

Software Engineering and Testing. BSC Year 2, 2020/2021

(Assignment 2 - 20%)

Assessment 2: Requirements Document

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Submission date

Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Ordinary Degree in Computing in the Technical University Dublin, is entirely my own work except where otherwise stated.

Author: _____

Dated: _____

Author: _____

Dated: _____

Author: _____

Dated: _____

Table of Contents

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Title

Client

1. Project Overview (1 paragraph)

This project will offer the possibility to create digital postcard designs with custom backgrounds and texts. The php based web app will provide a library of templates for this task stored in a MySQL Database. Once the user is happy with their design, they can share it online with their friends and family, or use the inhouse print service to send it to the desired mailing-list, closing a gap between the world of digital communication and analogue mailing.

The finished templates are

The project definition:

- what is the project,
- what the software will do.
- the main components of the software system,
- how will it be used

2. Document Revision

1.0	Initial Revision
2.0	First Review

3. Scope

The project will include

Infrastructure

The infrastructure will be carried by a WAMP stack configured by the 'laragon' software package, building a Windows based, Apache Web Server, a MySQL Database and a PHP installation.

User Management

- Admin is prepopulated
- User can signup and login
- User has a profile with list of purchases
- Input, changing details on the profile will be sanitized

Content Creation

- User can build cards by using picture templates with textboxes
- The cards can be saved.
- The cards can be shared
- Own templates uploadable to database meeting set standards.

Billing and Shipping

- Cards can be send postal with maillinglists
- Shipping will increase billing

The project will not include

Functionality that aims for

- Loyalty rewards
- Refunding
- Editing of saved cards

The functionality the project/software will **include** and **exclude** – required, desirable, optional.

Scope & Functionality of the project should be clear so that client and developer have the same expectations...

4. Walkthrough Scenarios

Login:

The user finds our website through organic/non organic recommendation, looks around the website and finds the intended functionality is to create a custom image using their own image or an image from a template library. The user then decides they wish to use this functionality and wants to create an account. They navigate to the landing page which contains the 'create account' section. The user fills out the required data (e.g name, address, password) and then clicks at the 'register' button at the bottom of the section. A pop up appears telling the user they've been registered in the system and they can now login.

The user goes to the login section of the landing page. They enter the email and password they registered with the webpage. The user is redirected back to the Login page with a pop up message saying 'You have entered your details incorrectly, please try again'. The user thinks back and realizes the email they entered was their backup, not the primary they registered with the website. The user enters the right email and password and is directed to the image creation tool.

Modify profile:

The user's friend moved to a new apartment last week and the user wants to send him a custom postcard from the webpage. So the user has to edit his friends address in the webpage database. So the user navigates to the section of the top menu bar where his username is and clicks it, a dropdown menu appears with an option listing "Profile". The user clicks this and is directed to a page with options: 'change password, change addresses' and chooses the 'change addresses' option. The user selects the address values and changes the values in each of the fields (e.g Address 1, Address 2) to their friends current address and see the 'save changes' button at the bottom. The user presses this button and the changes get saved to the database. The user selects the 'Personal Gallery' page and selects the postcard to add to his cart. He goes to the checkout and sees his friend's address has been updated to his new address.

Mail postcards:

The user wants to post an image they have created to a friend's address. The user goes to the 'Personal Gallery tab' and presses the 'Add to cart' button at the bottom of the saved image. This adds the postcard to their cart. The user selects the cart tab from the top bar and chooses the quantity of cards they wish to purchase. The price is displayed and the user clicks the checkout button. The user selects his friends address, then the credit card to be charged, presses the 'purchase' button at the bottom of the page and is brought to a page with the receipt and details for their purchase

Edit new image:

The user has created a profile and is excited to use the website's image editing functionality . So the user clicks the 'create image' tab and the top of the page and is directed to the image customization webpage. The user has the option to use a range of text to customize an image. The user notices there is an "image upload" button on the top toolbar and chooses to upload their own image. The user presses the button, is redirected to a page with an upload square, the user clicks it, uploads their image and it appears on the image selection pane. The user clicks back to the "create image" page and notices the image appears in the image tab. The user drags the image onto the center of the webpage and chooses a text asset to drag onto it and saves it to their profile. The user's new image is shareable and can even purchase and ship it out to a recipient.

View Personal image gallery:

The user has created a postcard and wants to view it in their gallery. The user selects the 'Image Gallery' tab and can now see all the images they have created and can choose to share the images via email.

