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E-Practical Online Submission Portal

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Abstract: ***In the world of ever growing technologies the whole world is customized with a Single Click of applications in this Digital Era every service is designed to improve the efficiency and to reduce manual efforts. The main objective of "E-practical" is to efficiently evaluate the candidate thoroughly through a system that not only saves lot of time but also gives quicker and reliable results. This Web based application is designed with a view of using the portal for conducting online practical and assessment of the same by faculty. Student can perform theory write-ups in the application itself which eases the faculty for the quick an-d proper evaluation of the practical record. The project's main idea is to implement an online centralized application linked to the database which will maintain student practical details, previous records and also faculty details. This application will also help student as well as faculty to maintain a log over their data.***

Keywords: Submission Portal, Evaluation, Assign, Write-Up, Authentication, Transparency, Digitalization, Privileges.

I. INTRODUCTION

E-practical is a new face for the traditional process of practical submission. Eco-friendly, smart work and time efficient are some of the highlights of E-practical. It focuses on throughout progress of student in terms of practical knowledge. It provides no copy paste features so as to provide better platform for the students. Evaluation of the practical's can be done effectively and better transparency can be maintained through E-practical. The status record of practical submission of each student is maintained properly and is visible to concerned faculty and admin. E-practical is secured system in terms of user authentication by Hash algorithm. The entire validation part of E-practical is done with Angular JS. The web services part is maintained secured by implementation of RESTful services. These technologies make E-practical a better system for the users than others.

II. EXISTING ISSUES AND RESOLVING MECHANISM

The current system for conducting practical is inefficient and in a way less creative as students generally prefer the coping approach for completion of manuals. Faculty conducts a session for students and provides them with all the documentation and even the codes to be executed. User needs a web-based system, which will overcome all the problems in traditional system that the user is facing. The user desires, which will reduce the bulk of paperwork, provide ease of work, flexibility, fast record finding, modifying, adding, removing and generating the evaluation sheets. We proposed our perception of the system, in accordance with the problems of existing system by making a full layout of the system on paper. We tallied the problems and needs by existing system and requirements. We were further updating in the layout in the basis of redefined the problems. The conventional system of learning has some problems which includes:

1. Wastage of Paper.

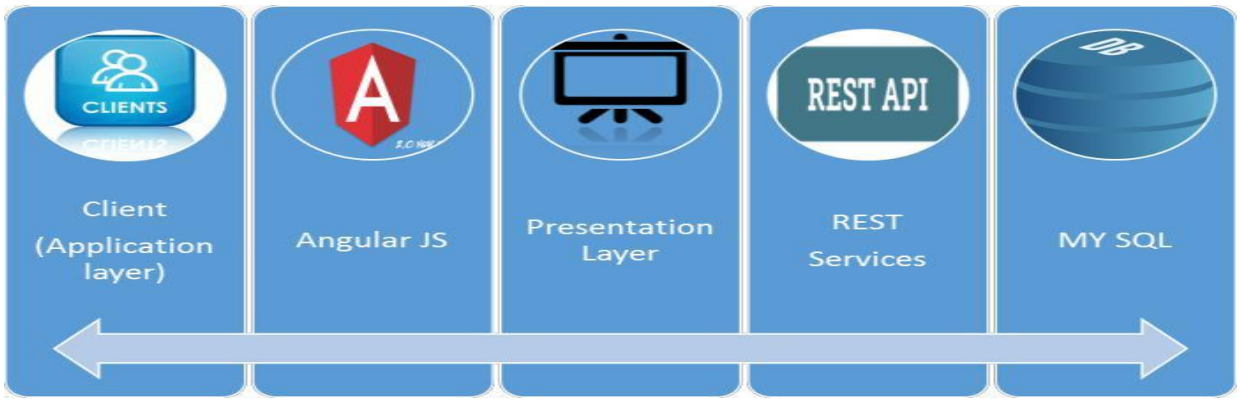
2. No parameter to judge whether the Journal is completed by student or not.
3. Cost Effective and Time Consuming process.
4. It is less user-friendly.
5. Passive learning.
6. No creative and innovative approach.
7. No transparency to students regarding the evaluation.
8. Poor evaluation and monitoring methods.

The proposed web application tries to overcome all this problems and reduces the manual work, maintains accuracy, increases efficiency and saves time.

1. This Web Application provides facility to conduct online practical submission.
2. It is cost efficient as it does not require any special installations and user-friendly application.
3. There will be transparency in evaluation.
4. It saves paper and reduces manual effort through digitalization.
5. Administrator has the privilege to assign faculties for practical batches modify the deadlines and to check the student records.
6. This portal will not allow any single line of copy pasting of the practical material thus enhancing the Student creativity and intellect.

