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EazePay

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Abstract :

E-payment system is increasingly becoming a daring means of payments in today's business world. This is due to its efficiency, convenience and timeliness. It is a payment system that is continuously being embraced and adopted in the financial system of both developed and developing countries with a view to simplify and ease payments in business transactions. As a result, many studies were conducted around the globe by scholars on e-payment adoption. It is based on this that this research paper looks at the available past literature on e-payment adoption across the world, with a view to highlight the scope, methodology and Information System (IS) models used by previous researchers so as to identify research gaps and recommend such for future studies. The study employed an extensive literature search on e-payment adoption with the aid of Google Scholar for those recent studies between the years 2010-2015. To facilitate the understanding of the issue under study, previous studies were analysed based on scope-geographical location of the study, theories/models adopted and methodology used.

Colleges have a large number of students who pay all the university fees through cash deposits, electronic funds transfer or bank drafts to the university's accounts in specific bank branches. These methods of paying fees have not been efficient enough especially during periods of tests and examinations when most of the students are paying fees to meet the requirements for entering examination rooms. The process of paying fees is characterized by long queues, too much waiting by students and congestion at banks where payments are made. This has always resulted in students missing to sit for their tests and/or examinations while they are queuing to make payments. It was upon such background that we embarked on the project to develop of an alternative system that enables online fees payment by students and their sponsors.

With the use of questionnaires, interviews, observation and document reviews, data was collected and analysed. Data flow diagrams and Entity relationship diagrams were used to accomplish system analysis and design.

Findings showed that most of the students were unsatisfied with the current modes of paying fees to the university and agree that an online fees payment system can improve the process of fees payment. The result of the project was an online fees payment system for colleges and recommend the university to implement the system that provides relief of the long-endured problems of the current modes of payment at the university.

IndexTerms **– Payment System, Canteen, Online Payment**

I. INTRODUCTION

The emergence of Information and Communication Technology (ICT) had completely changed the lives and operations of individuals and organizations respectively. ICT and Digital technologies had made great evolutionary development in finance, economics, operational costs and enhanced organizational performance. The era of ICT and digital innovations has come along with a dynamic change in the world business environment, whereby business transactions are constantly shifting from cash-based transactions to electronic-based ones. Also, the global proliferation of the internet and its rapid use over the years had contributed much in facilitating electronic commerce in global business environment.

Consequently, as transactions among business partners continue to proffer on the e-commerce platform, an electronic payment solution emerged to replace the former cash-based payment systems. The advent of this development in the global business environment challenged most organizations to automatically switch from the conventional paper-based money transactions to an electronic payment system which is widely known as the e-payment system. Generally, electronic payment can be defined as a platform used in making payments for goods/services purchased online through the use of internet.

Subsequently, with the introduction of e-payment system, the world payment system turned out to align with the current trend of cashless transactions among individuals, businesses and governments. As a result of this, the world

payments system is gradually changing from coins and paper-based money to electronic forms that provide more convenient, fast and secured process of making payments among individual and organizations. Similarly, the global annual non-cash transactions being facilitated by e-payment and mobile payment (m-payment) had been on the increase over the years, except for 2012 where it decelerates from an annual growth rate of 8.6% in 2011 down to 7.7% in 2012 (World Payment Report, 2014).

E-payment systems are important mechanisms used by individual and organizations as a secured and convenient way of making payments over the internet and at the same time a gateway to technological advancement in the field of world economy. In addition, it has also become the major facilitating engine in e-commerce through which electronic business success relied upon. Electronic payment system had also brought about efficiency, fraud reduction and innovativeness in the world payment system.

Furthermore, e-payment system tends to bring many electronic modes of payments through which financial institutions offer different e-payment opportunities and services to their customers such as the credit cards, debit cards, on-line banking and mobile banking. As a result, the adoption of e-payment technology is ever increasing in today's business environment and public sector establishments. However, despite all these benefits associated with e-payment, adequate ICT know-how among users and fear of security breach remain the most concern of individuals, organizations and experts in the field of information system.

