Online Travel Pass Portal For School/College Students

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ABSTRACT

The purpose of our project is to computerize the traveling pass system ,making it easier for students .This project is mainly useful for students by using app students/users can apply for the travel pass directly through the college. Then after verification of profile and application college admin passes all the data to Train/Bus authority. With the help of this students get an E-pass from train admin or bus admin. Internet become more handy for students so it will save their time will make it quick. Instead of standing in the exhausting line students can make their pass from home. students can buy the train ticket pass over the internet 24 hours throughout the week, this solves the issue of pass being misplaced or stolen ,there is a need of reformation of the system, with more advantages and flexibility. E pass web system to put it simply ,means system can provide pass identification using bar code, pass renewal, cancellation, updating ,student discount.

Keyword: -*E-pass, Student pass system, online pass system, computorized concession letter.*

1. INTRODUCTION

Offline processes are more slow and hectic as we are in the advanced technology world we hate to wait right? So, guess everyone have to face this problem and it is irritating as well so, we do not get our pass on time sometimes our college authority is not available or sometimes even after filling form we have to wait for HOD/principle signature and to print college stamp on it. Sometimes when we lose our student pass, we do not have another procedure to get back new one. All these results in lots of paper work and lots of time consuming process even after getting our form authorized by college. We get pass from respective railway station after standing in queue for hours. This is also time consuming and sometimes if the signature or college stamp is not proper printed on the form they reject our pass request and cancel it.

The travel E-pass system project is to design software to fully automate the process of issuing the travel pass.

That is:

1). To create the database of the information regarding the students and college and admins.

2). Users will able to search the college, get discounts, document verification.

3). To calculate the concession.

4). To see the status of the user application.

Travel e-pass system is an online website, which is capable of providing the concession letter as required for traveling for students. This website is mainly created to fulfil the following requirement. It comprises the following properties.

1) A database that will store all the information
2) An online website that will provide real-time information about the application which are requested by the students to the college admin.
3) Every registered user is able to view his ID has been made in user name.
4) Every user has the facilities to print the letter after there is a green audit from the college admin.

The reference number should be shown in square bracket [1]. However the authors name can be used along with the reference number in the running text. The order of reference in the running text should match with the list of references at the end of the paper.
Eg1: As per Kong, the density of X increases with Y [3].
Eg 2: It is reported that X increase with Y [2].

2. LITERATURE SURVEY

1) To avail student concession on train ticket follow these steps
first go to admin of your colleqe and university take concession form fill it and submit
to respective authority after that college/university authority will issue concession form
with signature of higher authority like dean,hod ,dsw after getting this signed concession
form need to go to ticket counter of nearest railway station with ticket(if u have already
taken) other wise fill ticket form and submit with concession form on ticket counter after
verification they will ask reduced amount to you
note :- you have to take ticket during the given period on concession form issued by your
college like for summer vacation or winter vacation.

2
) Indian Railways gives you student concession just for going home and come back during the
holidays declared by Institutes which are controlled by Central Govt. YOU can get 50%
concession on SL / GN Class. AC doesn't have any concession and if you are SC /ST category
then you can avail 75% of concession in SL /GN class. Form would be circulated by institute ,
you have to get the form an get it signed by Institute revenue manager and then proceed for
counter - ticket booking.

3) You will have to enquire the school for any particular online portal of theirs that of it is
available or not. If not then too its not that tough a simple request letter usually is enough
But some schools have forms which are to be filled and submitted and the give you a school
certified certificate that you are eligible for concession and you can use that to get you
concession pass.

3. SYSTEM OVERVIEW

A student pass is created when the college admin approves the concession letter application applied by the user. After approving the concession letter user needs to pay a certain amount for the payment of pass to the respective travel authority. After the payment the train/bus admin will approve the pass request and then finally students can download the E-pass.

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4. SYSTEM ARCHITECTURE

A typical three-layer structure is used in the system: the database layer, the application service layer, the user interface layer.

1) The database layer – The database is used to hold data, including user registration, ticket information and all of the other information.

2) The application service layer – The application service layer is the core of this three-layer structure, the system functions and business logic are handled in this layer. In this layer, the system's business logic is encapsulated, the application service interface is provided for the user interface layer and the system modules between the function calls, The application service layer also updates data in the database, according to the service request of the top layer.

