# Software Requirements Specification for Software Engineering: subtitle describing software

 $Team\ 8-Rhythm\ Rangers$ 

Ansel Chen Muhammad Jawad Mohamad-Hassan Bahsoun Matthew Baleanu Ahmed Al-Hayali

October 11, 2024

# Contents

1	Purpose of the Project vi						
	1.1	User Business	vi				
	1.2	Goals of the Project	vi				
2	Stakeholders						
	2.1	Client	vi				
	2.2	Customer	vi				
	2.3	Other Stakeholders	vi				
	2.4	Hands-On Users of the Project	vi				
	2.5	Personas	vi				
	2.6	Priorities Assigned to Users	vi				
	2.7		vii				
	2.8	Maintenance Users and Service Technicians	vii				
3	Mandated Constraints vi						
	3.1	Solution Constraints	vii				
	3.2	Implementation Environment of the Current System	vii				
	3.3	Partner or Collaborative Applications	vii				
	3.4	Off-the-Shelf Software	vii				
	3.5	Anticipated Workplace Environment	vii				
	3.6	Schedule Constraints	vii				
	3.7	Budget Constraints	vii				
	3.8	Enterprise Constraints	⁄iii				
4	Naming Conventions and Terminology viii						
	4.1	Glossary of All Terms, Including Acronyms, Used by Stake-					
		holders involved in the Project	⁄iii				
5	Rel	evant Facts And Assumptions v	iii				
	5.1	Relevant Facts	/iii				
	5.2	Business Rules					
	5.3	Assumptions					
6	The	e Scope of the Work	iii				
	6.1	The Current Situation	/iii				
	6.2	The Context of the Work					
	6.3						

	6.4	Specifying a Business Use Case (BUC)	ix
7	Bus	iness Data Model and Data Dictionary	ix
	7.1	Business Data Model	ix
	7.2	Data Dictionary	ix
8	The	Scope of the Product	ix
	8.1	Product Boundary	ix
	8.2	Product Use Case Table	ix
	8.3	Individual Product Use Cases (PUC's)	ix
9	Fun	ctional Requirements	ix
			ix
<b>10</b>	Loo	k and Feel Requirements	X
		Appearance Requirements	Х
		Style Requirements	
11	Usa	bility and Humanity Requirements	X
		Ease of Use Requirements	Х
	11.2	Personalization and Internationalization Requirements	Х
	11.3	Learning Requirements	Х
	11.4	Understandability and Politeness Requirements	Х
	11.5	Accessibility Requirements	Х
12	Peri	formance Requirements	X
	12.1	Speed and Latency Requirements	Х
	12.2	Safety-Critical Requirements	хi
		v 1	хi
		±	хi
		1 0 1	хi
		v i	хi
	12.7	Longevity Requirements	хi
<b>13</b>		1	xi
		- •	хi
		*	хi
			xii
	13 /	Productization Requirements	vii

	13.5 Release Requirements	xii
14	Maintainability and Support Requirements	xii
	14.1 Maintenance Requirements	
	14.2 Supportability Requirements	xii
	14.3 Adaptability Requirements	xii
<b>15</b>	Security Requirements	xii
	15.1 Access Requirements	xii
	15.2 Integrity Requirements	xii
	15.3 Privacy Requirements	
	15.4 Audit Requirements	
	15.5 Immunity Requirements	
16	Cultural Requirements	xiii
	16.1 Cultural Requirements	xiii
<b>17</b>	Compliance Requirements	xiii
	17.1 Legal Requirements	
	17.2 Standards Compliance Requirements	
18	Open Issues	xiii
19	Off-the-Shelf Solutions	xiii
	19.1 Ready-Made Products	xiii
	19.2 Reusable Components	
	19.3 Products That Can Be Copied	
20	New Problems	xiv
	20.1 Effects on the Current Environment	xiv
	20.2 Effects on the Installed Systems	
	20.3 Potential User Problems	
	20.4 Limitations in the Anticipated Implementation Environment	
	That May Inhibit the New Product	
	20.5 Follow-Up Problems	xiv
21	Tasks	xiv
	21.1 Project Planning	
	21.2 Planning of the Development Phases	

