STUDENT-TEACHER CONNECT APP

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Abstract

Student Teacher Connect App is the web-based two way feedback system where the mentors provide the feedback on the performance of student and the student can also give the feedback to mentor about the methodologies of their teaching styles or regarding in detailed answers of their doubts. The purpose behind this development is to give convenience to student and teacher that regardless of place they can be in touch with each other via online portal. To implement such kind of system will requires web resources as well as database to store the information of system users as well as internet connection to work on real time. This system is mainly designed to increase the conversation between student and teacher as they indulge into this system. For designing this web application in the front-end part is developed using HTML, CSS and JavaScript. In the database side PHP is used as a back end language and MySQL database is used to store the data. There will be three main users of this system Student, Teacher and Admin. Both end users (Student and Teacher) will have their own level of access which will be managed by Admin.

Keywords: Smart System, Feedback, Learning Application, HTML, CSS, JavaScript, PHP, MySQL, Web Application, Database.

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1 Introduction

In this era of accountability, "genuine assessment" must be used in educational institutions at all levels [1]. As well as, for several reasons, including the evaluation of students' accomplishments, the growth of students' competencies and comprehension, and the enhancement of students' motivation and confidence, feedback is a vital component in all learning environments [2]. Certainly, by providing writers with a sense of audience and an understanding what readers' value in a text, teacher feedback should play an important role in scaffolding cognitive development, alerting students to their strengths and weaknesses.

Since the chosen approach may deter or attract students' attention in the feedback process, communication of formative feedback is crucial. It must make sure that students interact with the offered content to be effective. Students can receive formative feedback in a variety of ways, both conventional and technological. Traditional strategies include handwritten feedback on students' assessed work and printed feedback forms that are given back to the students. Since they have the issue of not reaching the pupil, these conventional methods of communication do not appear to be effective. There are many different electronic feedback approaches, from straightforward ones like emailing remarks to students to more complex ones that let teachers add comments and annotations to electronically submitted work. Instructors are using electronic feedback methods more frequently as they improve feedback generation, delivery, and communication [3].

Ample evidence in the literature [4, 5] and [6] suggests that students do not gather formative feedback despite the unquestionable importance of feedback and the strong and consistent research outcomes on its effectiveness in the educational process and the promotion of learning.

Such an environment is a learning management system (LMS). It would be more efficient if the feedback was presented on the student's desktop because an LMS might be viewed as their computer. However,in [5] it is showing that, open-source learning management systems (LMSs) like Moodle don't seem to have an effective built-in feature for giving formative feedback.

The system also lessens the workload and effort required to retain and maintain documents manually, which calls for a lot of storage space and security.

To get this functionality into actual reality we develop a web application, which is specially oriented for students to put their work done to evaluate from the mentors as well as from mentors side to give comment and get reviews on that comment from students. To implement this kind of application in this project we used HTML, CSS, and JavaScript Technology in front-end to make the User Interface of website very attractive and easy to use for students. In the back-end side PHP and MySQL are used to store and manipulate the data of all the users. Apache server is used to run the website.

Here in this Use-Case Diagram it is shown what functionality each Entity has, and Operations based on that to user.
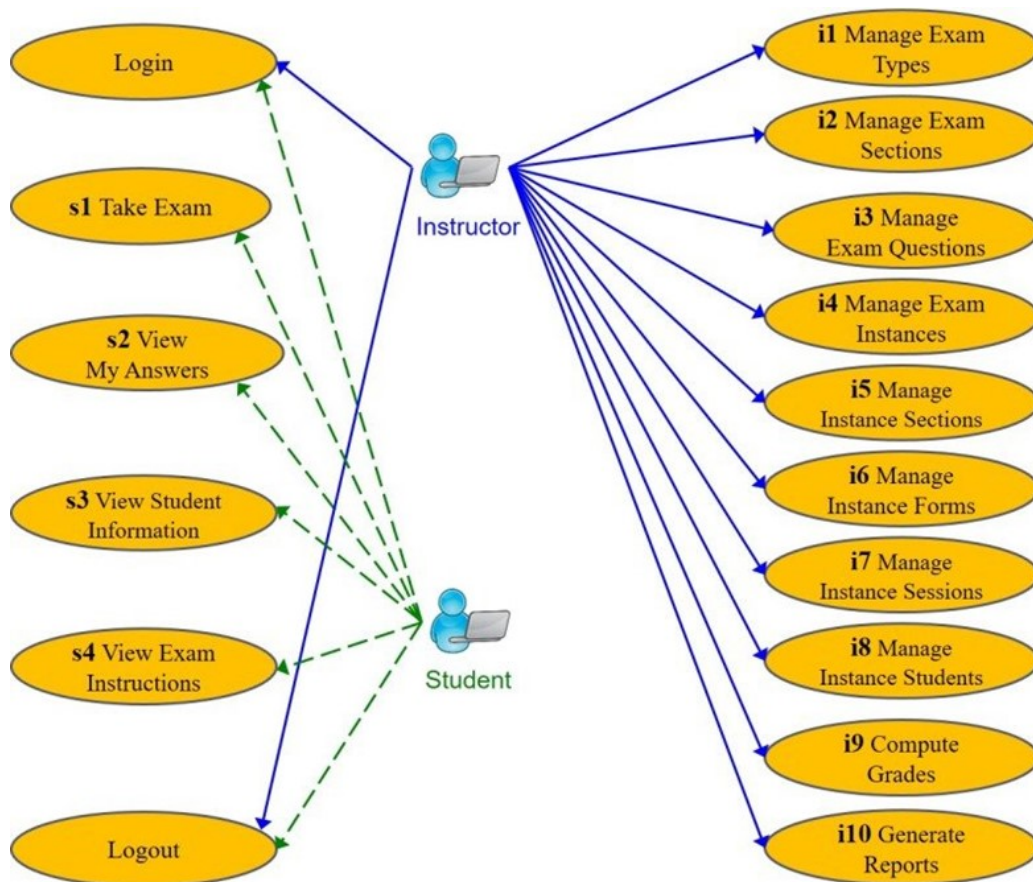

Figure 1: Use-Case of the two users of system

2 Literature review (and theoretical framework)

The literature search for this study was based on a variety of phrases that correspond to the notion of SET (i.e., questionnaire-based student assessments of a specific course), due to the varied usage of terminology related to SET. When conducting searches in the electronic databases Web of Science, EBSCO, and ERIC, the following keywords were used (individually and in combination): SET, student evaluation of teaching, student ratings, student ratings of instruction, teacher evaluation, teaching effectiveness, teaching performance, education, and student evaluations. The search [9] was restricted to documents released in international peer-reviewed journals since 2000 to make sure that it would produce an overview of the state of the art in high-quality research pertaining .