II. PROBLEM STATEMENT

Colleges has a large number of students who pay all the university fees through cash deposits, electronic funds transfer or bank drafts to the university's accounts in specific bank branches. These methods of paying fees have not been efficient enough especially during periods of tests and examinations when most of the students are paying fees to meet the requirements for entering examination rooms. The process of paying fees is characterized by long queues, too much waiting by students and congestion at banks where payments are made. This has always resulted in students missing to sit for their tests and/or examinations while they are queuing to make payments. It was upon such background that we embarked on the project to develop of an alternative system that enables online fees payment by students and their sponsors.

Along with the payment of Fees, we've also decided to add other useful features like payment of Transportation Fees, Exam Fees, and also Payment for the Cafeteria where students and faculties can order their food and pay for it using the system. They can also pre-book their food and pay in advance so that they don't have to stand in the long queues to get their food.

III. REQUIREMENTS

Developer Requirements:

Software

- NodeJs, Express, EJS, Tailwind CSS, Socket.io, StripeJs
- Chrome with 90.0.4430.93 Version
- MongoDb for database
- Sublime Text

Hardware

- 4 GB RAM
- Intel i3 Processor

User Requirements:

Software:

- Chrome with 90.0.4430.93 version
- Compatible with internet and internet connection

Hardware:

- 4 GB RAM
- Intel i3 Processor

IV. IMPLEMENTATION

Our Project mainly consists of 2 modules which are integrated with each other via another module. The two modules are namely: Canteen Module and the Fee Module. Both of these modules are very useful and can bring an important change in our daily life of hustle and bustle. The Canteen Module will make food ordering simple and efficient without letting users to wait in long queues to order and collect their food. The user just needs to go and collect their food from the Canteen and enjoy it without any delays. The Fee Module will make Payments very feasible and convenient for students. It will cut down the needs to stand in a queue to pay the fees and wait for confirmation regarding the same. This Module will be able to give quicker confirmations and Users just need an active Internet connection to be able to pay it. Both of these modules are explained below in detail with all the necessary screenshots of the module for better understanding.

There are various different software used in order to implement this project. The details are given below:

1. **NodeJS:**

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser.

2. **Express.JS:**
   Express.js, or simply Express, is a back end web application framework for Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js.
3. **Tailwind CSS:**
   Tailwind CSS is basically a utility-first CSS framework for rapidly building custom user interfaces. It is a highly customizable, low-level CSS framework that gives you all of the building blocks you need to build bespoke designs without any annoying opinionated styles you have to fight to override.
4. **Socket.IO:**
   Socket.IO is a JavaScript library for realtime web applications. It enables realtime, bi-directional communication between web clients and servers. It has two parts: a client-side library that runs in the browser, and a server-side library for Node.js. Both components have a nearly identical API.
5. **Stripe.JS:**
   Stripe. js is a JavaScript library which you can wire into your checkout form to handle the credit card information. When a user signs up using the checkout form, it sends the credit card information directly from the user's browser to Stripe's servers.