3) The user interface layer – The user interface layer is a program that runs on a remote user computer. It displays the provided services by the server to the user. When the user selects a service, this program sends a request to the server. When the server returns the processed result, this program shows it to the user.
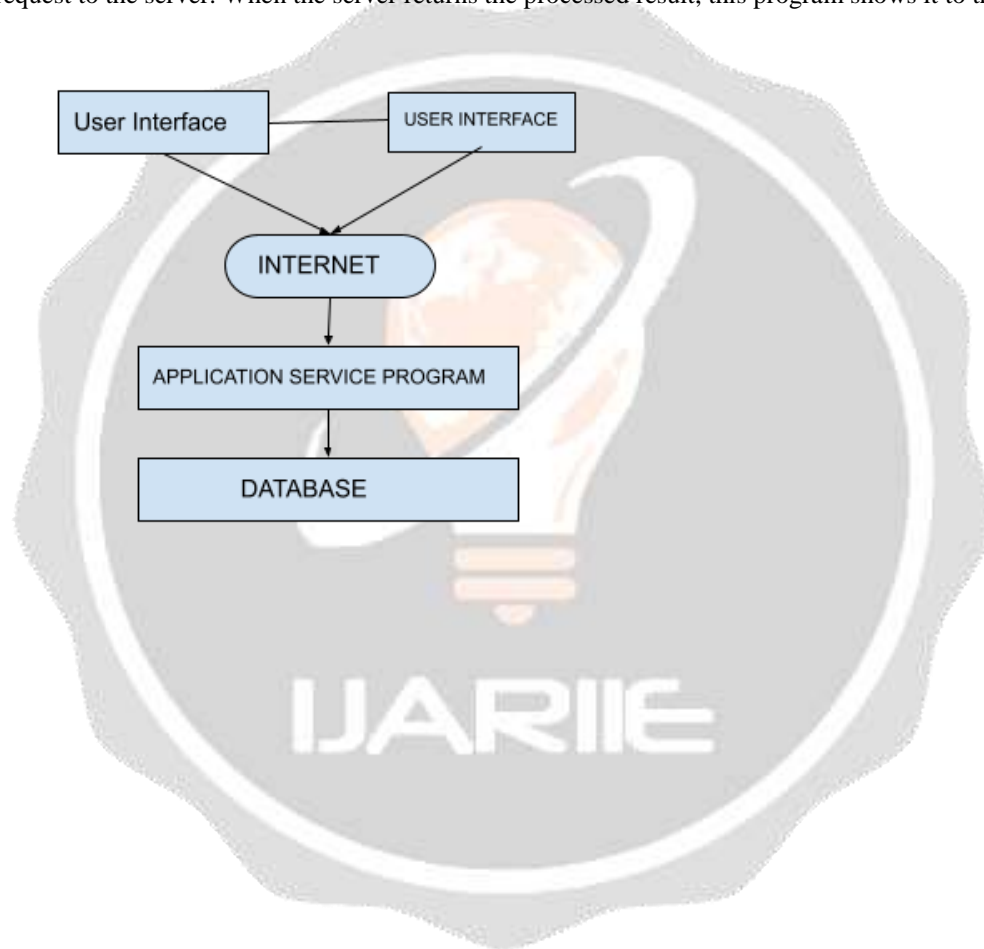
4.1 REACT JS – React (AKA React.js / ReactJS) is a popular open-source and free frontend JavaScript library for building user interfaces based on the UI components. It is maintained by the popular company Facebook and a vast community of developers and companies. React can be used as the base in the development of mobile, single page, or server rendered apps with frameworks like Next.js or others. However, React is only primarily concerned with the state rendering and management that state to the Document Object Model(DOM), thus the creation of React applications generally requires use of additional libraries for routing, and certain client side functionality.Notable features of React are:- It is Declarative in nature.React code is made up of individual entities called components. React uses Virtual DOM.React was created by Jordan Walke. He was a software engineer working in Facebook, who released early prototype of now called "React" named as "FaxJS" at the time.He was inspired by XHP(HTML component library in PHP). It was first deployed on Facebook's News Feed in 2011 and later on the social media app named Instagram in 2012.It was an open source project at the US JSConf in 2013.React Native, which enables native iOS, Android and UWP development with React, was announced at a React Conference in Feb 2015 and
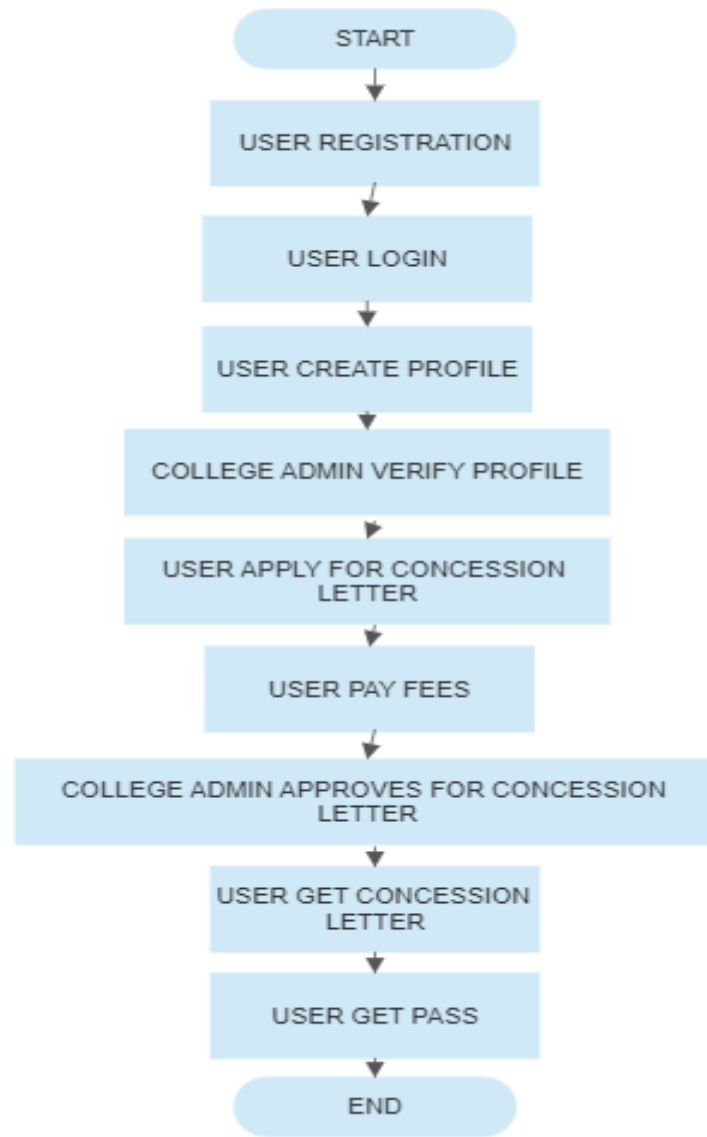
open sourced in 2015.In April 2017, React Fiber was announced.In September 2017, React 16.0 was released in public.In our Project we have used React for the Frontend in conjunction with Nodejs, ExpressJs and MongoDb for backend and as database.