In [8] we find that an important part of a student's learning process is formative feedback. If it is timely, individual, controllable, motivating, and directly related

to assessment criteria, it can effectively promote learning. Despite its significance, research indicates that students are deterred from participating in the feedback process mainly due to a lack of desire and a challenge in understanding and thinking on the feedback comments. In this study, we introduce the Online Feedback System (OFES), an e-learning technology that allows the delivery of formative feedback in an efficient manner. Through the manner feedback is delivered to students, our goals are to improve feedback reception and to boost the quality of feedback.

One of the larger studies on faculty response examined teacher comments made on students' papers [10, 11]. What types of comments did teachers make to their students? Spelling mistakes were discovered [10] to be the most typical type of mark on a manuscript. Following that, the top 10 technical corrections made by faculty members included the following: incorrect word choice, comma errors (missing commas, comma splices), possessive apostrophe errors, ambiguous pronoun references, incorrect or missing inflective endings, incorrect or missing prepositions, and sentence fragments.

Spelling mistakes, incorrect word choices, and comma repairs appeared to account for a sizable portion of the marks. Even so, [10] discovered that teachers only recorded between 30% and 50% of the mistakes on the papers; hence, when Connor, Lunsford, and colleagues carefully reviewed the papers for faults, they discovered far more mistakes than the teachers had noted.

The most popular method used at universities to assess faculty teaching competency is the use of student ratings of teaching, which are essentially student opinions of teaching skill rather than having their actual review on the methods and the way of explanation of the teacher, at the same time they also less focus on faculty's interaction with the student [12, 13].

Even though there is disagreement in the literature on what constitutes "successful teaching," they define it [14]. They are well-liked in part due to the simplicity of the measurement, which only requires that pupil's complete short forms in class. The data recording process is the most expensive, but even then, computerized evaluations automate it. The fact that student rating averages are numerical makes them seem impartial. It is also easy to compare the average rating of any instructor to the average rating for the entire department. But as we'll see in a moment, many of these explanations are flawed.

In the other research, paper [15] presents a brief review of the existing research on student written evaluations of the teaching performance of college and university instructors. First, a short historical background is given. Next, arguments are presented which have been advanced for and against the use of student written evaluations as a valid indicator of teaching effectiveness, followed by a discussion of various background characteristics which have been thought to influence student ratings. Student and instructor reaction to the use of student ratings is discussed, and finally suggestions for further investigation are given.

3 Methodologies

3.1 Website Background

A website, often known as a web site, is a collection of web pages and related material that is published on at least one web server and given a shared domain name. Websites like Google, Facebook, Amazon, and Wikipedia are examples of well-known ones.

The World Wide Web is the collective name for all publicly accessible websites. A company's internal website for its employees is an example of a private website that can only be accessed via a private network.

Most websites focus on a single subject or objective, including news, education, business, entertainment, or social networking. The navigation of the website, which frequently begins with a home page, is aided by hyperlinks between web pages.

On a variety of gadgets, including PCs, laptops, tablets, and smartphones, users can visit websites. A web browser is the name of the application used on these gadgets.

There is main two types of websites are available in the market:

   i Dynamic Website and

   ii Static Website.

Early websites were text-only, and pictures only came up later. Then, audio, video, and interactive elements were added using web browser plug-ins (such as for a rich web application that mirrors the complexity of a desktop application like a word processor). Microsoft Silverlight, Adobe Flash Player, Adobe Shockwave Player, and Java SE are a few examples of these plug-ins.

3.2 HTML and CSS

The preferred markup language for documents intended to be viewed in a web browser is HTML, or Hypertext Markup Language. Technologies like Cascading Style Sheets (CSS) and scripting languages like JavaScript can help [16].

HTML documents are downloaded from a web server or local storage by web browsers, who then turn them into multimedia web pages. HTML originally featured cues for the document's design and semantically explains the structure of a web page.

The foundation of HTML pages are HTML components. Images and other objects, like interactive forms, may be embedded within the produced page using HTML techniques. By indicating structural semantics for text elements like headings, paragraphs, lists, links, quotations, and other objects, HTML offers a way to generate structured texts. Tags, which are written in angle brackets, are used to distinguish HTML elements. The tags `<input>` and `<img>`, for example, add content directly to the page. Other tags, like `<p>`, describe the text of the document. They may also

contain other tags as sub-elements. Browsers employ the HTML tags to decipher the page's content rather than displaying them.

HTML allows for the insertion of scripts written in scripting languages like JavaScript that modify the appearance and content of web pages. CSS defines how content is presented and how it is organized. Since 1997, the World Wide Web Consortium (W3C), which previously oversaw the HTML and now oversees the CSS standards, has pushed for the usage of CSS rather than explicit representational HTML. Video and audio are displayed using HTML5, a version of HTML that primarily uses the canvas element in conjunction with JavaScript.

In this project we used common HTML tags and form properties to make the web application more impact full.

