



Cloud Based Student Repository System

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| Article History | Abstract |
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| Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 30 Nov 2023 | <p><i>Learning through research brings better outcome. In this project, our main motive is to provide a flexible web developed OPAC (Online Public Access Catalogue) for users to gain allusion of projects which is already being exist in the Catalogue. For a developer learning with references helps to design desired outcome for that we are providing a complete erudition of the enduring project by the organization through OPAC. The users are able to upload the video and documents related to the project and also can scrutinize the existed projects. For that different framework are used such as python flask, Azure cloud, Collaborative Filtering etc. These frameworks are able to store and provide better methodology of learning. Therefore, this paper aim-at providing simple interface for gathering information regarding designing of projects.</i></p> |
| CC License CC-BY-NC-SA 4.0 | Keywords: Web OPAC, Repository. |

1. Introduction

For a learner along with theoretical knowledge practical experience is very important in order to gain that knowledge education system undertake curriculum included with projects where students learn to spectate obstacles with a censorious thinking lens, examining with possible elucidation for their project. In working on a project, students learn to manage obstacles more adequately, often wisdom from failure and conceivably starting over from scratch. In order to understand all possibly ways to implement a project and all loopholes carried out in it undergoing research regarding it is very important. In order to gain knowledge regarding project references play important role which helps the

students to guide in proper way to carry out the project. Project-based erudition not only contribute convenience for students to collaborate or drive their own learning, but it also enlightens the skills such as problem solving, and comforts to develop further skills constituent to their future, comparatively critical thinking and time management.

A project allusion is a link from one project to another project. For this purpose, we are enabling a modern OPAC (Online Public Access Catalogue). An Online Public Access Catalogue (OPAC) has reformed classical acceptability to assets of libraries in commonplace and academic libraries in peculiar. It is an interface of cue retrieval system which aid information seeker to access assets of libraries using proportionate connection points.

Hence, according to the project "Student Project Repository Using OPAC" [1] we designed the same and brought an outcome in way where a student is able to upload the report and fetch it as a reference using database management we managed retrieval and upload process since it has some drawbacks like:

- Lack of video documentation.
- The table management functions get slower as the dataset grows.
- As the database grows bigger it will be harder to backup.

In order to overcome above drawbacks, we have enhanced the project where a student can access to our web OPAC and can obtain the required references like demo videos, reports and documents related to the desired project carried out. For better storage purpose using cloud storage services for more

scalability. Usage of Collaborative Filtering is a great technique to filter out the items that a user might get based on certain domain, this recommendation system would be a great project to make users realize what they would like in their projects. By this it assists to perceive the approach of planning, design and implementation for an pinpoint problem.

LITERATURE SURVEY

[1] M.L. Sree Charan Reddy; Muthyala Vengal Reddy; Nandavenkatesh; Nayanashree N A “Student Project Repository Using OPAC” This paper presents the use of project repository for the students in their academics to overcome success in their projects. The method used helps students to search the references that helps them in their projects. Hence, the students can able to glance the reports of the previously done projects. Not only the reports we added the feature to upload the recordings which help the most.

[2]. Vijaykumar Bhajantri C.Sujatha ,YShilpa ,Manjula Pawar “Experiential Learning: Learning through Projects said that theoretical background of the curriculum that they go through is not sufficient they need to practice what they have understood. In order for students to practice as engineers, they have to own exposure to variety of projects that supply complex problems, together with the uncertainty of things that influence such problems. In our project we enhanced the author’s point. To create a front end to get the details about the various projects from the database so that it is easy to get a reference for their project.

[3] Kitti Puritat,"Development of an Open-Source Automated Library System with Book Recommendation System for Small Libraries". This paper talks about how they are providing an *efficient* way for open-source self-moving library systems which is sufficient for mini libraries where cataloger can save and utilize the methods using the OPAC (Online Public Access Catalogue Online). In the same way in our project, we came up with a flexible web based OPAC system providing references of complete project design and implementation along with recommendation system.

