

netWorked Youth Research for Empowerment in the Digital society

Grant Agreement number: 727066

Requirements Document

WP3_D3.1

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1 Introduction

The requirements document is created in the first steps of the project for getting a wide vision about what kind of data, users and functionalities are going to be presented in WYRED the project (García-Peñalvo, 2016; García-Peñalvo & Kearney, 2016).

This document also represents a guide for the developing process, because it informs about the priority of the tasks, the dependencies among the tasks and the information they require, including the background, objectives, and targets too.

2 Methodology

In the process of the requirements definition, we can use different approaches depending on the software methodology. In this case, we chose the Durán and Bernárdez (2002) methodology because it offers a simple, but powerful, process to elicit and document the requirements. This methodology is based on tables, where we fill the information about a specific requirement.

3 Requirements

The project requirements represent properties that our project is going to have. However, there are properties about different things (functionalities, design, information, etc.). In our methodology, the authors defined three types of requirements.

3.1 Information requirements

This type of requirement groups all requirements about the information that the system is going to manage. There is very important to set these requirements in order to develop the system that is going to manage the data.

3.1.1 Users' visible information

In WYRED one of the most important thing is to maximize the users' privacy, due to this we are going to split the user's information between public and private in the platform.

This information was selected with ours partners to keep the minimum information required to develop a correct social dialogue. These fields are the nickname (Table 1: NicknameTable 1), the language (Table 2), the avatar image (Table 3), the area (Table 4) and the topics of interest (Table 5).





3.1.2 Users' private information

The platform also has to manage more information about its users due to this can help us to extract patterns and get conclusions. However, this information will be private and nobody will see the private information of a specific user. Therefore, it will be treated anonymously in order to respect the users' privacy.

The information that we keep private is: the name (Table 6), the surname (Table 7), the country (Table 8), the city (Table 9), the sex (Table 10), the age (birth date) (Table 11), the education level (Table 12) and the email (Table 13).

3.1.3 Platform information

We have also to manage information about the platform itself, here we distinct two types of data:

- Documents shared in the platform, which can be editable, such as text documents, images, audios and videos.
- Usage statistics, where we can find information about how the users interact with WYRED system and data regarding the platform evolution.

The main problem to manage documents is that there are many formats that we have to support and they use many resources. For this reason, we decided keeping them in a dedicate server to improve the platform performance.

The statistics save data about the number of publications for each user, her time in the platform, how many pages she has visited, in how many projects she is involved, etc.

The both requirements are described in Table 14 and Table 15 respectively.





3.2 Non-functional requirements

This type of requirements groups all requirements about what kind of technologies we are going to use, and regarding the platform design and architecture too.

3.2.1 Platform design

When we planned how to design a platform for youth people, we checked that they use more their mobiles than other classic devices such as laptops or desktops. For this reason, we decided to use a responsive design that can work well in all kinds of devices. However, creating a platform where our users are going to use mainly mobiles has other problem, the performance. Usually mobiles have wireless connections and depending on the country, they can be a bit slow, so we add a requirement about the platform performance.

The both requirements are described in Table 16 and Table 17 respectively.

We also would like to develop a mobile application for the more common mobile systems (Android and iOS), in order to get a better response from the user. However, this requirement is more a wish than a urgent necessity and for this reason, it will have a minor priority. You can read about this requirement in Table 18.

3.2.2 Platform technologies

One of the objectives of WYRED is to develop a platform without spend money in non-relevant functions. Due to this, we have planned to use *Linux* servers and free technologies. *Linux* servers are cheaper than *Windows* servers and offer a solid base to develop a complete web platform, in the same way, there are free technologies/software such as *PHP* or *MySQL* that are widely used in web development and we can use them without a specific cost.

These requirements are described in Table 19 and Table 20 respectively.

3.2.3 Other aspects

One of the most important objectives is to keep all content in the platform hidden for public users, because we are working, in some cases, with underage people. So, the platform content does not have to be indexed. This is described in Table 21.





3.3 Functional requirements

This kind of requirements is related to the functions that the system has to support.