Here is the attached piece of code written in HTML for the navigation bar of the landing page.

```
1    <!-- Navigation -->
2    <nav class="navbar navbar-default navbar-fixed-top" role="
     navigation" style="background:#66CCFF">
3        <div class="container" >
4            <!-- Brand and toggle get grouped for better mobile
     display -->
5            <div class="navbar-header">
6                <button type="button" class="navbar-toggle" data-
     toggle="collapse" data-target="#bs-example-navbar-collapse-1">
7                    <span class="sr-only">Toggle navigation</span>
8                    <span class="icon-bar"></span>
9                    <span class="icon-bar"></span>
10                   <span class="icon-bar"></span>
11               </button>
12               <a class="navbar-brand" href="index.php" style="
     color:#FFFFFF">Student-Teacher Connect System</a>
13
14           </div>
15           <!-- Collect the nav links, forms, and other content for
      toggling -->
16           <div class="collapse navbar-collapse" id="bs-example-
     navbar-collapse-1">
17               <ul class="nav navbar-nav navbar-right">
18
19        <li style="color:#FFFFFF">
20                       <a style="color:#FFFFFF" href="index.php"><i
      class="fa fa-home fa-fw"></i>Home</a>
21                   </li>
22
23        <li style="color:#FFFFFF">
24                       <a style="color:#FFFFFF" href="index.php?
     info=about"><i class="fa fa-home fa-fw"></i>About</a>
25                   </li>
26
27        <li><a style="color:#FFFFFF" href="index.php?info=
```

```
        registration"><i class="fa fa-sign-out fa-fw"></i>Registration</a
        ></li>
28

29

30

31  <li class="dropdown">
32        <a style="color:#FFFFFF" href="#" class="dropdown-toggle"
        data-toggle="dropdown" href="#"><i class="fa fa-sign-in fa-fw"></
        i>Login
33        <span class="caret"></span></a>
34        <ul class="dropdown-menu">
35

36          <li><a href="index.php?info=login">Student</a></li>
37      <li><a href="index.php?info=faculty_login">Teacher</a></li>
38          <li><a href="admin">Admin</a></li>
39        </ul>
40      </li>
41

42

43

44

45  <li>
46                          <a style="color:#FFFFFF" href="index.php?
        info=contact"><i class="fa fa-phone fa-fw"></i>Contact</a>
47                  </li>
48

49

50

51

52              </ul>
53          </div>
54          <!-- /.navbar-collapse -->
55      </div>
56      <!-- /.container -->
57    </nav>
```

A style sheet language called Cascading Style Sheets (CSS) is used to describe how a document produced in a markup language like HTML or XML (including XML dialects like SVG, MathML, or XHTML) is presented [17]. The World Wide Web's foundational technologies, along with HTML and JavaScript, include CSS [18].

Layout, color, and font may all be separated from content and presentation using CSS. By specifying the pertinent CSS in a separate [18]. CSS file, which reduces complexity and repetition in the structural content, this separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting, and enable the.css file to be cached to improve page load speed between the pages that share the file and its formatting.

The World Wide Web Consortium maintains the CSS specifications (W3C). RFC 2318 has registered the Internet media type (MIME type) text/css for usage with

CSS (March 1998). For CSS documents, the W3C offers a free CSS validation service. In addition to HTML, markup languages including XHTML, plain XML, SVG, and XUL all permit the use of CSS.

In this project CSS is used at many places to make the web application more attractive and adding some animations into the web application which attract the students to spend some more time in this site.

3.3 JavaScript

Along with HTML and CSS, the computer language known as JavaScript, or JS, is one of the foundational elements of the World Wide Web. By 2022, 98% of websites will employ JavaScript on the client side to control how web pages behave, frequently using third-party libraries [20]. A dedicated JavaScript engine is available in every major web browser and is used to run the code on users' devices [21].

JavaScript is an ECMAScript-compliant high-level, frequently just-in-time compiled language [22]. It features first-class functions, prototype-based object orientation, and dynamic typing. It supports event-driven, functional, and imperative programming paradigms and is multi-paradigm. It offers application programming interfaces (APIs) for using the Document Object Model, regular expressions, dates, and standard data structures (DOM).

There are no input/output (I/O) features like networking, storage, or graphics capabilities in the ECMAScript standard. JavaScript I/O APIs are offered by the web browser or another runtime system.

Originally only used in web browsers, JavaScript engines are now essential parts of some servers and a wide range of applications. Node.js is the most widely used runtime system for this application. Even while Java and JavaScript share the same name, syntax, and standard libraries, the two programming languages are separate and have very different designs.

In this project various attributes of JavaScript is used such as OnClick button even which is in active state when we click on a button and after that it will do some operations . Here, in this project, action commands are used to redirect the

3.4 PHP

A general-purpose programming language designed specifically for web development is PHP [24]. Rasmus Lerdorf, a Danish-Canadian programmer, first developed it in 1994. The PHP Group now creates the PHP reference implementation. Personal Home Page was the first meaning of PHP; [25] however, it is now used to refer to the recursive initialism. Hypertext Preprocessor: PHP.

A PHP interpreter, which can be implemented as a module, daemon, or Common Gateway Interface (CGI) executable, typically processes PHP code on a web server.

The output of PHP code that has been interpreted and performed on a web server could be any kind of data, including produced HTML or binary image data, and would make up all or a portion of an HTTP response. There are numerous web frameworks, online content management systems, and web template systems that can be used to organize or make the development of that answer easier [26]. In addition, PHP may be used for a wide range of programming activities outside the context of the web, including the control of robotic drones and standalone graphical apps. Additionally, the command line can be used to execute PHP code directly .

The Zend Engine-based default PHP interpreter is free software distributed under the PHP License. Since PHP has been widely adapted, it can be used on the majority of web servers across many different platforms and operating systems. Without a written formal specification or standard until 2014, the PHP language evolved with the original implementation serving as the de facto standard that subsequent implementations aimed to match. Since 2014, efforts have been made to formalize the PHP specification.

According to W3Techs [27], "PHP is utilized by 78.1 percent of all the websites whose server-side programming language we know as of January 2022." The most popular version of PHP is version 7.4. On December 6, 2021, version 7.3's support was discontinued.

In this project we used PHP to connect the front-end operations with database and we also used php files as weab pages with integration of HTML into that.

The below code is showing the connection part of the existing user.

```
1      <?php
2  extract($_POST);
3  if(isset($save))
4  {
5
6    if($e=="" || $p=="")
7    {
8    $err="<font color='red'>fill all the fileds first</font>";
9    }
10   else
11   {
12 $pass=md5($p);
13
14 $sql=mysqli_query($conn,"select * from user where email='$e' and
     pass='$pass'");
15
16 $r=mysqli_num_rows($sql);
17
18 if($r==true)
19 {
20 $_SESSION['user']=$e;
21 header('location:user');
22 }
23
```

```
24 else
25 {
26
27 $err="<font color='red'>Invalid login details</font>";
28
29 }
```

Here is the database configuration code of the website which is used when we try to connect with the web application.

```
1     <?php
2 $conn=mysqli_connect("localhost","root","","feedback_system")or die(
    mysqli_error());
3 ?>
```

3.5 MySQL

An open-source relational database management system is called MySQL (RDBMS) [28]. The word "My" is a combination of "SQL," the acronym for structured query language, and "My," the name of co-founder Michael Widenius's daughter. A relational database arranges data into one or more tables where it is possible for the data to be connected to one another. The relational database's data can be created, modified, and extracted using the SQL programming language, which is also used to manage user access to the database. An RDBMS, such as MySQL, works with an operating system to implement a relational database in a computer's storage system, manages users, permits network access, and makes it easier to evaluate database integrity and create backups.