[4]Akkem Yaganteeswarudu "Multi Disease Prediction Model by using Machine Learning and Flask API" . The main purpose of this paper is to examine the highest adversity, to observe the patient’s state and alter the patients in push on to decrease mortality ratio so, by using Flask API it will implore the corresponding model and provides the position of the patient. referring to it, in our project we have used Flask API along with Machine Learning technique in order to integrate with data and obtain the user interest projects with recommendation system based on analysis.

[5].TarannumBibi ,Pratiksha Dixit "Web Search Personalization Using Machine Learning Techniques" convey that end-user’s independent predisposition which in order to change with person’s heed so different approaches like collaborative filtering , document based or concept based profiling goal is to re-rank results for a given query obtained from existing search engines .So we came up with using collaborative filtering for our project where it helps in adaptive methodology for learning and make the web search more personalized.

[6]Robert Neumann, Andreas Schmietendorf , "Combining Query Performance with Data Integrity in the Cloud - A Hybrid Cloud Storage Framework to Enhance Data Access on the Windows Azure Platform" examines measurement of data throughout this paper and tells how non-relational cloud storage services promises high expandable and continuous reply times ,though with an enlarging number of coincidental agreements .Hence , we have used Azure cloud which leads to better performance with data transaction.

[7] Mohammad Robihul Mufid, Arif Basofi , M. Udin

Harun Al Rasyid "Design an MVC Model using Python for Flask Framework Development" . This paper showed up the presence of MVC on the flask framework can able to make users easily and quickly in creating new project works and have faster fully load time. Which helped us to use flask framework which provides tools, libraries and technologies that helped us to build a web application.

[8]Ruonan Ji; Yi Tian; Mengdi Ma "Collaborative Filtering Recommendation Algorithm Based on User Characteristics " This paper proposes a collaborative filtering algorithm based on user characteristics. The algorithm is mainly aimed at the problems of data sparsity and cold start in traditional collaborative filtering algorithm .Since, it produces more serendipitous recommendations it helps to filter bubble problems hence we came up with this in our project.

III. IMPLEMENTATION

- Software System prerequisite :

System demands are the arrangements that a system must contain for a hardware or software application to run easily and efficiently. They should be defined into two types, functional and Non-functional.

A functional precondition will express an individual measures of purpose of the system when certain provisionally are encountered.

A non-functional precondition shows the way of system behaviour and what limits there are on its functionality.

Software Requirements:

- 1)OS: Windows, Linux, Mac OS.
- 2)Disk Storage: 4 GB of free disk space
- 3)Internet: Internet connection required for software activation
- 4)HTML5, CSS, Java script, Python, MySQL.

Functional Requirements:

- 1)Proper Authentication for users to login to the website.
- 2)Only Managerial level employees have the right to view other user details.
- 3)Software will automatically update the suggestions based on the user interests.
- 4)Email Verification can be done in case of mismatch of user authentication details.

Non-Functional Requirements:

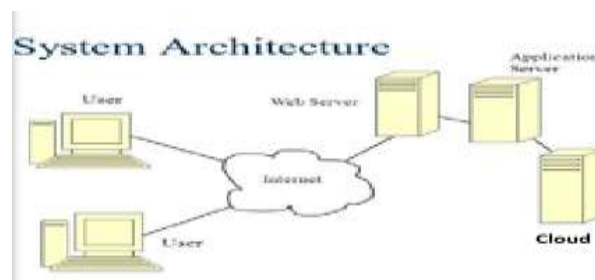
- 1)User will never allowed to change other projects.
- 2)User can able to login multiple times in a day at anyplace.
- 3)Sessions and Caches are used for fast accessing of data.

A. System Architecture:

This Architecture represent how end users interact with the Web application. End user enters an URL in the search area and click “Enter”, the browser finds for URL that was provided by User.

The server replays by providing files over to the browser. Then, Browser runs those files to exhibit the page that the user required. Now, the end user couple with the website.