3.3.1 Content moderation

One of the aspect related to the privacy is how to keep the users' information private and avoid arguments in the platform. The solution that we have planned is to use an automatic system that checks all messages looking for a list of alert words. Although the intelligent system can find messages with alert words, these should be checked manually, for this reason we are going to develop a group of moderation tools for editing, deleting, moving, etc. messages. Moreover, we will put an option where the users can inform a moderator that there is a message that should be analyze.

These requirements are in Table 22, Table 23, and Table 24.

3.3.2 Social dialogue

The objective of WYRED is that the youth people can interact themselves and speak things that are important for them, in some cases, they also can offer solutions for their own problems. For this reason, we have to allow that a user can register in WYRED. However, WYRED is not a chat but a platform where there should exist a structured social dialogue, so we are going to develop something like forum topics. This system helps the users answer questions and create discussion threads with their comments.

With the objective of having a good response, first of all, the users will fill a form where they can say in which things they are interested in. Therefore, a researcher or a user will create a project, this will be hidden for all that are not invited to participate; for achieving this, the creator will select what kind of users are going to be invited using the public user's information.

This process is described with the following requirements from Table 25 to Table 30.

3.3.3 Engagement

One of the key elements to attracting young people is working on functionalities that improve the users' engagement. This helps to improve a lot of metrics such as page views, used time and social sharing.

The first requirement, which we have defined with this aim, was a translation system due to there are users from countries that speak different languages. We have also thought that it would be interesting to use a gamification system to increase the users' engagement, due to it is one of the most common technique used right now. For improving the usability, we have planned to design custom styles for each age group, because of teenagers do not want to use a childish platform. We have also kept in mind that if a user likes our platform, she would like to share it with her friends, for this reason, we will develop an easy tool for social sharing.







These requirements are described in tables: Table 31, Table 32, Table 33 and Table 34.

3.3.4 Documents

In the social dialogue process, the researchers need to work with many kind of documents, such as text, audio, images and video. These documents are a relevant part in the WYRED project, so we have planned to develop tools for showing and sharing them. The researchers also suggest that they need an online editor and an easy way for adding annotation in audio and video files.

These requirements are described in tables: Table 35, Table 36 and Table 37.

3.3.5 Research zone

The researchers are also an important part of the WYRED project, for this reason, they are going to have a private zone. In this zone, they will be able to monitor their own social dialogues, share information between the project researchers and analyze their data. In order to improve the data analysis process, we are going to develop visualization tools and a pattern matching system. The visualization tools will help the researchers to discover knowledge using charts, trees and other representations. The pattern matching system will use techniques such as datamining or natural language processing, in order to give to the researchers some patterns about the stored data.

These requirements are described in tables: Table 38, Table 39 and Table 40.





4 Annex: Requirements description

4.1 Information requirements

4.1.1 Users public information

IRQ-0001	Nickname
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Dependencies	• [FRQ-0008] Visibility
	• [FRQ-0018] Select users
Description	The system shall store the information corresponding to the user's nickname.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high

Table 1: Nickname

IRQ-0002	Language
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Dependencies	[FRQ-0010] Translation system
	• [FRQ-0018] Select users
Description	The system shall store the information corresponding to the languages that each
	user can use in the platform.





Importance	vital
Urgency	immediately
Status	under construction
Stability	high

Table 2: Language

IRQ-0003	Avatar image
Version	1.1 (17/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's avatar (a public image that represents him).
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	We will offer a catalogue of avatars and the users will choose one of them. If we can, it would be good has a system to personalize the avatar.

Table 3: Avatar image

IRQ-0004	Area
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero





Dependencies	• [FRQ-0018] Select users
Description	The system shall store the information corresponding to the user's localization.
Description	The system shall store the information corresponding to the user's localization.
Importance	would be nice
	1
Urgency	can wait
Status	under construction
Stability	medium
Comments	We will have to define which type of localization we are going to show (country,
	city, region)
	1

Table 4: Area

IRQ-0005	Topics of interest
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Dependencies	[FRQ-0007] Forms [FRQ-0018] Select users
Description	The system shall store the information corresponding to the main topics of interest for each user.
Importance	would be nice
Urgency	can wait
Status	under construction
Stability	low

Table 5: Topics of interest





4.1.2 Users private information

IRQ-0006	Name
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's name.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	None

Table 6: Name

IRQ-0007	Surname
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's surname.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	None

Table 7: Surname





IRQ-0008	Country
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's country.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	None

Table 8: Country

IRQ-0009	City
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
- Description	The system shall store the information corresponding to the city where the user lives.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	None







Table 9: City

IRQ-0010	Sex
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's gender.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	We have to define with MOVES how we are going to develop this (there are more than two genders)

Table 10: Sex

IRQ-0011	Age
Version	1.0 (17/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's age (based on the birth date).
Importance	vital
Urgency	immediately
Status	under construction





Stability	high
Comments	The best approach to manage age is to create group of ages, for example teens, kids, etc.

