Universidade do Minho
Escola de Engenharia

ESCOLA

DE ENGENHRARIA

DA UNIVERSIDADE

DO MINHO

M

Mestrado

Engenharia Informática

"It's not a bug it's a feature"

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Complementary Course Unit

Web Application Development

4º/1ºYear, 1º Semester

Academic year 2020/2021

1. Introduction

1.1. Identification of Project and Objectives

Within the scope of Complementary Course Unit "Web Application Development", we were asked to carry out a project to develop a Platform for Management and Availability of Educational Resources

The main objective of this project is to develop an app that is able to Provide educational resources of various types, for example books, articles, applications, student work, monographs, reports; Allow adding new types of resources and new resources; Have the resources classified by year, type, theme, ... (use of hashtags or a classification taxonomy); Allow a user to make a Post about a resource; Allow other users to comment on Posts; Create a ranking system for resources (attribution of stars by users); And what the imagination dictates ...

At the end of the project, a report must be submitted in which all the work carried out is described, as well as all documents from it, including the code and any extra document used.

1.2. Report Structure

In addition to this chapter, this report is organized into two chapters, which are:

• Chapter 2: Development – Chapter where we describe all the development and implementation of this project.

• Chapter 3: Future goals – Chapter where we carry out an analysis of the work developed and draw some conclusions and future goals to better the platform.

2. Development

In this segment we'll describe what we did throughout the entire development path and every functionality our website has.

We have a responsive website using bootstrap and w3.css frameworks, running on Node.js server,connected to MongoDb database.

First page you'll be redirected to the News page, where you can see displayed the new submission users made ordered by last submission created to first. It's just a informative page, but if the user feels the need to look in detail he can be redirected to the submission page by clicking "Show submission". Any user can visualize this page, logged in or not.

After the News page we advice the user to perform the login, the user can login through his account, Sign in with Facebook or Sign in with Google+, we created authentification with npm module password, google auth and FB auth. If the user doesn't have an account he can register a new one by filling a form where he'll describe his name, course he's in, email, username and password. Every new user has its level automatically registed as a user, although we have 3 levels of access, admin, owner and consumer, last two are integrated in the user level.

After the registration or login the user will be redirected to the resources page where we can see all the submissions made by the users. In this page the user can search/filter any submission by type (book, article, application, report, studentwork, monographs) or even by hashtags.

If the user wants to publish a new resource he can upload a new file by clicking the plus sign, if he's logged in he will be redirected to a new page where he can describe all information about the resource he'll add. The user must declare the Title, Subtitle, Hashtags, Type, Date of Creation and Upload the File to add a new resource. The files are uploaded using multer and can have the following formats: '.TXT','.PNG','.JPG','.PDF','.txt','.png','.jpg','.pdf', making that the package structure is checked against the manifest.

After adding a new resource the user will be redirected to the resource page itself where he can see all the information available. This information can be viewed by every user logged in or not, but just a logged user can interact with the page.

In this page the user that created the resource can edit or delete the submission, we used MethodOverride middleware to develop this functionality. Any logged in user cannot edit or delete but can, along with the creator, download the file, leave a rating to 5 stars using a ranking system, add a new post and even comment on those posts.

To improve the User Experience we also add to the website a "my resources" page where an user can find all his submissions without needing to look for them among the rest.

The user can also check his profile in "my profile" page where he can view and edit his information if needed.

If the user is an admin he can view the list of users present in the platform, this page is exclusively for the admin and no other type of user can access this page. In this page it shows all the information about the users like their username, name, course, email and level.

3. Future goals

For future goals we would like to add na option to add new types of resources so the user has more freedom on his submission and we would like to add a pdf reader and jpg previewer so any user could preview the file that was uploaded making it a better User Experience overall.

Some ideas we wanted to implemente was the tokens and the sessions for each user, we think that would have brought more value to the website and making it safer nevertheless.

We were planning to add more features for exemple a like and dislike, to complement the rating system, add some effects and animation on our design to break a clean, but minimalistic User Interface. Our goal is to implement a "user favourite resources" where it would show the most liked resource of the day, week or month.

Pagination is a big step of progress we want to develop making the it show for example just 20 resources per page and finally add a feature of drag and drop to upload files.