**GROUP PROJECT FRONT SHEET**

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| **Qualification** | **BTEC Level 5 HND Diploma in Computing** | | |
| **Unit number and title** | WEBG301 - Project Web | | |
| **Submission date** |  | **Date Received 1st submission** |  |
| **Re-submission Date** |  | **Date Received 2nd submission** |  |
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| **Student declaration**  I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice. | | | |
|  |  | **Student’s signature** | Hung |

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**Grade**

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| **❒ Summative Feedback: ❒ Resubmission Feedback:** | | |
| **Grade:** | **Assessor Signature:** | **Date:** |
| **Signature & Date:** | | |

1. User’ requirements (group)

1.1. User Stories template

|  |  |  |  |
| --- | --- | --- | --- |
| No | As a <type of user/personal> | I want to <global objective> | So that <benefit/result/reason> |
| 1 | Admin | Login/logout | I can login/logout my account in the blog post web. |
| 2 | Admin | Register | I can register an account in the blog post web. |
| 3 | Admin | Create a new post | I can create a new post with the information inside as title and content. |
| 4 | Admin | View all my posts and other user’s posts | I can view all my posts and other user’s post with my permission. |
| 5 | Admin | Delete my post and other user’s post | I can delete my post and other user’s post with my permission. |
| 6 | Admin | Update my post and other user’s post | I can update my post and other user’s post with the information inside as title and content. |
| 7 | Admin | Change my avatar | I can change my avatar in the blog post web. |
| 8 | Admin | Follow/unfollow other user account | I can follow/unfollow other user account. |
| 9 | User | Login/logout | I can login/logout my account in the blog post web. |
| 10 | User | Register | I can register an account in the blog post web. |
| 11 | User | Create a new post | I can create a new post with the information inside as title and content. |
| 12 | User | View all my posts | I can view all my posts created from the database. |
| 13 | User | Delete my post | I can delete my post created out the database. |
| 14 | User | Update my post | I can update my post created with the information inside as title and content. |
| 15 | User | Change my avatar | I can change my avatar in the blog post web. |
| 16 | User | Follow/unfollow other user account | I can follow/unfollow other user account. |

Table 1: User stories

2. Use case diagram (optional)

This blog post website system includes both Admin and User. Admin can create/view/update/delete my posts and can view/update/delete posts of other users. User also has the same features except the secondary functions of Admin. In addition, both Admin and User can follow and unfollow other users' accounts.

A diagram of a process

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Figure 1: User case diagram

2. System Design (Group)

2.1. Site map

This is our team sitemap including for Admin and User. User belongs to the regular user group and Admin belongs to the highest user group. First, both groups of users can log in, register, and log out of the system. User accounts are logged in and registered normally, except for the Admin account, which will be upgraded based on changes in database rights. A regular user account will be able to create posts, update posts, delete posts and view all posts that have been created. For external Admin accounts, the previous functions are similar to the user's account and will be able to update and delete other users' posts. This is the authority that the Admin account is allowed to use over other user accounts. In addition, both types of accounts can follow other user accounts and there will be two pages showing information about which users are following each other. From user accounts that follow each other, there will be a home page feed that displays posts from user accounts whose accounts we have followed. Finally, there will be the avatar change feature. If the user does not change it then it will have a temporary avatar fixed there.

A diagram of a website

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Figure 2: Site map

2.2. Entity Relationship Diagram

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Figure 3: Entity Relationship Diagram

2.3. Wireframes

- Login/Register:

* Login: There are two fields that need to be filled in: username and password to log in
* Register: There are four fields that need to be filled in: username, email, password and password verification to be able to register a new account.

A screenshot of a login form

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Figure 4: Login/Register Page

- Homepage-feed: Shows all posts where we have followed other user accounts.

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Figure 5: Homepage-feed

- Profile-post page: Displays all the posts we created previously.

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Figure 6: Profile-post page

- Follower page: Showing user accounts that are following my account.

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Figure 7: Follower page

- Following page: Shows user accounts that I have followed.

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Figure 8: Following page

- Create post page: There are two fields that need to be filled in: title and content to create a complete post.

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Figure 9: Create post page

- View post page: A previously created post appears.

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Figure 10: View post page

- Edit post page: A post page will appear with content data of the post we created previously so we can update the content.

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Figure 11: Edit post page

- Avatar page: Change your profile picture to enrich your website.

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Figure 12: Avatar page

3. System Implementation (Individual)

3.1. Source code

a. Introduction MVC design pattern in Laravel

MVC is a web application architectural design model of the Laravel framework, in which the application is divided into three main components: Model, View and Controller. First Model is responsible for processing data and storing data in the database. Next, the View is responsible for displaying data to the user. Finally, the Controller is responsible for controlling the application flow and handling requests from users. This MVC design pattern is widely used in many web projects around the world. The advantages of this model include ease of maintenance, expansion, reuse of components, ease of change and upgrade. On the contrary, it can be more complicated than other models because it has many internal components.

b. Attach project structure

- Include migrations file and MVC

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Figure 13: MVC

- User code

* Model: The User model includes fields such as 'username', 'email', 'password'. This is important data information to be able to create a user account and especially in it there is an avatar() function that makes the path for your photos to go to the correct folder or the temporary photo is the photo. saved outside the 'public' folder. There are also 'hasManyThrough' relationship functions like feedPosts() to be able to get the posts of people whose accounts we have followed. The followers() function has a 'hasMany' relationship that will retrieve information about the accounts that are following our account. The followingTheseUsers() function has a 'hasMany' relationship to get information about the accounts we follow. Finally, the posts() function has a 'hasMany' relationship to get all the posts of the currently logged in user account.

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Figure 14: Model User

* Controller: In UserController, the user will first have to log in and register an account to access the web system. The fields in the function are tightly linked and have validation to provide rules for appropriate account naming. The logout() function allows us to directly log out of the account we are using and go to the main page with login and registration. There are also functions such as showing posts of logged in user accounts profile(), showing user accounts following our account profileFollowers(), and showing user accounts we follow profileFollowing( ). Finally, the storeAvatar() function helps us change the avatar as desired.

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Figure 15: UserController

- Post code

* Model: In the Post model we will have two fields 'title' and 'body' to be able to create a complete post. There is also a function user() with the 'belongsTo' relationship to determine the dependency relationship with the User table through 'user\_id'.

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Figure 16: Post model

* Controller: In PostController, there will be functions that can save the data information the user has entered to push it to the database and from there retrieve it and bring it into the user's website. In addition, there will be CRUD functions for each user's post.

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Figure 17: PostController

- Follow code

* Model: In the Follow model, we will have two functions with the relationship "belongsTo" to show the dependence on the User table through 'user\_id' and 'followeduser' to be able to determine who is following us or who we are following.

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Figure 18: Follow model

* Controller: In FollowController, there will be two functions representing two functions: create and remove follow other user accounts.

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Figure 19: FollowController

- View: In the view, it will represent all that the user can see and the information we have entered.

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Figure 20: View

c. How can develop a Laravel project

To be able to develop a Laravel project, it will include the following steps:

* Install Composer
* Install Composer environment in windows operating system
* Install the MySQL application
* Install MySQL environment in windows operating system
* Install php version and php environment in windows operating system

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Figure 21: Composer, php and MySQL environment

* After installing the above step, use Command Prompt to create a Laravel project: composer create-project laravel/laravel my-project
* Configure the database through the .env file include lines number 14, 15, 16A screenshot of a computer

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Figure 22: .env file

* Use cmd to migrate all changes into the database: php artisan migrate

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Figure 23: Database MySQL

* Run web: php artisan serve