Under the rules of the GNU General Public License, MySQL is free and open-source software. It is also accessible under several proprietary licenses. Sun Microsystems acquired the Swedish company MySQL AB, which owned and sponsored MySQL (now Oracle Corporation). Widenius forked the open-source MySQL project to develop MariaDB in 2010, the year Oracle acquired Sun [29].

Although MySQL includes standalone clients that let users connect with a MySQL database directly using SQL, it is more frequently used in conjunction with other software to develop applications that require relational database functionality. Linux, Apache, MySQL, Perl/PHP/Python is an acronym for the LAMP web application software stack, which also includes other components. Numerous database-driven web programs, such as Drupal, Joomla, phpBB, and WordPress, use MySQL. Numerous well-known websites, such as Facebook, Flickr, MediaWiki, Twitter, and YouTube, also use MySQL.

In this project we used MySQL database to store and retrieve the data of the user in the system. This database is easy to use and manageable for less amount of data. We also make queries according to the requirements of the system.

Here is the database query to insert the data into new user profile.

```
1
2 $query="insert into user values('','$n','$e','$pass','$mob','$pro','
    $sem','$gen','$hob','$imageName','$dob',now())";
```

3.6   Bootstrap

A free and open-source CSS framework called Bootstrap is designed for front-end web development that prioritizes mobile responsiveness. It includes design templates for typography, forms, buttons, navigation, and other interface elements in HTML, CSS, and (optionally) JavaScript . With approximately 158,000 stars as of July 2022, Bootstrap is GitHub's seventh most starred project [30].

An HTML, CSS, and JS library called Bootstrap aims to make the creation of educational web pages as simple as possible (as opposed to web apps). The main goal of adding it to a web project is to apply the color, size, font, and layout options of Bootstrap to that project. Therefore, the main determinant is whether the responsible developers like those options. All HTML components have basic style declarations once Bootstrap is introduced to a project. As a result, texts, tables, and form components appear consistently in all web browsers. In order to further personalize the appearance of their contents, developers can make use of the CSS classes defined in Bootstrap.

Additionally, Bootstrap includes several JavaScript components that can be used independently of other frameworks like jQuery. They offer extra UI components like dialogue boxes, tooltips, progress bars, drop-down menus, and carousels. Each Bootstrap element is made up of an HTML framework, CSS declarations, and occasionally supplementary JavaScript code [31]. Additionally, they increase the functionality of a few already-existing interface components, such as the auto-complete feature for input fields.

The layout components of Bootstrap are the most noticeable since they have an impact on the entire web page. Every single element on the page is contained within the "Container," which is the basic layout element. A fixed-width container or a fluid-width container are the two options available to developers.

In this project we use some animation components from bootstrap which makes the look of the web application attractive which will lead more interaction of students with the site.

4   Information System Design

4.1   System Requirements

This requirements are current used technologies with minimum space and processing power required for existing website. In future this requirements will be changed

according to the added features and integration of this application with any other application. There will be also frameworks will be added on later stages for improving the UI (User Interface).

4.2 System Architecture

Here is the planned PERT chart for the system to make the real application step by step. First we specify the domain of ours towards feedback on the sides. Then we start working on designing the database and once we done with that we worked on coding part of database. In parallel we worked on designing the GUI of the application and then after using web technology converted into live application.

Then after we integrate both the modules and do some test on that to check the condition of the system. We made user manual as well which will make the work of new comers easy to co-op with the application. Include all these modules the application becomes the real application.
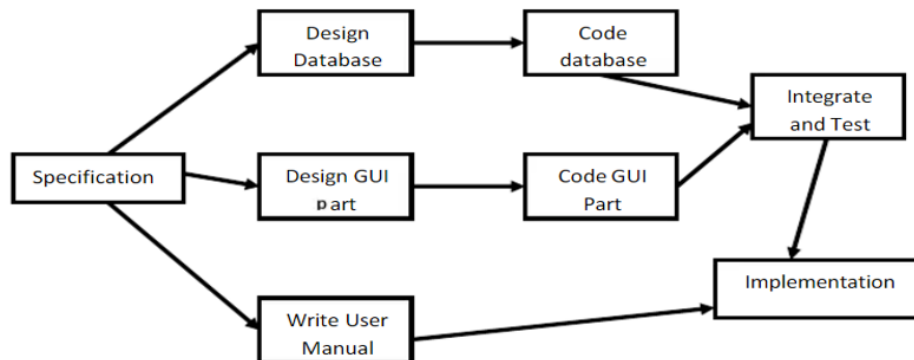
Figure 2: Planned Structure of Web Application

Table 1: System Requirements for web application

Operating System	Windows, Linux, IOS
Languages	HTML, CSS, JavaScript, Python
Database	MySQL
Backend Language	PHP
Server	Apache
Processor	Pantium III and above system
RAM	Minimum 128 MB
Hard-disk	Minimum 20GB

5 Student-Teacher Connect App Implementation

Student-Teacher Connect App is special kind of specific application designed to help students and learners to improve their performance in academics. The end user have lots of benefits of using this application such as improving knowledge for students and can do detailed conversation on any topic with teacher to get in detailed knowledge for that topic.

For doing that, this application provides feedback option where student can raise their doubts regarding the topics which they perform in the test and will get feedback on those topics from the teacher. This system also have option for adding more doubts in that discussion if they are not satisfied. This application is not just limited to raising questions. It also has option to contact the admin if the doubt cannot be solved in discussion admin can book a meeting with the teacher for that student.

Teaching nowadays is becoming more and more challenging as technology is introducing into traditional education system. Teacher sometimes try to convey the messages which might work for some student might not for others. sometimes the way they teaching is also not under stable for students. At that time this application will play important role to work on the methods as teacher will get feedback from the students on the way they teach the concepts and they can improve that by doing some changes into methods or adding more practical approaches.

Admin will get all the feedback on the performance of the teacher and their reviews from the student using feedback form and can also assign some work to the teacher to perform for improving the methodologies. This application has special contact page in which people can connect with the system or can ask questions about the institution. This submitted contact form will go directly to the admin in this application. Admin will also notify by the e-mail for the inquiry.

