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# **Taraxacum Final Project Report**

**Version 1.0**

Taraxacum	Version: 1.0
Final Project Report	Date: 2012-01-13

## Revision History

<b>Date</b>	<b>Version</b>	<b>Description</b>	<b>Author</b>
2012-01-13	0.1	Initial Draft	Anne Jon Schoonhoven
2012-01-13	0.2	Requirements compliance	Magdalena Jurić
2012-01-13	1.0	Finalized Document	Anne Jon Schoonhoven

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## 1. Introduction

### 1.1 Purpose of this document

The purpose of this document is to display an overview of the results and metrics of the Taraxacum project, as performed during the Distributed Software Development course 11/12. This course is joint course between Mälardalen University (MDH) in Sweden and University of Zagreb (FER) in Croatia.

This document provides information about the Taraxacum project, global team members and their performance.

### 1.2 Intended Audience

This document informs the project stakeholders about the project performance and achievements.

### 1.3 Scope

This document covers only the result of the project. It will not cover any assumptions made in the beginning of the project, and will barely cover differences between the assumptions and results.

### 1.4 Definitions and acronyms

#### 1.4.1 Definitions

Keyword	Definitions
Global team	Both the Swedish and Croatian teams
Project stakeholders	Includes customer, steering group and team members
Taraxacum	The project's title

#### 1.4.2 Acronyms and abbreviations

Acronym or abbreviation	Definitions
MDH	Mälardalen University
FER	University of Zagreb
SVN	Subversion

### 1.5 References

- Taraxacum Project Description, version 1.1
- Requirements Document Final, version 2.0
- Redmine Project Management System<sup>1</sup>

## 2. Background and Objectives

### 2.1 Introduction

In the academic community both teachers and students need an application where teachers could create a new course or a topic along with all the possible required learning material in the form of files, links, exercises and previous exams from which the students on the other hand could benefit all the resources created by teachers which are simulated in the form of Taraxacum digital book.

### 2.2 General requirements

In a generic view, the customer requires a web portal in the form of digital book where both teachers and student meet to share the knowledge about a course, topic or exercise. Teachers could create course or a topic and simultaneously manipulate files, links, text, or exercises. Whereas the students could access/browse all the material regarding course or a topic or could also post/request or suggest some resources in some cases.

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<sup>1</sup> <http://redmine.skoonhoven.net>

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### 3. Organization

#### 3.1 Project management

- Project leader: Anne Jon Schoonhoven
- Team leader Croatia (FER): Magdalena Juric
- Team leader Sweden (MDH): Anne Jon Schoonhoven

The local teams are daily management by the two team leaders. Anne Jon is responsible for the Swedish team, Magdalena is responsible for the Croatian team. The project leader is responsible for coordinating both teams.

#### 3.2 Project group

Name	Initials	Responsibility and roles
Tomislav Bronic	TB	<b>Responsibility</b> <ul style="list-style-type: none"> <li>• System Architect</li> </ul> <b>Roles</b> Backend Developer, Tester
Adil Farid	AF	<b>Roles</b> Requirements Engineer, Tester, Documenter
Li Jiang	LJ	<b>Roles</b> Frontend Developer, Tester
Magdalena Juric	MJ	<b>Responsibility</b> <ul style="list-style-type: none"> <li>• Team Leader Croatia</li> <li>• Database Manager</li> </ul> <b>Roles</b> Backend Developer, Documenter, Tester
Mateo Klarin Petrina	MK	<b>Responsibility</b> <ul style="list-style-type: none"> <li>• Server Manager</li> <li>• Lead Developer</li> </ul> <b>Roles</b> Frontend Developer, Tester
Anne Jon Schoonhoven	AJ	<b>Responsibility</b> <ul style="list-style-type: none"> <li>• Project Leader</li> <li>• Team Leader Sweden</li> <li>• Requirements manager</li> </ul> <b>Roles</b> Requirements Engineer Frontend Developer, Tester
Shahid Iqbal Tarar	ST	<b>Responsibility</b> <ul style="list-style-type: none"> <li>• SVN Manager</li> </ul> <b>Roles</b> Requirements Engineer, Frontend Developer, Tester

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### 3.2.1 Responsibility Descriptions

Each responsibility is performed by one person. This helps in having a clear understanding about the different fields in the project, and to whom one needs to report about progress about a certain field. The responsible person is involved in coordinating the necessary tasks and keeping track of the progress in his own domain.