V. UML DIAGRAMS

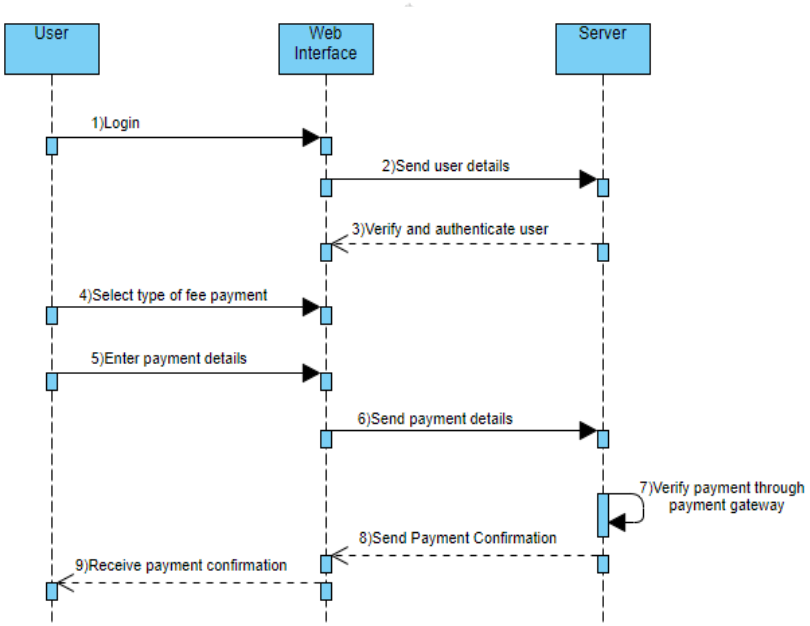

Fig. 1. UML Diagram for Fee Module

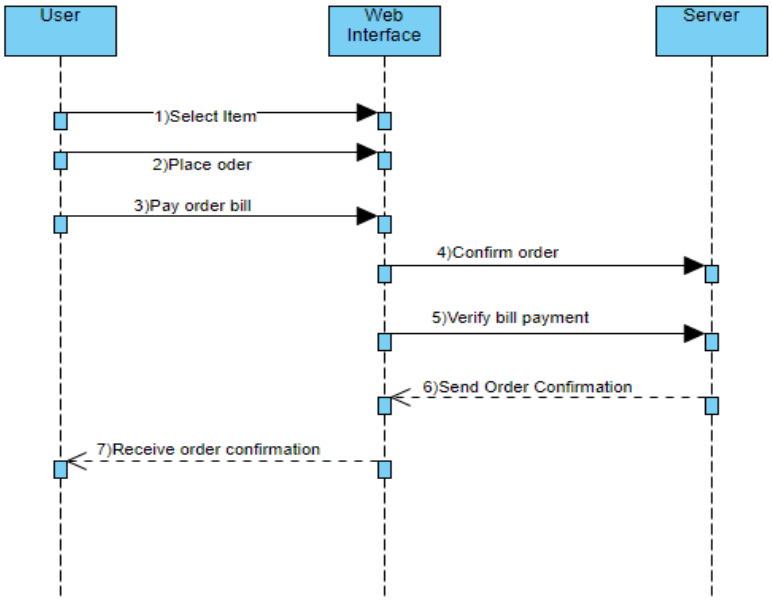

Fig. 2. UML Diagram for Canteen Module