This application has test submission folder where student can submit their test to review it from the teacher. In this teacher will review the file and give the feedback to the student on their performance and also provide the model answer so that students can check it.

Using this application teacher can also conduct online multiple choice and short answer question which will be marked online directly. Though teacher can add their own explanation into the system by default which will be given to the student after the test submission.

For making username and password there will set of rules and conditions which needs to be followed so that it is easier for system as well to identify different users. For this regular expressions will be used.

5.1 Landing Page

Every website has their landing page. When anyone can try to reach out to any website, after lick on the link they land on the main page of application.

Figure 3 shows the main landing page of the web application which is explaining what is the motive behind this application. In the navigation bar there many buttons are there such as about which represents the motivation, vision for the application and the background information regarding the developer.There is an button for registration which will redirect to the Registration page for the new user. The login button has a menu which has three options to choose for the user. First will be student followed by teacher and admin. The last button will redirect to the contact us page where people can ask the questions if they have any regarding the system. And there is also information of the developer to reach out via e-mail or phone.
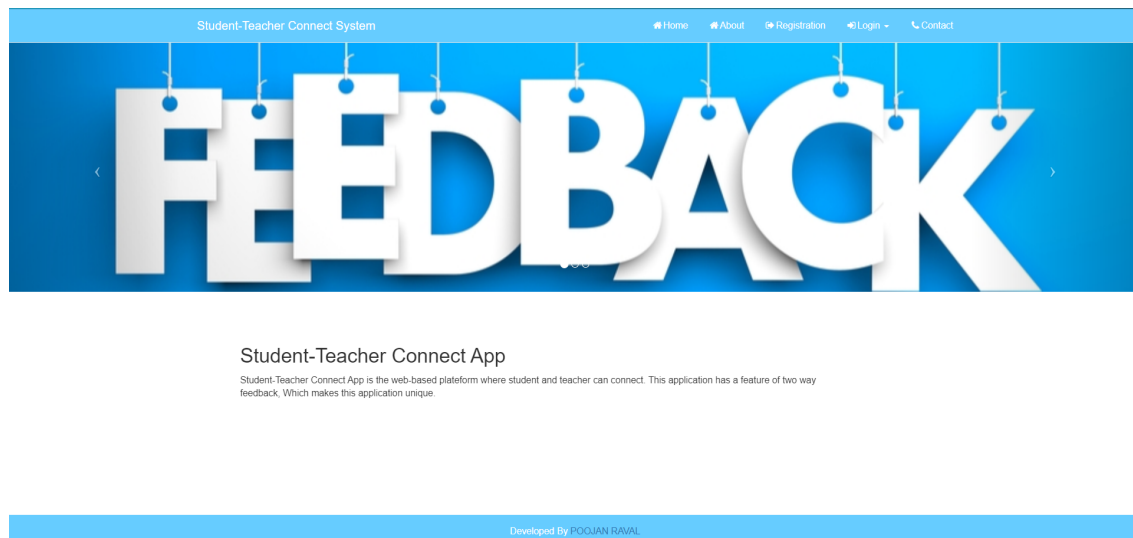
Figure 3: Home page of web application

5.2 Student Modules

Students are the key users of the system for whom this system is designed. This user can perform many operations in this online platform. First, they can upload the test into this system in the form of either PDF file or document file.

Figure 4 illustrates the registration form for the new student.This form will ask all the personal details of the student to become a user of this system. This registration form submission will be sent to admin and after confirmation the new user will be added to the system.

Figure 5 is showing the update profile page of the student where student can change the password of his/her account. This system also give the option to change the

Figure 4: Registration page for new user

profile image of the student into the system and the system also give the option to reach out to the admin.

Figure 5: Update profile page of student

5.3   Teacher Modules

Teacher are the prime user of this system with some extra privileges compared to student. This user can monitor the work of a student and grade on the basis of their performance.

Figure 6 depicts the dashboard of the user teacher which has many options such as change their profile review the feedback given by student. Passing any information to the whole class and leave application. Teacher can also reach out to the admin

via this application for any leave or any additional changes they need in the system.
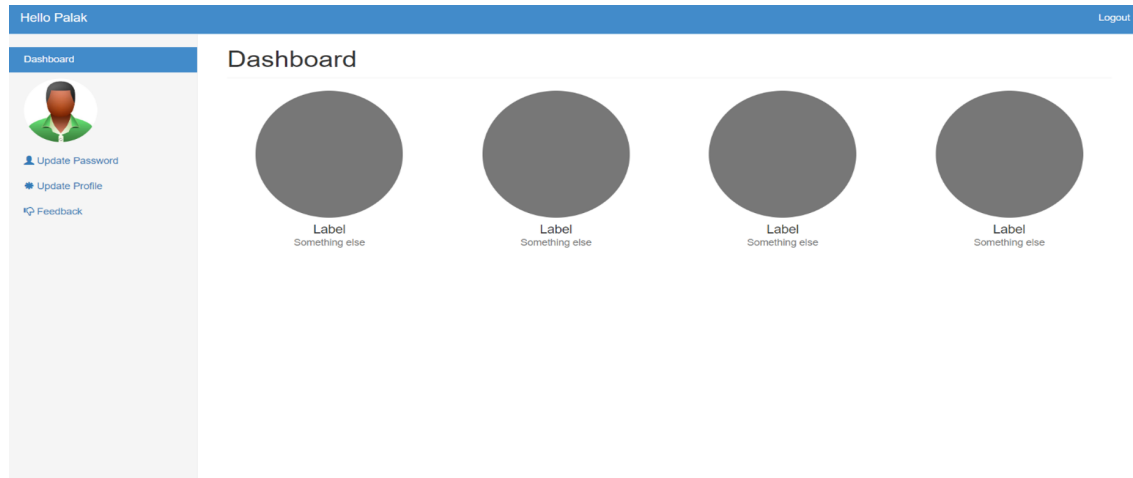
Figure 6: Teacher Dashboard