Share saved image:

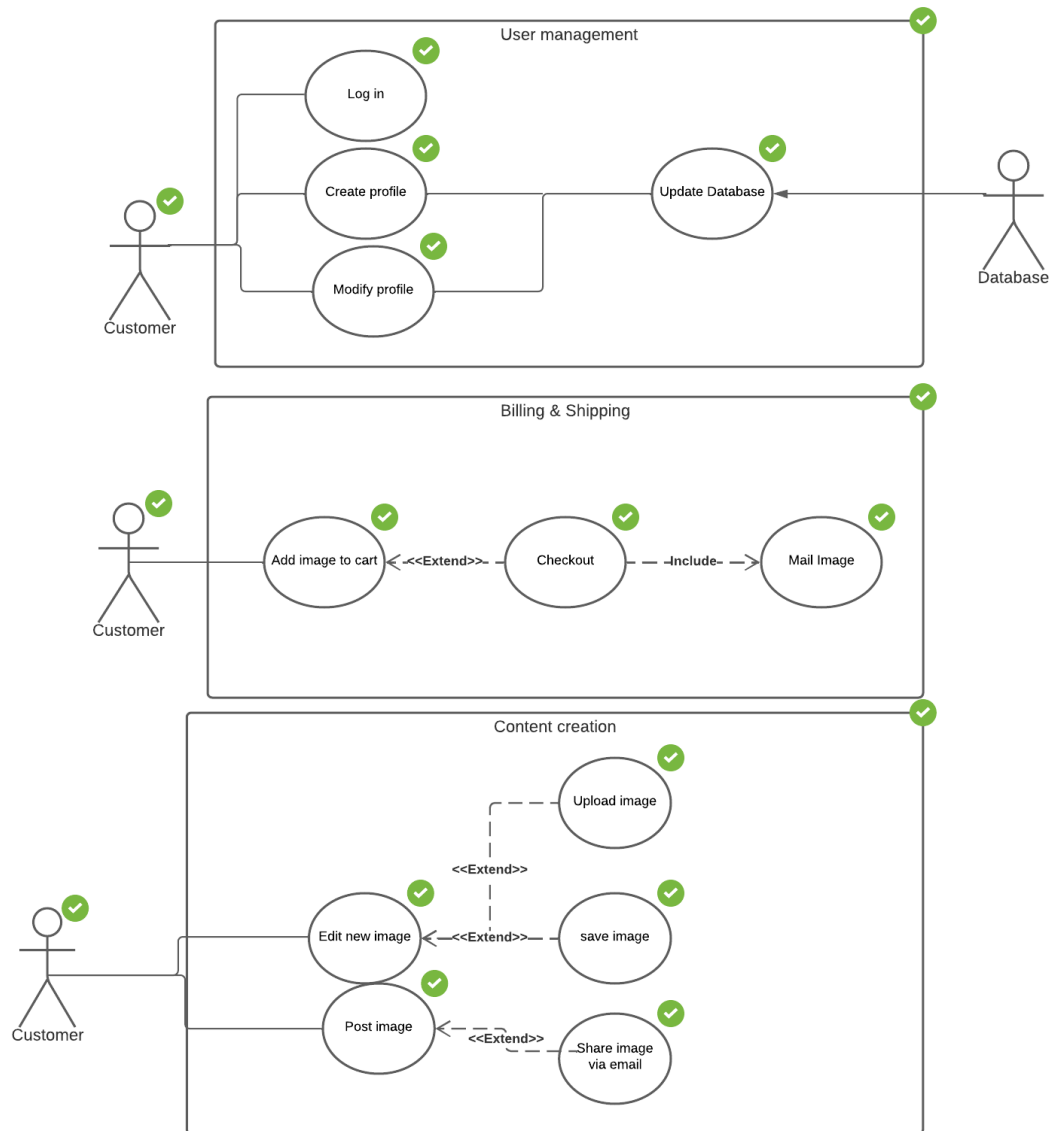
The user wants to share an image he created with his aunt because he thinks she'd like it. The user navigates to the 'Personal Gallery' tab and clicks the 'share' button underneath the image they wish to share. The user is redirected to their email client with the image attached which they can now attach the word "LOL" to and send to their aunt.

5. Software Requirements Analysis:

5.1 User Requirements

5.2 System Requirements

5.2.1 Use Cases



5.2.2 Use Case Specification

User Management

Create Profile	<ul style="list-style-type: none">• The user creates an account by entering details into the account creation form
Log in	<ul style="list-style-type: none">• The user navigates to the Login page• The user logs into the system using their username and password• Authentication request sent to the database to confirm user details• User details verified or rejected
Modify Profile	<ul style="list-style-type: none">• The user must be logged in.• User navigates to the modified profile section.• <u>If the user selects 'Modify login details'</u><ul style="list-style-type: none">○ The user updates their password○ System sends the updated password to database○ Database authenticates password○ Database overwrites the password entry○ Message displayed 'Username and password updated'• <u>If the user selects 'Modify shipment details'</u>:<ul style="list-style-type: none">○ User updates their address details○ System sends the updated address to database○ Database overwrites the shipment details entry○ Message displayed 'shipment details updated'• <u>If the user selects 'Modify payment details'</u>:<ul style="list-style-type: none">○ User updates their payment details○ System sends the updated payment details to database○ Database authenticates

	<ul style="list-style-type: none"> payment details <ul style="list-style-type: none"> Database overwrites the payment details entry Message displayed 'payment details updated'
Update Database	<ul style="list-style-type: none"> Database receives Update command Update data gets sanitized and added to the user table

Billing and Shipping

Add image to cart <<extends>> Checkout	<ul style="list-style-type: none"> The user adds a finished card design from the creation page they want shipped The card variant appears in the cart, indicating shipping details are still required.
Checkout <<includes>> Mail Image	<ul style="list-style-type: none"> The *Account Payment Method* stores the payment method chosen when the agreement was signed and this method is the default for the payment transaction which is only made through credit card. In case a discount is applied to the invoice, this information is stored in the corresponding table *Invoice Discount* They are then given a tracking number once payment is made.
Mail Image	<ul style="list-style-type: none"> The user wants to mail specific card variants. Only cards with at least one address can be shipped. Only orders with all cards marked <u>ready</u> can be submitted. The total cost is calculated by the amount of cards and the respective mailing cost provided by the database.