<b>22</b>	Migration to the New Product	
	22.1 Requirements for Migration to the New Product	XV
	22.2 Data That Has to be Modified or Translated for the New System	XV
<b>23</b>	Costs	$\mathbf{x}\mathbf{v}$
<b>24</b>	User Documentation and Training	$\mathbf{x}\mathbf{v}$
	24.1 User Documentation Requirements	XV
	24.2 Training Requirements	XV
<b>25</b>	Waiting Room	$\mathbf{x}\mathbf{v}$
<b>26</b>	Ideas for Solution	xvi

# **Revision History**

Date	Version	Notes
Date 1	1.0	Notes
Date 2	1.1	Notes

# 1 Purpose of the Project

#### 1.1 User Business

Insert your content here.

## 1.2 Goals of the Project

Insert your content here.

## 2 Stakeholders

# 2.1 Client

Insert your content here.

#### 2.2 Customer

Insert your content here.

#### 2.3 Other Stakeholders

Insert your content here.

# 2.4 Hands-On Users of the Project

Insert your content here.

#### 2.5 Personas

Insert your content here.

# 2.6 Priorities Assigned to Users

#### 2.7 User Participation

Insert your content here.

#### 2.8 Maintenance Users and Service Technicians

Insert your content here.

## 3 Mandated Constraints

#### 3.1 Solution Constraints

Insert your content here.

# 3.2 Implementation Environment of the Current System

Insert your content here.

# 3.3 Partner or Collaborative Applications

Insert your content here.

#### 3.4 Off-the-Shelf Software

Insert your content here.

# 3.5 Anticipated Workplace Environment

Insert your content here.

#### 3.6 Schedule Constraints

Insert your content here.

# 3.7 Budget Constraints

## 3.8 Enterprise Constraints

Insert your content here.

# 4 Naming Conventions and Terminology

4.1 Glossary of All Terms, Including Acronyms, Used by Stakeholders involved in the Project

Insert your content here.

# 5 Relevant Facts And Assumptions

#### 5.1 Relevant Facts

Insert your content here.

#### 5.2 Business Rules

Insert your content here.

# 5.3 Assumptions

Insert your content here.

# 6 The Scope of the Work

#### 6.1 The Current Situation

Insert your content here.

#### 6.2 The Context of the Work

### 6.3 Work Partitioning

Insert your content here.

## 6.4 Specifying a Business Use Case (BUC)

Insert your content here.

# 7 Business Data Model and Data Dictionary

#### 7.1 Business Data Model

Insert your content here.

## 7.2 Data Dictionary

Insert your content here.

# 8 The Scope of the Product

# 8.1 Product Boundary

Insert your content here.

#### 8.2 Product Use Case Table

Insert your content here.

# 8.3 Individual Product Use Cases (PUC's)

Insert your content here.

# 9 Functional Requirements

# 9.1 Functional Requirements

# 10 Look and Feel Requirements

## 10.1 Appearance Requirements

Insert your content here.

#### 10.2 Style Requirements

Insert your content here.

# 11 Usability and Humanity Requirements

## 11.1 Ease of Use Requirements

Insert your content here.

# 11.2 Personalization and Internationalization Requirements

Insert your content here.

# 11.3 Learning Requirements

Insert your content here.

# 11.4 Understandability and Politeness Requirements

Insert your content here.

# 11.5 Accessibility Requirements

Insert your content here.

# 12 Performance Requirements

# 12.1 Speed and Latency Requirements

## 12.2 Safety-Critical Requirements

Insert your content here.

## 12.3 Precision or Accuracy Requirements

Insert your content here.

#### 12.4 Robustness or Fault-Tolerance Requirements

Insert your content here.