Figure 7 is showing the submission page of teacher. This page has information regarding the student who gives the test and waiting for feedback from the teacher. Here in this image it is showing that one student give online test and submitted that to the teacher. This test will now reviewed by teacher and teacher also can add comments by their own into this.
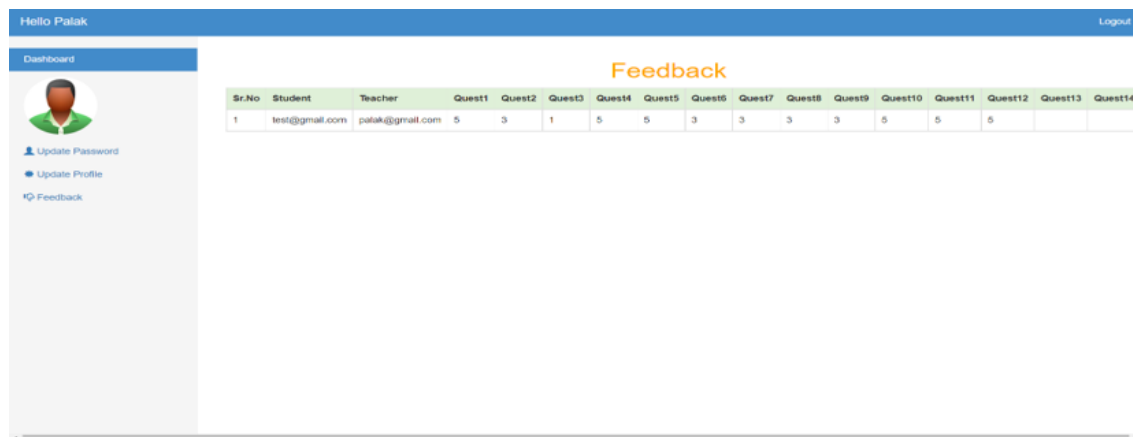

Figure 7: Feedback given by student

5.4 Admin Modules

The user with the highest privileges is the Admin user. The whole system is maintained by this user. Every system most of the times just have a single admin. Admin

is responsible for maintaining users of the system and data of them along with academic data.

Figure 8 depicts the login page for the admin user. This looks similar to all the login page for the users like student and teacher but for admin there will just one admin for the whole system. For username and password there are instruction which has to be follow so that it can be easier to distinguish between different users.
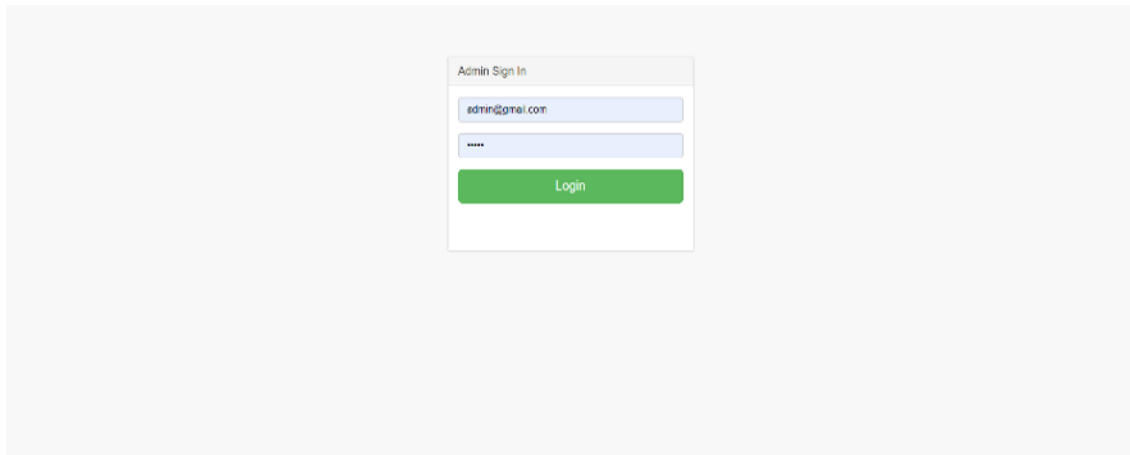

Figure 8: Admin Login Page

Figure 9 illustrates dashboard page of admin user showing currently enrolled student and teacher as well number of feedback given at the moment. Which also has other functionalities such as change the profile and also password. This user has the highest rights in the system. So, any changes in any user's account will be first reflected over here. Admin user also has authority to modify any personal information of teacher or student user and also have option to put them on halt for some period of time.

Figure 10 shows the contact us page of the web application. Every site needs contact us from which they can get connected with external entities and also can get the reviews and queries that should be solved to grow. This page also has the information of the admin to reach out either via e-mail or via phone. This page also has the physical location where this institution is located.

5.5   Database Management Modules

This is the data part of this web application which has database schema of the users along with data files which shares by either student or teacher.