#### 3.2.1.1 Project Manager

The project manager keeps control of the overall development process and guides the team to the required targets. His goal is to keep the team on schedule and hold communication channels active.

#### 3.2.1.2 Team Manager

The team manager is responsible for the daily management of his assigned team. There is a team manager for each geographical located team. His goal is to stay informed about their team's status and progress, and discuss future progress with the other team manager.

#### 3.2.1.3 Documentation Manager

This person reviews all the written content, and makes sure that the documents are consistent and conform the required format. A second duty is that this member coordinates the documentation of the implementation and testing activities.

#### 3.2.1.4 Requirements Manager

Analyzing, tracing, prioritizing requirements, controlling their change and communicating the requirements to relevant stakeholders. His goal is to broadcast the incentives and requirements of the project to the other members, so that they are aware of the context of the application.

#### 3.2.1.5 Server Manager

The Server Manager keeps controls of the installed software on the team's server. He also keeps control of the deployment of any version of the application on the machine.

#### 3.2.1.6 Lead developer

The lead developer guides the developers' task, and keeps control of the code policy. His goal is to make sure that the level of the code quality is maintained, and that the developers can work on the code assets.

#### 3.2.1.7 SVN Manager

This manager applies the SVN policy and makes sure that the SVN repository is kept clean and consistent.

#### Backup Manager

This Manager keeps track of the backup processes, and verifies that these backups are usable. He is also in charge of any recovery processes. His goal is to keep the team able to work on their documents and files.

#### 3.2.1.8 System Architect

The System architect designs the general architecture of the system. His goal is that the architecture can full fill the demands of the requirements.

#### 3.2.1.9 Database Manager

The Database manger designs the supporting database model, and keeps control of the consistency of the database and any changes made to the database.

#### 3.2.1.10 Test Manager

The test manager coordinates the test cases, and is in charge of performing the tests, and reports the results of these tests to the other team members.

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### 3.3 Steering group

Severine acted as our supervisor for this project. She has given feedback on our progress, and takes actions if necessary.

### 3.4 Customers

Severine acted as our customer for this project.

### 3.5 Others

The course board will provide project environmental restrictions and information.

## 4. Milestones

Id	Milestone Description	Responsible Dept./Initials	Finished week			
			Plan	Forecast		Actual
				Week	+/-	
M-01	Project Plan draft	AJ	41	42	+1	42
M-02	Project Plan	AJ	42	42	0	41
M-03	Requirements Plan Draft	LJ	41	42	+1	42
M-04	Requirements Plan	LJ	42	42	0	41
M-05	Design Description Draft	MJ	42	42	0	42
M-06	Design Description	MJ	43	43	0	43
M-07	Test plan Prototype 1	ST	45	45	+1	46
M-08	Prototype 1	MP	46	46	0	46
M-09	Test plan Prototype 2	AF	49	49	0	49
M-10	Acceptance Test plan Draft	AF	49	48	0	48
M-11	Prototype 2	MP	50	50	0	50
M-12	Acceptance Test Plan	ST	50	50	0	50
M-13	Test Report	AF	2	2	0	2
M-14	Final Product	AJ	2	2	0	2

