

**School of Computing**

**and**

**Digital Technologies**

**Software Projects**

**(55-407815-AF-20245)**

**Individual Project**

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**Degree Route: BSc CS (Delete as appropriate)**

**Project Chosen : Budget Tracker**

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# 1. Requirements Gathering Stage

## 1.1 Project Description and Users

Briefly outline your project in the context of a business. Who are the users in this context? Identify two users. If you identify more than two users, this will be fine, e.g.

The budget tracker is going to calculate how much a user can spend of their salary and not only cut back costs in certain areas but also allow the users to be comfortable with large amounts of savings and warnings about upcoming payments such as loans and taxes.

|  |  |
| --- | --- |
| **Name** | **Description** |
| New user | Register as a user of the system to access system’s feature. |
| Returning user | Use system’s features once successfully authenticated. |
| Admin user | A user with elevated access compared to regular users. |

## 1.2 User Stories and Acceptance Tests

Provide three user stories for each user you identified for the project. Provide a set of acceptance tests for each user story you identified, e.g.

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **User Story** | **Notes** | **Acceptance Test** |
| NU-US-1  *(New User User Story 1)* | As a new user, I want to create an account so I can access the full features of the system. | N/A | * Verify that the system allows new user to successfully create an account when all required information has been provided. * Verify that the system denies new user’s account creation when required information has not been provided. |
| NU-US-2 | As a new user with an account, I want to Log In for the first time so I may use the features. | This Story assumes  NU-US-1 has been completed | * Verify that the system recognizes the new account as a valid user and allows them to log in. * Verify that the system denies a Log In attempt when all required credentials are not provided. |
| NU-US-3 | As a new user Logged into the system I want to be able to put all of the necessary data for budget tracking such as tax dates, current loans and my salary and expenses | This Story assumes  NU-US-2 has been completed | * Verify the user is able to enter the required information into the correct fields and is recognized as a legitimate request. * Verify the system denies illegitimate requests for inputting data such as salary’s lower than minimum wage or higher than £1,000,000 or expenses larger than and It would also disallow the total salary as this is not possible also deny not inputting tax dates unless taxes is already handled by the employer. |
| RU-US-1  *(Returning User, User Story 1)* | As a returning user, I want to login using my username and password to access my account. | This story assumes  NU-US-1 has been completed | * Verify that the system allows returning user to successfully login when valid credentials are provided. * Verify that system won’t allow returning user to successfully login when invalid credentials are provided. * Verify that system won’t allow returning user to successfully login when no credentials are provided. * Verify that system won’t allow returning user to successfully login when partially valid credentials are provided. |
| RU-US-2 | As a returning user, I want to be able to look at the data I inputted previously and continue working with it | This story assumes NU-US-3 has been completed | * Verify that the system holds that users previously entered data securely and correctly and allows the user to continue with that data. * Verify that the system also allows the user to continue if they only partially input data last time. * Verify that the system denies this request if the user hasn’t previously entered any data. (will ask the user to input the data for the first time). |
| RU-US-3 | As a returning user, I want to be able to see any new additions to the software as well as anything that would affect my data or privacy | This assumes  RU-US-1 has been completed | * Verify that the system recognizes they are a returning user and have not logged in after the update was already out. * Verify that the system denies this request provided they have already seen the updated info or have logged in already. |
| PU-US-1  *(Premium User User Story 1)* | As an Premium User I want to Log-In And Access my premium benefits | N/A | * Verify that the system recognizes that these are a different type of credentials than a regular set and grants the special privileges of a Premium User * Verify that the system denies this request if the data is entered partially or incorrectly. |
| PU-US-2 | As a Premium User I Want to be able to track more budgets than a regular user | This Story assumes  AU-US-1 has been completed | * Verify the system accepts this request as long as the account has paid in full. * Verify the system denies the request if the user’s payment is late or denied |
| PU-US-3 | As an admin user I want to be able to add other people to budgets for family or group tracking | This assumes AU-US-2 has been completed | * Verify the system allows this request as long as the user is a verified premium and has paid * Verify the system denies the request if the payment is late or declined |

## 1.3 Use Case Diagram

Insert your diagram here in **png** format and provide a brief annotation, e.g.,

A screen shot of a computer

Description automatically generated

# Three actors are identified. User (New, Returning and Premium). Retuning and premium Users have access to different functionality depending on their membership type. Non-Premium Users have access to only 1 budget to track compared to premium users 4 budgets.

# 2. Design Stage

## 2.1 Entity Relationship Diagram

The design must be annotated outlining the purpose of each entity within the design, e.g.,

A diagram of a program

AI-generated content may be incorrect.