Figure 11 depicts the database schema for the student. There are many fields which are mandatory to fill by the student when they register themselves into the system such as their name username, password, date of birth and generated password. Some fields are not mandatory such as a profile picture or hobbies.
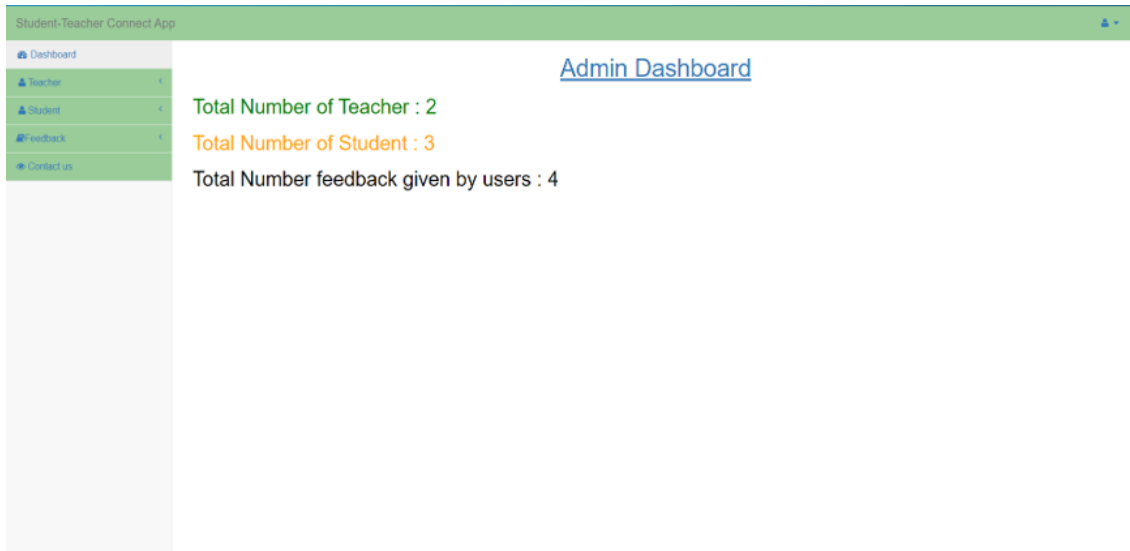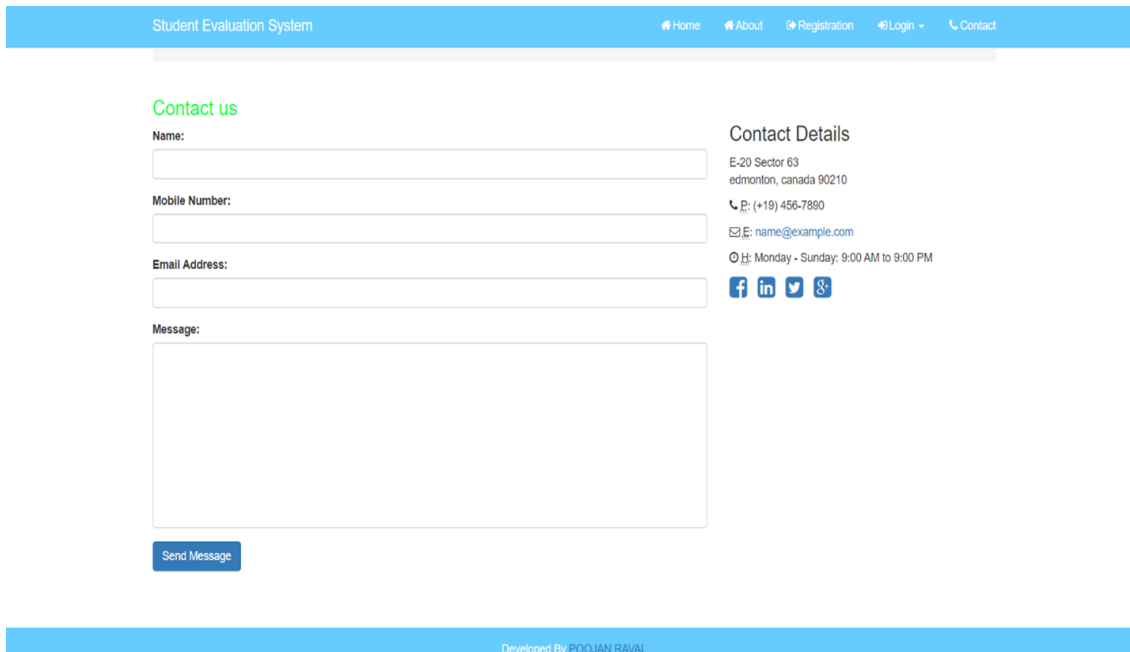
Figure 9: Admin dashboard

Figure 10: Contact Us page

Figure 11: Database schema for student

Figure 12 illustrates the schema design of the user teacher. Teacher also need to fill out the mandatory key fields such as subjects to teach, qualification and availability of them.

Figure 12: Database schema for teacher

Figure 13 shows the schema design of the user admin. The mandatory condition for this system at current time is there is just one admin in the system. Admin user's password needs to be very strong as this user is responsible for maintaining whole system and responsible for securing the private data of the system user.

Figure 14 depicts the schema design for the user files which are stored in the database. There will be some conditions applied to this such as only specific extensions of files are accepted such as for profile picture files with extension jpg, png,jpeg will be accepted. There is also limitation in size is applied in the system. When user want to upload any document file he/she can not upload the content above the size of 50 MB.
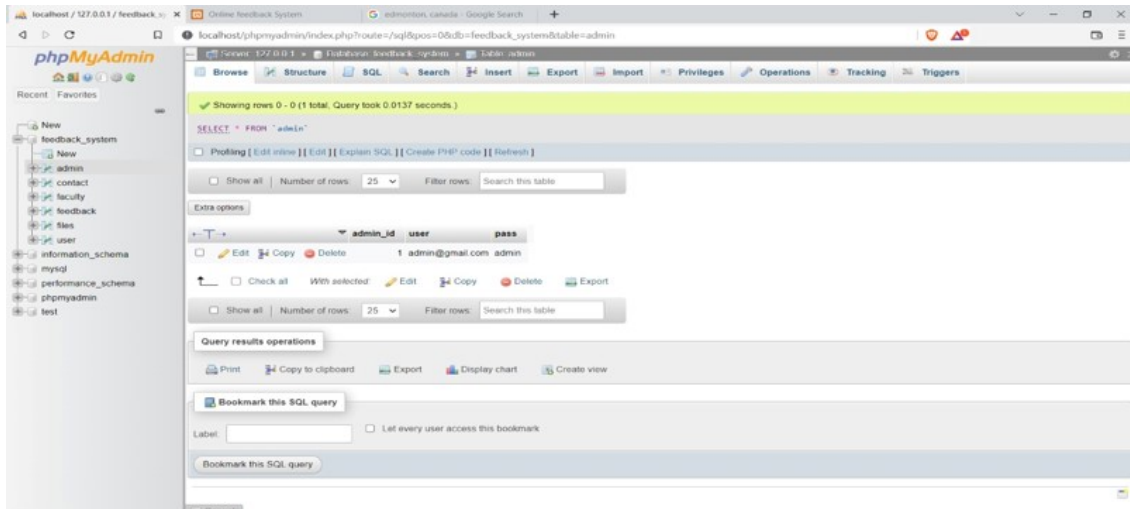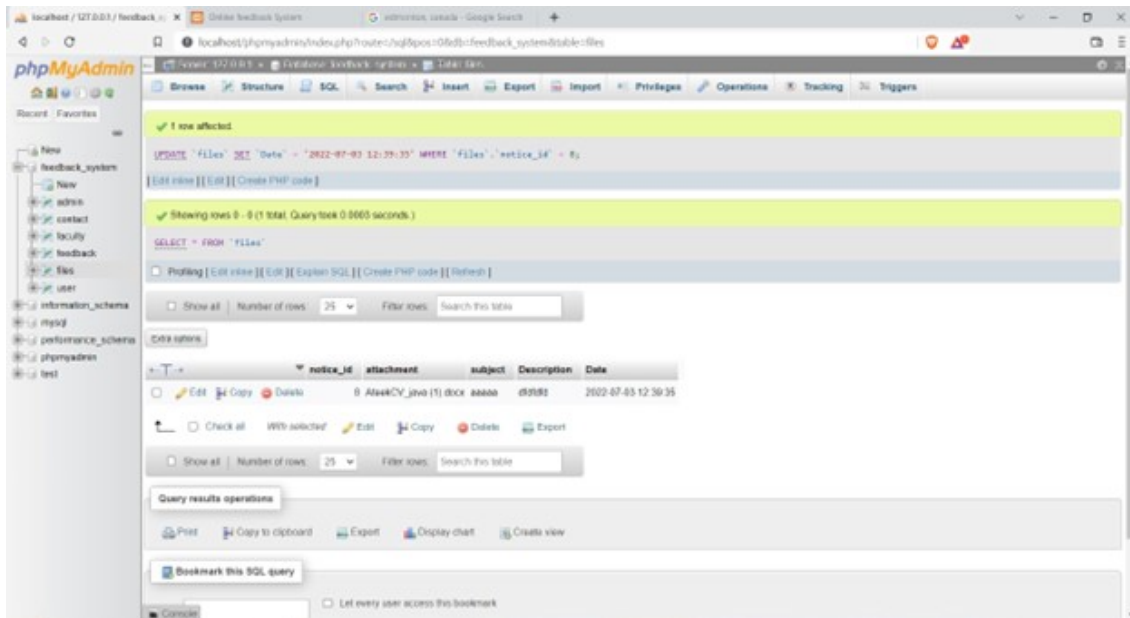
Figure 13: Schema design for admin

