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

**(Assignment 2 - 20%)**

**Assessment 2: Requirements Document**

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**Submission date**

**Declaration**

I herby 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.

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**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 webapp 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 |
| --- | --- |

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# **3. Scope** (max 1/2 page)

**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 same expectations…

**4. Walkthrough Scenarios**

Who is going to use/interact with the software /system and how will they use it.

e.g. for vending machine user and serviceman…

Create account:

User finds website through organic/non organic recommendation, looks around website and finds the intended functionality is to create a custom image using their own or from a library of already uploaded images. The user then decides they wish to use the webpage and wants to create an account. They navigate to the login page which contains the ‘create account’ button. The user clicks this button and is redirected to the create account form. The user fills out the required data (e.g name, address, password) and then clicks at the ‘register’ button at the bottom of the page. A pop up appears telling the user theyve been sent an email to confirm acciunt registration. The user navigates to their email and selects the email sent and clicks the confirm button. The user is sent back to the website with a pop up saying theyre account has been created and they can now login.

Login:

The user has created an account and now wishes to use the image editor on the website. The user navigates to the Login button on the website. The user is redirected to the Login section where they enter the email and passwords they registered with the webpage. The user i sredirected back to the Login page with a pop up message saying ‘You have ebntered your details incorrectly, please try again’. The user thinks back and relaises the email they entered was their backup, not the primary they registered sith the website. The user enters the right email and password and is directed to the image creation tool.

Modify profile:

The users 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 login page. Enters their login username and password and logs into the webpage. The user selects the ‘my profile’ tab and a dropdown list emerges with a list of options such as ‘change password, change username, change saved addresses’ and chooses the ‘change saved addresses’ option. The user is redirected to a webpage which lists the addresses they have seaved. The user selects his friends address and a form enters with his friends address. The user changes the values in each of the fields (e.g Address 1, Address 2, street, city, eicode) 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 ‘view saved postcards’ tab and selects the postcard to shi[p to his friend. He views the saved addresses and notices his friends address has been updated to his new address.

Create postcard:

The user has created a profile and is excited to use the websites image editing functiobnality. 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 image customization tools to customise an image. The user notices there is an image upload button and chooses to upload theuir own image. The user presses the button, upload their image and it appears on the image selection pane. The user clicks and 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 users new image is sharedable and can even purchase and ship it out to a recipient.

View saved postcards:

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

post postcards:

The user wants to post an image they have created to a friends address. The user goes to the ‘view saved postcards’ tab and presses the ‘buy and ship’ button which adds the postcard to their cart. The user selects the cart tab from the tob bar and chooses the qunaityt of cards they wish to purchase. The price is displayed and the user can choose to continue to purchase. The user selects his friends address, then the credit card to be charged, presses the ‘purchase’ button at the bottom and is brought to a page with the receipt and details for their purchase

**5. Software Requirements Analysis:**

***Functional Requirements:***

These are statements of services the system should provide – how the system should react to particular inputs and how it should behave in particular situations. Explicitly state what the system should do. Every major scenario should be represented by a use case. Diagrams are encouraged. UML Use case diagrams, Use case specifications (as legible screen dumps, typed listings or activity diagrams)

Can approach them from a *user* and *system* point of view.

*User* – high level abstract requirements, readable by someone with no detailed technical knowledge.

*System* – detailed description of what the system should do. Targeted at technical staff and project managers…

e.g.

# **5.1 User Requirements**

# **5.2 System Requirements**

5.2.1 Use Cases

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5.2.2 Use Case Specification

**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 .jgp, .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**

# **7. Technical Requirements and Feasibility:**

System models – UML

Development language – Java

Persistent storage – database?

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 details for each requirements appropriate?

· Are the requirements written in a language appropriate to the reader?

· Are all items clear and unambiguous?