#### 12.5 Capacity Requirements

Insert your content here.

#### 12.6 Scalability or Extensibility Requirements

Insert your content here.

## 12.7 Longevity Requirements

Insert your content here.

# 13 Operational and Environmental Requirements

# 13.1 Expected Physical Environment

Insert your content here.

# 13.2 Wider Environment Requirements

# 13.3 Requirements for Interfacing with Adjacent Systems

Insert your content here.

# 13.4 Productization Requirements

Insert your content here.

#### 13.5 Release Requirements

Insert your content here.

# 14 Maintainability and Support Requirements

## 14.1 Maintenance Requirements

Insert your content here.

# 14.2 Supportability Requirements

Insert your content here.

# 14.3 Adaptability Requirements

Insert your content here.

# 15 Security Requirements

# 15.1 Access Requirements

Insert your content here.

# 15.2 Integrity Requirements

#### 15.3 Privacy Requirements

Insert your content here.

#### 15.4 Audit Requirements

Insert your content here.

### 15.5 Immunity Requirements

Insert your content here.

# 16 Cultural Requirements

## 16.1 Cultural Requirements

Insert your content here.

# 17 Compliance Requirements

# 17.1 Legal Requirements

Insert your content here.

# 17.2 Standards Compliance Requirements

Insert your content here.

# 18 Open Issues

Insert your content here.

# 19 Off-the-Shelf Solutions

# 19.1 Ready-Made Products

## 19.2 Reusable Components

Insert your content here.

# 19.3 Products That Can Be Copied

Insert your content here.

## 20 New Problems

#### 20.1 Effects on the Current Environment

Insert your content here.

#### 20.2 Effects on the Installed Systems

Insert your content here.

#### 20.3 Potential User Problems

Insert your content here.

# 20.4 Limitations in the Anticipated Implementation Environment That May Inhibit the New Product

Insert your content here.

# 20.5 Follow-Up Problems

Insert your content here.

## 21 Tasks

# 21.1 Project Planning

## 21.2 Planning of the Development Phases

Insert your content here.

# 22 Migration to the New Product

## 22.1 Requirements for Migration to the New Product

Insert your content here.

# 22.2 Data That Has to be Modified or Translated for the New System

Insert your content here.

#### 23 Costs

Insert your content here.

# 24 User Documentation and Training

# 24.1 User Documentation Requirements

Insert your content here.

# 24.2 Training Requirements

Insert your content here.

# 25 Waiting Room

- 1. The recommendation system will be able to recommend songs from less popular music genres (jazz, blues, etc.)
- 2. The analysis system will be able to extract musical features from less popular music genres (jazz, blues, etc.)

- 3. The generative system will be able to generate songs from less popular music genres (jazz, blues, etc.)
- 4. The recommendation system will be able to recommend songs from unpopular music genres (gnawa, libyan funk, etc.)
- 5. The analysis system will be able to extract musical features from less popular music genres (gnawa, libyan funk, etc.)
- 6. The generative system will be able to generate songs from less popular music genres (gnawa, libyan funk, etc.)
- 7. The recommendation system will be able to search for songs with cover art similar to an input song
- 8. The generative system will be able to generate new cover art for a newly generated song, based on the user's input criteria
- 9. The generative system will be able to generate new covert art for an existing song

# 26 Ideas for Solution

# Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Lifelong Learning. Please answer the following questions:

- 1. What knowledge and skills will the team collectively need to acquire to successfully complete this capstone project? Examples of possible knowledge to acquire include domain specific knowledge from the domain of your application, or software engineering knowledge, mechatronics knowledge or computer science knowledge. Skills may be related to technology, or writing, or presentation, or team management, etc. You should look to identify at least one item for each team member.
- 2. For each of the knowledge areas and skills identified in the previous question, what are at least two approaches to acquiring the knowledge or mastering the skill? Of the identified approaches, which will each team member pursue, and why did they make this choice?