Figure 14: Schema for files

Figure 15 is showing the schema design for the enrolled user in the system. This is the actual data of the current and previous users of the system which is maintained by admin. This data has all the private and personal information of the user such as their contact number, address, e-mail address and their grades.

Figure 15: Database of student with their data

6 Conclusion

In conclusion Student-Teacher Connect App is very useful for small level tutoring services and institutes.It can make task of teachers very easy and convenient as they do not need to bother about place to evaluate the students. They will also be benefited by the feed backs they get back from the students to solve their doubts in more details and can improve the methodology of teaching.

This system is very much beneficial for students as they do not need to attend the physical classes to evaluate the test and get the feedback from the teacher. Getting separate feedback from the teacher can also increase their courage to ask teachers more about their doubts and improve the performance. This system is real time so students will get the feedback very early and the less time duration ends up in more communication with teacher which is helpful for student.

The admin also have benefits, first they can manage the people of the system using internet connected device which makes the task of managing institute or class very easy. Secondly, the data storage of all the students and papers of them stored physically at a location and maintaining it will be completely vanished by this application.

7 Future Work

7.1 Further Development

Automation is the future. In this application we are planning to add Machine Learning algorithms and making the system itself smart to give student suggestions on the basis of their performances. If student perform poor in one particular topic or subject the system will give useful resources to learn and get better understanding of that topic or subject.

Another feature we are planning to work is attaching a chat bot into the web application. Adding a chat bot into the system will make the application more live and interactive. For developing a chat bot python language will be used.

There is also one big portion of the application is under development which is Privacy. There are lots of things still needs to be cleared out regarding privacy policy for the website.there are few topics which will be covered in privacy policy.

7.2 Privacy Matters

This Policy describes how Student-Teacher Connect App collects required or optional personal and non-personal information, and how it uses, discloses, and safeguards that information through the Website/App. Data that can be used to uniquely identify or contact a single individual is referred to as "Personal Information" (or "Personal Information"). For the purposes of this Policy, "Personal Information" refers to information that may or may not be publicly available and that is provided while using the Website or App, registering on the Website or App, contacting Student-Teacher Connect App admin by phone, email, or other means, writing reviews for the content offered on the Website or App, etc.

Information Collection and Use

When you access the Website/App, register with the Company, or use the Services, the Company gathers and saves Personal Information about you.

Your name, address, email address, phone number, credit/debit card information, business information, franchise and other licence information, other financial information, and certain other information that is optional may all be requested when you register on the Website or App. The website/app makes every effort to make clear which information You must share with the company and which information is optional. You are no longer anonymous to the Company after you register on the Website/App and log in to utilise its Services [32].

When you use the Website or App, the Company automatically collects and logs information about your sessions as well as (if you have configured your computer to accept cookies) relevant cookie data. See the "Cookies" section below for more details.

The following general uses of Your information by the Company are possible:

to get in touch with You in order to facilitate Your use of the Company's or its affiliates' specialised services/products, professional consulting services, etc. to run the Company's business, to deliver statements, agreements, and/or to collect payment from You. to respond to your questions and complaints, send you marketing-related communications, and troubleshoot issues to keep the website and app free from fraud, mistakes, and unlawful behaviour. to send You crucial information regarding the Website/App, changes to the Website/App terms, conditions, and policies, and/or other administrative information; to enhance Your experience on the Website/App and the Company's other websites by presenting advertising, products, and offers tailored to You; to ensure compliance with all applicable laws; and to ensure the safety of the Website/App and all Users. The Company may use the communications or feedback you publish on the website or app for dispute resolution and troubleshooting.

Information Sharing

All Users can freely view some pages on the website or app and do not need to register first. Additionally, users can only access some other pages on the website/app after entering their login information (username and password) and/or after paying the required payment stipulated by the company. In order to ensure the security of Your username, password, and other information, the Company requests that You visit the Website/App through a trusted and secure server. Information that may be publicly accessible to all Users and visitors of the Website/App is not guaranteed to be secure or private by the Company. Additionally, the website or app might provide links to other websites.Please be aware that the Company is not responsible for the privacy practises of such third party websites and does not endors any links or websites.

Accessing Personal Information

The Company wants to give You access to Your Personal Information kept on the Website/App whenever You do so. It could be necessary to occasionally update that information. The Company works to provide You with simple ways to update any of Your Personal Information. The Company may ask You to prove your identification before acting on your request to update Your Personal Information.

Cookies

The Company has the right to add text files to Your computer's browser files. The Company will only be able to link the data You specifically and willingly provide to the website/app you are using, the services you are using, and your activity on the website/app through the use of cookies, which do not themselves include Personal Information. A cookie can only save the data you give it, which is the only Personal

Information it can hold. A cookie is unable to read information from your hard drive or cookie files made by other websites.

To monitor user traffic patterns on the website/app and their usage of the services, the company employs cookies. To monitor Your usage of websites, applications, or software from third parties, the Company does not employ cookies. Please be aware that the Company has no control over how third parties use cookies.

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