Table 11: Age

IRQ-0012	Education level
Version	1.0 (17/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's education level.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	We have to use the ISCED notation

Table 12: Education level

IRQ-0015	Email
Version	1.0 (10/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall store the information corresponding to the user's mail.
Importance	vital
Urgency	can wait
Status	under construction





Stability	high

Table 13: Email

4.1.3 Platform information

IRQ-0013	Documents
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
	501g0 241411 25544615
Dependencies	[FRQ-0013] Annotation software for video and audio
Dependencies	[FNQ-0013] Allifotation software for video and addio
	• [FRQ-0012] Online editor
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	• [FRQ-0011] Show documents and media
	I That out I down documents and mode
Description	The system shall store the information corresponding to the documents that the
Description	
	researchers upload. More specifically:
Specific data	PDF files
	Word files
	Videos
	Audios Images
	illages
	. , ,
Importance	important
Urgency	TBD
Status	TBD
Stability	medium
Table 11: Decumen	

Table 14: Documents

IRQ-0014	Usage statistics
Version	1.0 (08/02/2017)





Authors	Jorge Durán Escudero
Dependencies	• [FRQ-0015] Monitoring tools
	[FRQ-0016] Visualization tools
	• [FRQ-0017] Pattern maching system
Description	The system shall store the information corresponding to platform usage statistics.
1	More specifically:
Specific data	Users Social dialogues Documents Interaction
Importance	vital
Urgency	immediately
Status	TBD
Stability	medium

Table 15: Usage statistics

4.2 Non-functional requirements

4.2.1 Platform design

NFR-0001	Responsive design
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have a responsive design, that works perfectly in mobiles
Importance	vital
Urgency	under pressure
Stability	medium





Table 16: Responsive design

NFR-0002	Performance
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall work fast (load time below 5s) in each participant country
Importance	would be nice
Urgency	can wait
Stability	high

Table 17: Performance

NFR-0006	Multi-platform
Version	1.0 (09/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have a multi-platform native approach, for this reason we should create an application for the most important mobile operating system (Android and iOS).
Importance	would be nice
Urgency	can wait
Status	TBD
Stability	high

Table 18: Multi-platform

4.2.2 Platform technologies





NFR-0003	Linux environment
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Dependencies	None
Description	The system shall install under a Linux environment
Importance	vital
Urgency	immediately
Status	under construction
Stability	high

Table 19: Linux environment

NFR-0004	Free technologies
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Dependencies	None
Description	The system shall work using free technologies such as PHP, MySQL or Apache
Importance	vital
Urgency	immediately
Status	under construction
Stability	high

Table 20: Free technologies

4.2.3 Other aspects





NFR-0005	Privacy
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Dependencies	None
Description	The system shall keep all content hidden for public users, browsers, etc.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high

Table 21: Privacy

4.3 Functional requirements

4.3.1 Content moderation

FRQ-0001	Moderation tools
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall have moderation tools to allow moderators edit, move and delete messages.
Importance	vital
Urgency	immediately
Status	under construction
Stability	medium
Comments	None



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Table 22: Moderation tools

FRQ-0002	Inform to moderator
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall have an option to inform a moderator about a message
Importance	vital
Urgency	immediately
Status	under construction
Stability	high

Table 23: Inform to moderation

FRQ-0003	Message checker
Version	1.0 (13/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall have an intelligent system to check a list of "alerts" words.
Importance	vital
Urgency	immediately
Status	under construction
Stability	medium

Table 24: Message checker

4.3.2 Social dialogue





FRQ-0004	Users CRUD
Version	1.0 (17/01/2017)
Authors	Jorge Durán Escudero
Description	The system shall have a system to create, to read, to update and to delete a user
Importance	vital
Urgency	immediately
Status	under construction
Stability	medium
Comments	We have to define what fields are needed in the register process. Other fields can be filled later.