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## 5. Project Results

### 5.1 Requirements

#### 5.1.1 Requirement Compliance Matrix

<b>Id</b>	<b>Requirement Description</b>	<b>completed</b>	<b>Rem</b>
	<b>General Actions</b>		
GEN-1	Login	Yes	
GEN-1.1	Register	Yes	
GEN-1.2	Logout	Yes	
GEN-2	View Resource List	Yes	
GEN-3.	Filter Resources	Yes	
GEN-4	View Resource	Yes	
GEN-5	View Tutorial List	Yes	
GEN-6	Filter Tutorial	Yes	
GEN-7	View Tutorial	Yes	
GEN-8	View Topic List	Yes	
GEN-9	Filter Topic	Yes	
GEN-10	View Topic	Yes	
GEN-11	Use flashcard set	Yes	
GEN-12	Search for flashcard sets	Yes	
GEN-13	Perform Exercise	Yes	
GEN-13.1	Answer Question	Yes	
GEN-14	Display user page	Partially	2
GEN-15	Search widget	Yes	
GEN-16	Comments feature on resource	Yes	4
GEN-17	Comments feature on tutorial	Yes	4
	<b>Registered Actions</b>		
REG-1	Create flashcard set	Yes	
REG-1.1	Edit flashcard set	Yes	
REG-1.2	Remove flashcard set	Yes	
REG-1.3	Share flashcard set	Yes	
REG-1.4	View flashcard set	Yes	
REG-2	Add flashcard to set	Yes	
REG-2.1	Edit flashcard in set	Yes	
REG-2.2	Remove flashcard from set	Yes	
REG-3	Kudo a course/resource/exercise	Yes	
REG-4	Subscribe to user	Yes	
REG-4.1	Unsubscribe from user	Yes	
REG-4.2	Edit user page	Partially	3
REG-5	Subscribe to topic	Yes	
REG-5.1	Unsubscribe from topic	Yes	
	<b>Teacher Actions</b>		
TCH-1	Create topic	Yes	
TCH-1.1	Edit topic	Yes	
TCH-1.2	Remove topic	Yes	
TCH-2	Create resource	Yes	
TCH-2.1	Edit resource	Yes	
TCH-2.2	Remove resource	Yes	
TCH-3	Create tutorial	Yes	
TCH-3.1	Edit tutorial	Yes	
TCH-3.2	Remove tutorial	Yes	



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TCH-4.	Add resource/topic to tutorial	Yes	
TCH-4.1	Remove resource/topic from tutorial	Yes	
TCH-5	Add resource to topic	Yes	
TCH-5.1	Remove resource from topic	Yes	
TCH-6	Create Exercise	Yes	
TCH-6.1	Add Question	Yes	
TCH-7	Edit Exercise	Yes	
TCH-7.1	Edit Question	Yes	
TCH-7.2	Remove Question	Yes	
TCH-8	Remove Exercise	Yes	
	<b>Student Actions</b>		
STD-1	Create personal note about Resource	Yes	
STD-1.1	Edit Note about Resource	Yes	
STD-1.2	Remove Note from Resource	Yes	
STD-1.3	Print Note from the Resource	Yes	
STD-2	Create Note about Topic	Dropped	1
STD-2.1	Edit Note about Topic	Dropped	1
STD-2.2	Remove Note from topic	Dropped	1
STD-2.3	Print Note from the Topic	Dropped	1
STD-3	Subscribe to Course	Yes	
STD-3.1	Unsubscribe from Course	Yes	
STD-4	Signal errors in Resource	Yes	

*Completed: Yes (completely implemented)*

*No (not implemented at all)*

*Partially (partially implemented, more description under Remarks subsection)*

*Unknown (completion status not known)*

*Dropped (requirement was dropped during the course of the project)*

### 5.1.2 Requirements Compliance Summary

Total number of requirements	64
Number of requirements implemented	60
Requirements partially fulfilled	2
Requirements not fulfilled	0
Requirements dropped	4

### 5.1.3 Remarks

Remark Id	Description
1	Not very meaningful and not realized.
2	Misses kudos functionality for users.
3	Validation not implemented.
4	Implemented using DISQUS

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## 5.2 Work Products and Deliverables

To	Output	Planned week	Promised week	Late +/-	Delivered week
Project Stakeholders	Project Plan	42	42	0	42
Project Stakeholders	Requirement Definition Document	42	42	0	42
Project Stakeholder	Design Description document	43	43	0	43
Project stakeholders	Acceptance test plan	50	50	0	50
Project stakeholders	Test report	2	2	0	2
Project stakeholders	Final Project Report	2	2	0	2
Project stakeholders	Final version of all documents	2	2	0	2
Project stakeholders	Installation Guide	2	2	0	2
Project stakeholders	User manual	2	2	0	2
Project Stakeholders	Final Product	2	2	0	2

## 6. Project Experiences

### 6.1 Positive Experiences

Most of the team members have acquired valuable experience about the Software Development Life Cycle and corresponding tasks. Some of them had not experienced any big size software project before.