III. TOOLS AND TECHNOLOGY

Tools and technologies used for implementation of this application along with the their advantages are listed below.



1. ANGULAR JS:

- It provides Data binding.
- It provides objects called as scope that refer to the model and acts as a glue between controller and view.
- It provides Controllers that are JavaScript functions which are bound to a particular scope.
- AngularJS come with several built-in services for example $http to make a XML Http Requests.
- It provides Filters that select a subset of items from an array and returns a new array.

- AngularJS has built-in Directives (ngBind, ngModel...) and AngularJs code is unit testable. It also provides concept of switching views i.e Routing.
- MVC is a design pattern for dividing an application into different parts (called Model, View and Controller), each with distinct responsibilities.
- Deep linking allows us to encode the state of application in the URL.
- AngularJS has a built-in dependency injection subsystem.

2. REST SERVICES:

- REST is easier to use for the most part and is more flexible. It has the following advantages when compared to SOAP:
- No expensive tools require to interact with the Web service
- Smaller learning curve
- Efficient (SOAP uses XML for all messages, REST can use smaller message formats)
- Fast (no extensive processing required)
- Closer to other Web technologies in design philosophy

IV. DESIGN AND IMPLEMENTATION

E-Practical consists of Four Modules: Login Module; Student Module; Faculty Module; Admin Module.

Login Module has five views namely Home; About Us; FAQs; Sign up; Login.

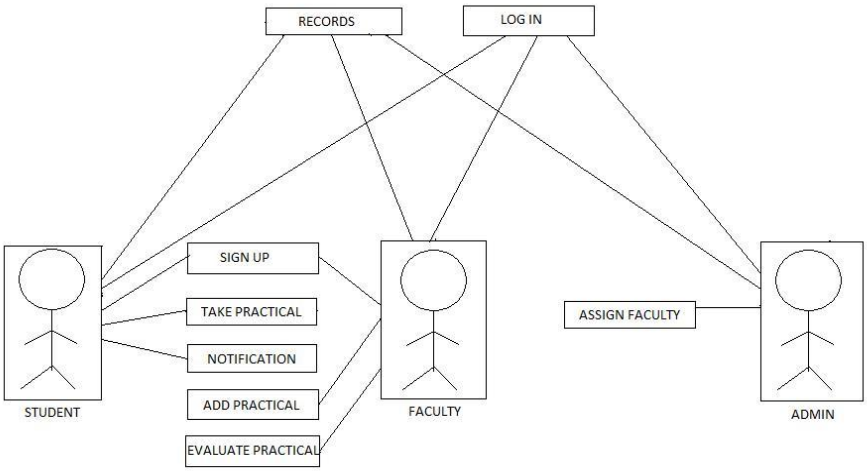


Fig. UML Diagram

Student Module has 3 views or it can be simply called as privileges given to user belonging to student group. Dashboard, My Records and Take practical are the view for student module. Dashboard is simply the Home of Student module. It allows students to edit and maintain their profiles. My records option provides students to keep a check over their records and approved or unapproved status of submitted practical. Take Practical is the major functionality of Student module. It allows workspace for completing practical write-up. This view does not allow copy paste of content in any of the fields including code, theory, conclusion, etc. Once a practical is submitted by the student it is directed to the concerned faculty for approval.

The next module is Faculty Module. It consists of three views Add practical, evaluate practical and Records. Add practical view provides faculty to add practical with submission deadline. Evaluate practical fetches the practical data submitted by the student and the concerned faculty can evaluate the same. The evaluation result is sent to student as approved or disapproved

status for the particular practical. Records consist of practical record submitted by the student. It is the same view from which faculty have to choose the practical to evaluate of a particular student.

Admin Module consists of two views: Assign faculty and Records. Admin has the privilege to assign faculty for specific batch of student. Records view allows admin to monitor the record of all the students irrespective of their batches.

[1]All this modules are validated using angular controllers. [1] [6] To provide authentication and to make application more secure the passwords are encrypted using Hash Algorithm. [6] When a user is registered to this application, registration form takes 'Role' as an input. Whenever a User sign in to this application depending upon the role whether he is a student or a faculty he is directed to the respective Student panel or Faculty panel and can access his privileges through this panels.

V. CONCLUSION

E-practical is a web-based application used to submit practical's online. By the use of these applications considerable amount of paper is saved. Hence it is environment friendly. Student can also have a pleasing experience using this application as this application tends to be more like a social network for studies. And the same applies for teachers as they can save considerable amount of time evaluating the practical's and maintain a log. This is our vision about the architectural design of E-Practical portal which helps student and faculty to manage and maintain the practical session in more convenient manner than the present scenario.

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