>1. press delete button near the review he made ( Note1)<br/>2. confirmation popup appears<br/>3. he press „Ok“ on the confirmation popup<br/>4. Review is deleted and the page is updated accordingly</i> |
| Exceptions           |  |
| Extensions           | <i>3bis. he presses „cancel“ on the popup.<br/>4bis. the popup is closed</i>   |
| Notes                | <i>Note1: admin have a delete button near all comments, not only the ones he made</i>  |
| Dependent UC         |  |

#### 4.2.22 Modify reviews

|                      |   |
|----------------------|---|
| Use case ID          | UC20  |
| Name                 | <i>Modify reviews</i>   |
| Priority             | Low   |
| Goal                 | <i>Let the user modify the reviews he made.<br/>Let the admin modify a user's review.</i> |
| Participating actors | User ( registered )   |

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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
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|               |   |
|---------------|---|
|               | Admin   |
| Precondition  | User must be logged in, must be on a city page or on a university page.<br>Admin must be on a city page or university page  |
| Main scenario | 1. press modify button near the review he made (Note1)<br>2. a text area open up, allowing the modification of the comment<br>3. he press „Ok“ button on the the text area<br>4. Review is modified and the page is updated accordingly |
| Exceptions    |   |
| Extensions    | 3bis. he presses „cancel“ button in the text area.<br>4bis. the text area is closed and all the changes are lost  |
| Notes         | Note1: admin have a modify button near all comments, not only the ones he made  |
| Dependent UC  |   |

#### 4.2.23 Delete/Modify user's account

|                      |  |
|----------------------|--|
| Use case ID          | UC21   |
| Name                 | Delete/Modify user's account   |
| Priority             | Low  |
| Goal                 | Let an admin modify information on a user account or delete it   |
| Participating actors | Admin  |
| Precondition         |  |
| Main scenario        | 1.he presses „admin“ button under the header<br>2. a page with the list of all the users is shown<br>3. he presses „delete“ button near the name of the user<br>4. confirmation popup is displayed<br>5. he clicks on „ok“ button<br>6. that user account is deleted and page is updated |
| Exceptions           |  |
| Extensions           | 2bis. he presses „Modify“ button near the user name<br>3bis he redirected to the user preferences page<br>4bis UC9 (Editing user profile) (Note1)  |
| Notes                | Note1: admin has the power of viewing and modifying every user account   |
| Dependent UC         |  |

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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
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## 5. Requirements Definition

### 5.1 Requirement Group Definitions

| Identification | Requirement Group            | Rem. |
|----------------|------------------------------|------|
| EDA            | External Data Acquisition    |      |
| SC             | System Core                  |      |
| UIF            | User Interface Functional    |      |
| UIV            | User Interface Visualization |      |
| RUA            | Registered User Addons       |      |

### 5.2 Requirement Sources

| Source | Description                                    | Rem. |
|--------|--|------|
| Ctm    | Customer (Ivana Bosnic)                        |      |
| PMS    | Project Member Suggestion                      |      |
| Sys    | Required as a consequence of the system design |      |

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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
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### 5.3 Requirement definitions

| Identity | Status | Priority | Reference                        | Description  | Source   |
|----------|--------|----------|----------------------------------|--|----------|
|          |        |          |                                  | External Data Acquisition  |          |
| EDA-1    | I      | 1        | Requirements on external systems | Acquire raw data from DS1: <a href="http://www.4icu.org/">http://www.4icu.org/</a>         | PMS      |
| EDA-2    | I      | 2        | Requirements on external systems | Acquire raw data from DS2: <a href="http://dev.mendeley.com/">http://dev.mendeley.com/</a> | PMS      |
| EDA-3    | I      | 1        | Requirements on external systems | Acquire raw data from DS3: <a href="http://www.freebase.com/">http://www.freebase.com/</a> | PMS      |
| EDA-4    | I      | 2        | Requirements on external systems | Acquire raw data from DS4: <a href="http://www.numbeo.com/">http://www.numbeo.com/</a>     | PMS      |
| EDA-5    | I      | 3        |                                  | Acquire raw data from other data sources   | Ctm, PMS |
|          |        |          |                                  | System Core  |          |
| SC-1     | I      | 1        | Server requirements              | Dynamic loading of raw data  | Ctm      |
| SC-1.1   | I      | 1        | Server requirements              | Mapping of raw data to an higher abstraction layer   | Sys      |
| SC-1.1.1 | I      | 1        | Server requirements              | universities   | Sys      |
| SC-1.1.2 | I      | 1        | Server requirements              | location/city/country  | Sys      |
| SC-1.1.3 | I      | 2        | Server requirements              | postdocs publications  | Sys      |
| SC-1.1.4 | I      | 2        | Server requirements              | cost of living   | Sys      |
| SC-2     | I      | 1        | Server requirements              | Provide interfaces to request data to the UI   | Sys      |
| SC-3     | I      | 2        | Server requirements              | Save user preferences  | PMS      |