4.2 MONGO DB - MongoDB is an open source document database. It is currently the leading NoSQL database. MongoDB is written in Cpp language. MongoDb can be used to create and deploy a highly scalable and performance heavy oriented database. MongoDb helps to:-Build FasterShip and iterate 3 to 5x faster with its flexible document data model and a unified query interface for any use case.Scale Further Avail better MongoDb ensures high availability,data integrity, and meets the security and compliance standards for the mission critical workloads. MongoDb helps to:-Build Faster Ship and iterate 3 to 5x faster with its flexible document data model and a unified query interface for any use case. Scale Further MongoDb being the leading NoSQL database helps to scale our project faster. Avail better MongoDb ensures high availability,data integrity, and meets the security and compliance standards for the mission critical workloads. MongoDB uses JSON like docs with the optional schemas. MongoDB was developed by MongoDB Inc. and licensed under Server Side Public License (SSPL). "10gen" named software company began the development of MongoDB in 2007 as a component for a planned platform as a service. In 2009, the company converted itself to an open source development model,the company offered commercial support and other services. In 2013, "10gen" changed its name to "MongoDB Inc". In October 2017, MongoDB became a public traded company, listed on the NASDAQ as 'MDB' with an IPO price 24$ per share. MongoDB is a global company headquartered in New York City,USA. On October 30, 2019, MongoDB teamed up with Alibaba Cloud, to offer its customers a MongoDB As A Service solution. We have used MongoDB as our main Database for storing our data in conjunction with React for frontend and NodeJS and ExpressJs as our backend.