# 3. Development Stage

## 3.1 Transitioning a Prototype to Production-Quality Software

Provide evidence of how you transitioned your prototype to a production-quality (where possible) software system systematically. This may include use of a systematic approach to convert an entity-relationship diagrams to a corresponding database implementation. You can also include such details as how you interfaced to a database system within an application (if applicable to your project).

## 3.2 Test Description

In this sub-section, you are required to outline your test description with evidence (i.e., test results).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **User Story ID** | **Test ID** | **Acceptance Test** | **Test Description** | **Expected Result** | **Test Result** |
| RU-US-1 | T001-RU-US-1 | Verify that the system allows returning user to successfully login when valid credentials are provided. | 1. Double click Chrome browser icon on desktop. 2. Type *localhost/project\_enigma/login.php* on the URL address bar. 3. A login form will be displayed. 4. Enter the following details:    1. Username: *user123*    2. Password: *Us3r*!23 5. Click ‘*login*’ button 6. A page will be displayed with message that says “*Login is successful!*” | User will be successfully logged in. | Pass / Fail |
| T002-RU-US-1 | Verify that system won’t allow returning user to successfully login when invalid credentials are provided. | 1. Repeat steps (1) through (3) in T001-RU-US-1 2. Enter the following details:    1. Username: *user123*    2. Password: *Us3r*!2332 3. Click ‘*login*’ button 4. A page will be displayed with message that says “*Login is unsuccessful!*” | User will not be successfully logged in. |  |

# 4. Software and Its Presentation

## 4.2 The Production-Quality Software

You are expected to submit the project, including all its components (e.g., codebase), compressed in a zip file (or 7z). The file should be named “*IndividualProject\_StudentNo*” and must be uploaded to Blackboard as directed in the relevant submission point. (e.g., *IndividualProject\_32212112.zip*)

## 4.3 Video Presentation

The project must be showcased in a video recording of up to 15 minutes. We will stop watching after the 15th minute.

<https://shu.cloud.panopto.eu/Panopto/Pages/Viewer.aspx?id=b35aedd7-0a14-401c-b664-b26b00ba566b>

# 5. Evaluative Report on Legal, Social, Ethical and Professional Issues

## 5.1 Relevant Issues

Identify two or three issues that specifically relate to your project (this could be GDPR, copyright, accessibility, testing, etc.), and briefly explain their relevance to your project.

## 5.2 Discussion

Discuss what impact these will have on the project. Specifically, you may discuss how these issues will impact on the way you will transition your prototype / design you developed in Requirements and Design stage to a production-quality (where possible). As well as supporting your discussion with references, throughout your work you are also expected to identify recent public examples that have been reported in the news (or other reputable sources), for example if you are creating an application that will store personal data, a useful example would be to mention the fine British Airways received for being in breach of GDPR, all of which should be cited using the APA format.

# 6. Incorporation of formative feedback

Provide evidence of how you evaluated and acted on the formative feedback you received from your tutors, during the IT sessions.

|  |  |  |
| --- | --- | --- |
| **Individual Project** | | |
|  | **Feedback Received** | **Action Taken** |
| Week 1 | Section 1 : After creating the user stories I have been advised to refine some of them and set limits to certain data types such as salary.  Section 2 : | Section 1 feedback : I have added the constraints of minimum wage and £1,000,000 |
| Week 2 |  |  |
| Week 3 |  |  |
| Week 4 |  |  |
| Week 5 |  |  |
| Week 6 |  |  |

# 7. References

Your reference list should contain citations to external sources that have been relied on throughout your project’s development and writing this portfolio. The citations should conform to the APA referencing system[[1]](#footnote-2), e.g.,

Fitzgerald, J., & Hayward, P. (2009). Inflamed: Synthetic folk music and paganism in the island world of The Wicker Man. In P. Hayward (Ed.), Terror tracks: Music, sound and horror cinema (pp. 101-111). London: Equinox.

Melchers, G., Shaw, G., & Shaw, P. (2013). World Englishes (2nd ed.). Retrieved from http://lib.myilibrary.com

Miller, D. (2016). Social media in an English village. https:// doi.org/10.14324/111.9781910634431

TED. (2007, January 6). Sir Ken Robinson: Do schools kill creativity? [Video file]. Retrieved from https:// www.youtube.com/watch?v=iG9CE55wbtY

1. <https://libguides.shu.ac.uk/ld.php?content_id=32537001> [↑](#footnote-ref-2)