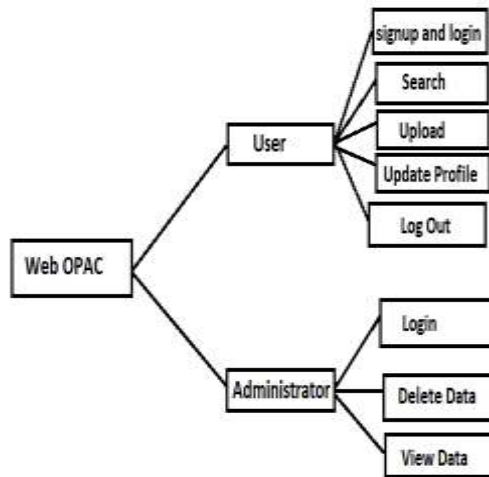
Once User login to the page. They can able to search for the things they required the data actually stored in cloud. Searching the particular thing is done by Machine learning applications. Users can also able to add their work it can be a document or video. The Uploaded data automatically stored to the cloud. Python flask is used to connect Machine Learning, Cloud and Front end.



B. System design:

System structure diagram:

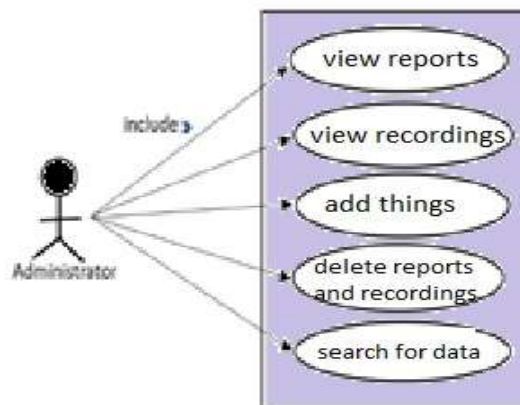
Web OPAC (Online Public Access Catalogue) is divided into two main classifications: OPAC user can able to upload their own work, search for reports and recordings uploaded by others and administrator can able to outlook the reports and recordings uploaded by the students, can able delete them. As in below figure.



User section use-case diagram

2) Administrator section:

In this Administration section, Admin can able to control reports and recordings, view reports and delete reports. Manager section use-case outline is appeared in figure.



Administrator section use_ case diagram

IV. TESTING

Web testing is purely a web-based testing of software prior they are contributing usable. Web testing, Web testing is one of the software testing types to verify if any occurrences of errors on websites or web applications. Before it gets accessible for end users, a web-based system should go through it from end to end. An entity can ensure that the web-based framework is operating properly by conducting website testing which can be approved by users in real time.

1) Unit testing:

It's a method of software testing in which each component of a application software has been tested. The main aim is to check if the individual unit of the application software code executed as expected by the developer. It is used during the development of an application.

These are the test cases of login page in our web page.

| SL.NO | Input(username) | Input(password) | output | Status |
|-------|-----------------|-----------------|--------|--------|
| 1 | ABC | abc@123 | Yes | Pass |
| 2 | XYZ | xyz@123 | No | Fail |
| 3 | MNO | mno@123 | No | |

| | | | | |
|---|-----|---------|-----|------|
| | | | | Fail |
| 4 | PQR | pqr@123 | yes | pass |

2) Integration testing: In this testing single unites are combined into groups and those groups are tested individually. The main goal of this testing is to test the interface between the modules of web application.

| SL. NO | Upload reports and videos | Stored in cloud | status |
|--------|---------------------------|-----------------|--------|
| 1 | Yes | Yes | Pass |
| 2 | Yes | No | Fail |
| 3 | Yes | Yes | Pass |
| 4 | Yes | No | Fail |

V. EXPERIMENTAL RESULTS



Figure A



Figure B



Figure C

These are the results of web OPAC, User should login to the application and they can upload the reports and search for reports [10]. By this research, students can easily get reference to their new ideas, innovations and projects.

4. Conclusion

The procedure used will help the Students to successfully complete their projects on time. It is accessible to all the students whenever they require. Only the guidance it also provides the videos which will helpful to learn the concepts quickly. It can be accessible at any point of time whenever they required.

Not only the students take the reference they can also able to upload their own work for others references. Students have their unique user's name and password so; their accounts are secured.

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