Table 25: Users CRUD

FRQ-0006	Topics
Version	1.0 (07/02/2017)
Authors	Francisco José García Peñalvo Jorge Durán Escudero
Description	The system shall allow creating topics where the user can interact
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	The topics system must support that a user cite other user/users answer.

Table 26: Topics





FRQ-0007	Forms
Version	1.0 (07/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall support the creation of forms
Importance	would be nice
Urgency	can wait
Stability	medium
Comments	These forms can help to identify interests or areas of discussion

Table 27: Forms

FRQ-0008	Visibility
Version	1.0 (07/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall support selecting what kind of visibility we want for each part of the system. The allowed options are public, restricted by user or private.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high
Comments	None

Table 28: Visibility





FRQ-0018	Select users
Version	1.0 (09/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have an option where the researcher can select what kind of users he needs in his research, using the public profile fields.
Importance	vital
Urgency	immediately
Status	under construction
Stability	high

Table 29: Select users

FRQ-0019	Create project
Version	1.0 (09/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have the possibility that a user can create a project and invite other users to join him. The project has to have a zone where the users can speak and interact.
Importance	important
Urgency	under pressure
Stability	high

Table 30: Create project

4.3.3 Engagement

FRQ-0005	Custom style





Version	1.0 (20/01/2017)
Authors	Jorge Durán Escudero
Dependencies	• [NFR-0001] Responsive design
Description	The system shall show a different style and functionality depending of the user's age
Importance	important
Urgency	under pressure
Status	under construction
Stability	low
Comments	We need to define each theme

Table 31: Custom style

FRQ-0009	Gamification system
Version	1.0 (07/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have a gamification system. This should use the number of users' post and maybe some badges
Importance	would be nice
Urgency	can wait
Stability	low

Table 32: Gamification system

FRQ-0010 Translation system	RQ-0010 Translation system
-----------------------------	----------------------------





Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall use an automatic translation system such as Google translator in order to allow the communication between people who speaks different languages.
Importance	important
Urgency	under pressure
Stability	high
Comments	None

Table 33: Translation system

FRQ-0014	Social sharing
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have an option for share in social networks some content
Importance	would be nice
Urgency	can wait
Stability	high

Table 34: Social sharing

4.3.4 Documents

FRQ-0011	Show documents and media
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero





Description	The system shall have an option to insert videos, audios, documents and other
	stuff. This system has to support comments for each file.
Importance	important
Urgency	can wait
Stability	medium

Table 35: Show documents and media

FRQ-0012	Online editor
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have an online editor for documents.
Importance	would be nice
Urgency	can wait
Stability	high

Table 36: Online editor

FRQ-0013	Annotation software for video and audio
Version	1.0 (08/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have a system that allows annotation in video and audio files.
Importance	would be nice
Urgency	can wait





Stability	high
Comments	None

Table 37: Annotation software for video and audio

4.3.5 Research zone

FRQ-0015	Monitoring tools
Version	1.0 (09/02/2017)
Authors	Jorge Durán Escudero
Dependencies	[FRQ-0016] Visualization tools
Description	The system shall have monitoring tools in the researcher zone in order to see the social dialogue evolution. These tools should use the number of participants, their interactions, the number of comments, the number of uploaded documents, etc.
Importance	important
Urgency	can wait
Stability	medium

Table 38: Monitoring tools

FRQ-0016	Visualization tools
Version	1.0 (09/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have a powerful visualization system, that displays the statistics in graphs, charts, trees and other representations. The aim of this system is helping the researcher to understand the data.
Importance	important



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Urgency	under pressure
Stability	medium

Table 39: Visualization tools

FRQ-0017	Pattern matching system
Version	1.0 (09/02/2017)
Authors	Jorge Durán Escudero
Description	The system shall have a system that can analyse the data and find patterns automatically. This system can use multiple approach like NLP (Natural Language Processing), datamining, etc.
Importance	important
Urgency	can wait
Stability	high

Table 40: Pattern matching system

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