Create Content

Add image to cart <<extends>> Checkout	<ul style="list-style-type: none">• User selects the image and the quantity of the image they want• User adds to the cart• Databases adds this to the users temporary cart session• User goes to the cart and presses checkout• User selects the addresses and pays for the images• Payment authenticated and card mailed
Edit new image	<ul style="list-style-type: none">• User selects the edit image tab• System makes request to database to display the stored images and text• Database returns the stored images and text• The user edits and saves the image• The system sends the image to the database to be stored• Database stores the image in the users pictures section
Post image	<ul style="list-style-type: none">• User selects an image• System makes requests to the database to append image to the email client• Database appends the image to the email client

Frontend

The project will require a PHP web application consisting of eight individual pages, containing the following pages

- i) Landing Page, containing Signup and Login
- ii) Profile page with user-detail, email, credit card detail, billing address, username, password. This page needs the functionality to update every one of those details, while a sanity check is implemented for every field the user can input text, the field that is the credit card number
- iii) A personal gallery containing all personally saved cards with a limit of 20
- iv) A design interface that presents a template gallery to create new cards backed by the backend database, with the functionality to save the designed cards and upload their own templates.
- v) An upload interface that allows you the user to add .jpg, .png files with max width x and max height x. Logic must be implemented to filter these files properly.
- vi) A cart page to see the details of an ongoing order, with functionality to remove items or continue to checkout.
- vii) A checkout page with the ability to continue with charge on the credit card or cancel and return to the cart page.

iix) A status page to track the progress of postal orders, with the status received(orange), production(yellow), shipped(green)

All styling will be achieved using html and css.

Excluded from the project will be the possibility to change saved designs.

Backend

In the backend a MySQL database will be required consisting of X tables

LIST TABLES HERE

5.2.3 Activity Diagrams

5.3 Non-functional Requirements:

These are constraints on the service or functions offered by the system e.g. timing constraints

6. Graphical User Interface Design

LANDING PAGE

LOGO		Upload image	Create image	User Profile	Cart
Who we are	Log in				
	Sign up				
Legal info					

Personal Gallery Page

LOGO		Upload image	Create image	User Profile	Cart
Image Carrosl	Image selected				
	Share				
Legal info					

Profile Page

LOGO		Upload image	Create image	User Profile	Cart
Current user details	Login details				
	Save				
	Shipment details				
	Save				
Legal info	Payment details				
	Save				

Image creation page

LOGO		Upload image	Create image	User Profile	Cart
Templates Images	Selected Image				
	Template Text				
Legal info					

Cart Page

LOGO		Upload image	Create image	User Profile	Cart
Total: £0.00	List of cards selected		Qauantity	Total	
	List of cards selected		Qauantity	Total	
	List of cards selected		Qauantity	Total	
CHECKOUT					
Legal info					

Checkout Page

LOGO		Upload image	Create image	User Profile	Cart
List of cards selected	Cart	Qauantity	Total	Shipment Details	
	List of cards selected	Qauantity	Total	Payment Details	
		Qauantity	Total		
		Qauantity	Total	Total: £0.00	
			Save		
Legal info					

Upload new image page

LOGO		Upload image	Create image	User Profile	Cart
Was Image upload successful?	Click to upload and display image				
	Upload				
Legal info					

7. Technical Requirements and Feasibility:

System models – Use Case diagram, Class diagram, Activity diagram, ERD diagram

Development language – HTML, CSS, Javascript, PHP

Persistent storage – SQL

Interface & Software / Hardware APIs

8. Conclusion (1-2 paragraphs)

Your conclusions and recommendations (feasibility of the proposed project)

Additional sections: Table of Contents, executive summary, Index

Checklist: Is your document complete and correct?

Content:

- Do the requirements state the customers' needs
- Are you satisfied with all parts of the document
- Do you believe all parts are possible to implement
- Is each part of the document in agreement with all other parts
- Do the requirements avoid specifying a solution
- Do the requirements avoid specifying a design

Completeness:

- Are all the necessary interfaces specified – this includes input and output
- Are the specifications precise enough
- Are all sections from the document template included – if changed, why?

Clarity:

- Are all requirements reasonable?
- Is the level of detail for each requirement appropriate?

- Are the requirements written in a language appropriate to the reader?
- Are all items clear and unambiguous?