Furthermore, we have acquired an understanding about the effort it takes to proper communicate and cooperate with each other. This distributed environment enforced actually us to have a bigger focus on ‘formal’ communication. The great effort we paid in the beginning of the project on requirements and design definitely helped us keeping the project in direction. We started with adding a lot of “overhead” to the coding process in this project. We experienced that the extra attention one can pay to tasks besides coding can pay off in the future progress of your project.

Besides gaining experiences in the process of software development, we also learned new technologies that can help us in the future, from the basics of SVN, to the more advanced used of the Entity Framework, which supported the data persistency in our project. As well as everything in between, like CSS, HTML, and web development in general.

Furthermore, we made of course new friendships, both with local and remote team members.

### 6.2 Improvement Possibilities

The three biggest challenges we had in our project were Communication, Knowledge, and Requirements, which were of course highly connected to each other.

The flow of information about **what** has to be done can be called proper in our project. The flow of information about **how** it has to be done could maybe get more attention in the future. We experienced differences in quality standards between people, which gave in the end of the project frustration. The lack of knowledge and experiences in general could be a factor in this difference of quality standards. Starting with communicating these expectations of quality and mismatches between expectations and result earlier in the project could improve our efficiency.

We experienced as well that the specialties of people were not distributed evenly. There were a couple of people who had a lot of specialties in Software Engineering, and some who had few. And more evenly distribution of these skills would help definitely spreading the workload.

At last were the requirements of our customer challenging. Although we were aware of these, and paid attention to communicate these requirements properly, the requirements were still playing around with people’s imagination about their exact purpose and meaning until the end of the project. We could challenge this of course with more communication, but also with having an even stricter focus on keeping scope creep down.

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## 7. Financials

### 7.1 Work per Member

Member	W41	W42	W43	W44	W45	W46	W47	W48	W49	W50	W51	W52	W01	W012	Total
Bronić	13	12	8	12	13	8	20	2	4	9	1	5	18	7	132
Farid	9	14	7	9	12	10	20	12	16	20	1	4	10	16	160
Jiang	12	16	8	6	10	13	12	10	28	10	0	1	6	7	139
Jurić	19	21	18	16	17	8	22	20	32	18	10	1	18	20	240
Petrina	8	10	8	10	15	13	11	6	27	5	3	11	8	8	143
Schoonhoven	23	27	17	17	18	15	25	27	31	6	5	15	20	18	264
Tarar	20	25	8	8	14	8	10	16	13	12	1	1	13	7	156
<b>Total</b>	104	125	74	78	99	75	120	93	151	80	21	38	93	83	1234

## 8. Metrics

### 8.1 Milestone Metrics

Completed as planned or earlier	Total	Timeliness
14	14	100%

### 8.2 Effort Metrics

Activity	Actual Effort	Planned Effort	Deviation (%)
Requirements	64 <sup>1</sup>	160	-60%
Design	50	160	-79%
Implementation	350	400	-13%
Testing	80	160	-50%
Documentation	179 <sup>1</sup>	160	12%
Management	225	300	-20%
Course Attendance	206	224	-8%
Study	80	-	
<b>Total</b>	1234	1564	

<b>Effort estimation accuracy (%)</b> <i>(100*(1 - abs(Actual - Planned)/Actual))</i>	81%
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#### 8.2.1 Remarks

Remark Id	Description
1	Requirements and Documents were tracked using the same hour tracker. The differentiation between the two activities is based on estimations.