4.3 EXPRESS JS - Express is a flexible and minimal Nodejs web app framework which provides a robust set of features to the developer to develop web and mobile apps. It helps in the rapid development of Node based Web applications. Some of its core features are − It allows the setting-up of middlewares to respond to the HTTP Requests. It defines a routing table(for example RESTful) which is used to perform different actions based on HTTP Methods and URLs. It allows to dynamically render HTML Pages based on the passed arguments to the templates.
The original creator, TJ Holowaychuk, described it as "a Sinatra-inspired server", meaning that it is relatively minimal in nature but feature heavy. Express is the backend component of popular Web development stacks like the MERN ,MEAN,or the MEVN stack, together with the MongoDB or SQL database software and a JavaScript frontend framework or library. In our project, We have used Express Js in conjunction with Node, React & Mongoose.Thus we have used the MERN Stack.

4.4 NODE JS - Node.js excells in the real time web apps employing push technology over the websockets. After over 20 years of stateless-web based on the stateless request-response paradigm, we now have web applications with real time, two way connections, where-in both the client and server can initiate the communication, enabling them to exchange data free-ly. This is in contrast to the usual web response paradigm, wherein the client always has to initiate the communication. Additionally, it is all based on Open Web Stack (HTML, CSS and JS) running over the standard ports. Node.js is a package compiled of Google's V8 JavaScript engine,a core library, and a libuv platform abstraction layer , which in itself is primarily written in JavaScript language.Moreover, it is worth noting that the creator of Node.js "Ryan Dahl", aimed to create real-time websites with pushing capabilities, inspired by applications like Gmail. In Node.js, he gave developers a tool for working in the non-blocking ,I/O paradigm, event-driven. In our project, We have used NodeJs and its vast NPM library in conjunction with Express, React & Mongoose.

5. FLOWCHART

```
                    ┌──────────────┐
                    │    START     │
                    └──────┬───────┘
                           ▼
                ┌──────────────────────┐
                │  USER REGISTRATION    │
                └──────────┬───────────┘
                           ▼
                ┌──────────────────────┐
                │     USER LOGIN        │
                └──────────┬───────────┘
                           ▼
                ┌──────────────────────┐
                │  USER CREATE PROFILE  │
                └──────────┬───────────┘
                           ▼
            ┌──────────────────────────────┐
            │  COLLEGE ADMIN VERIFY PROFILE │
            └──────────────┬───────────────┘
                           ▼
            ┌──────────────────────────────┐
            │   USER APPLY FOR CONCESSION   │
            │            LETTER             │
            └──────────────┬───────────────┘
                           ▼
                ┌──────────────────────┐
                │    USER PAY FEES      │
                └──────────┬───────────┘
                           ▼
        ┌──────────────────────────────────────┐
        │ COLLEGE ADMIN APPROVES FOR CONCESSION │
        │                LETTER                 │
        └──────────────────┬───────────────────┘
                           ▼
                ┌──────────────────────┐
                │  USER GET CONCESSION  │
                │        LETTER         │
                └──────────┬───────────┘
                           ▼
                ┌──────────────────────┐
                │     USER GET PASS     │
                └──────────┬───────────┘
                           ▼
                    ┌──────────────┐
                    │     END      │
                    └──────────────┘
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6. REFERENCES

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7. CONCLUSION - In this paper, we design and achieve a travel pass system. The system is structured into the data access layer, business logic layer and business exterior layer. We implement student registration, college admin, train station/bus station admin. Business process design and database design is the focus of this system which are clearly and effectively designed by the business process diagrams and database ER diagram. The application is

developed in perspective of user convenience and the friendly user interface of the application which helps users without any complicated searching process and other software requirements are data security and maintainability as anyone can access with their own login. By using this project less time is required and it is easy to use. . This application must be useful to all the students who use this application and must satisfy their needs.