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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
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|         |   |   |                             |   |         |
|---------|---|---|-----------------------------|---|---------|
| SC-3.1  | I | 2 | Server requirements         | Provide a recommendation system based on user preferences | PMS     |
| SC-4    | I | 2 | Server requirements         | Authenticate a user by his Username/Password              | Sys     |
| SC-5    | I | 1 | Server requirements         | Database definition and implementation                    | Sys     |
| SC-6    | I | 1 | Server requirements         | Domain model definition                                   | Sys     |
|         |   |   |                             | User Interface Functional                                 |         |
| UIF-1   | I | 1 | User interface requirements | Interface with the server                                 | Sys     |
|         |   |   |                             | User Interface Visualization                              |         |
| UIV-1   | I | 1 | User interface requirements | General template  | Ctm     |
| UIV-2   | I | 1 | User interface requirements | Home page   | PMS     |
| UIV-3   | I | 1 | User interface requirements | Suggestion page   | Ctm     |
| UIV-4   | I | 1 | User interface requirements | Exploration map page                                      | PMS     |
| UIV-5   | I | 2 | User interface requirements | University Page   | PMS     |
| UIV-6   | I | 2 | User interface requirements | City Page   | Ctm,PMS |
| UIV-7   | I | 2 | User interface requirements | Direct Search Page  | Ctm,PMS |
|         |   |   |                             | Registered User Addons                                    |         |
| RUA-1   | I | 2 | User interface requirements | User preference page                                      | PMS     |
| RUA-1.2 | I | 2 | User interface requirements | User registration page                                    | PMS     |

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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
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|         |   |   |                             |   |     |
|---------|---|---|-----------------------------|---|-----|
| RUA-2   | I | 2 | User interface requirements | User login page                                       | PMS |
| RUA-2.1 | I | 2 | User interface requirements | Recommendation system page                            | PMS |
| RUA-3   | I | 2 | User interface requirements | Provide a visual interface to add reviews and ratings | PMS |
| RUA-3.1 | I | 2 | User interface requirements | to universities                                       | PMS |
| RUA-3.2 | I | 2 | User interface requirements | to locations  | PMS |

Requirement status:

- I = initial* (this requirement has been identified at the beginning of the project),
- D = dropped* (this requirement has been deleted from the requirement definitions),
- H = on hold* (decision to be implemented or dropped will be made later),
- A = additional* (this requirement was introduced during the project course).



|                         |                  |
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| StudyAbroad             | Version: 1.1.0   |
| Requirements Definition | Date: 2012-12-04 |
|                         |                  |

### 5.3.1 Change Log

| Identity  | Action | Date | Comments |
|-----------|--------|------|----------|
| ADM-1.1   | A      |      |          |
| ADM-1.2   | A      |      |          |
| ADM-1.1.1 | D      |      |          |

Requirement status:

*D = dropped* (this requirement has been deleted from the requirement definitions),

*H = on hold* (decision to be implemented or dropped will be made later),

*A = added* (this requirement was introduced during the project course).

*R = resurrected* (dropped or on hold requirement was reactivated)

## 6. Future Development

As there will be always the need to get information from new countries and parameters, providing a configuration based extensibility mechanism will allow easy integration of new data sources.