VI. SCREENSHOTS

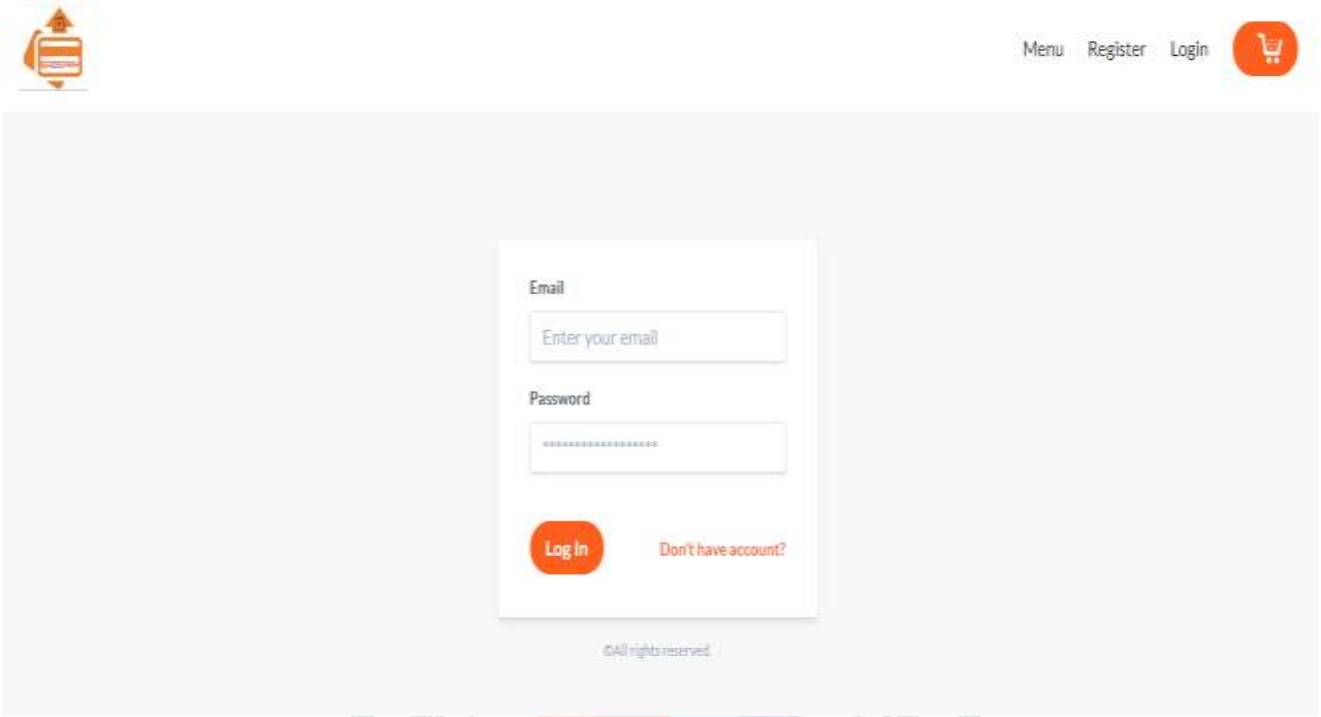

Fig 3. Login Page

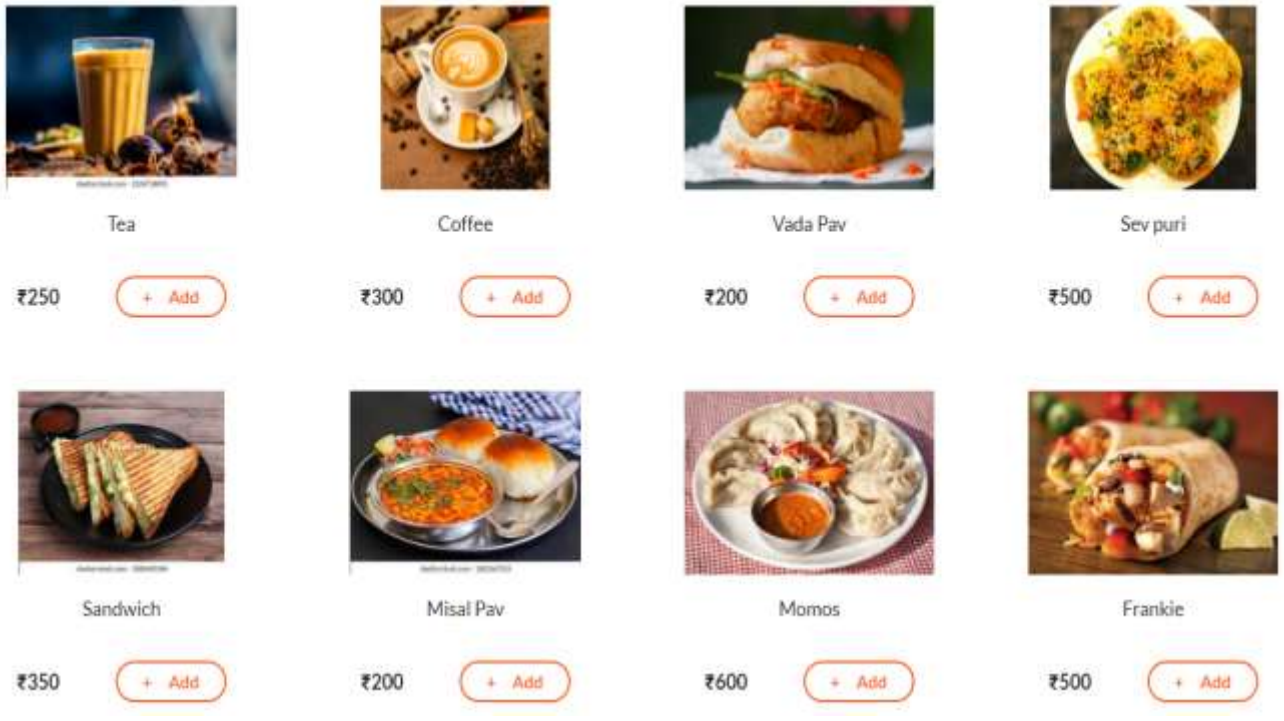

Fig 4. Home Page

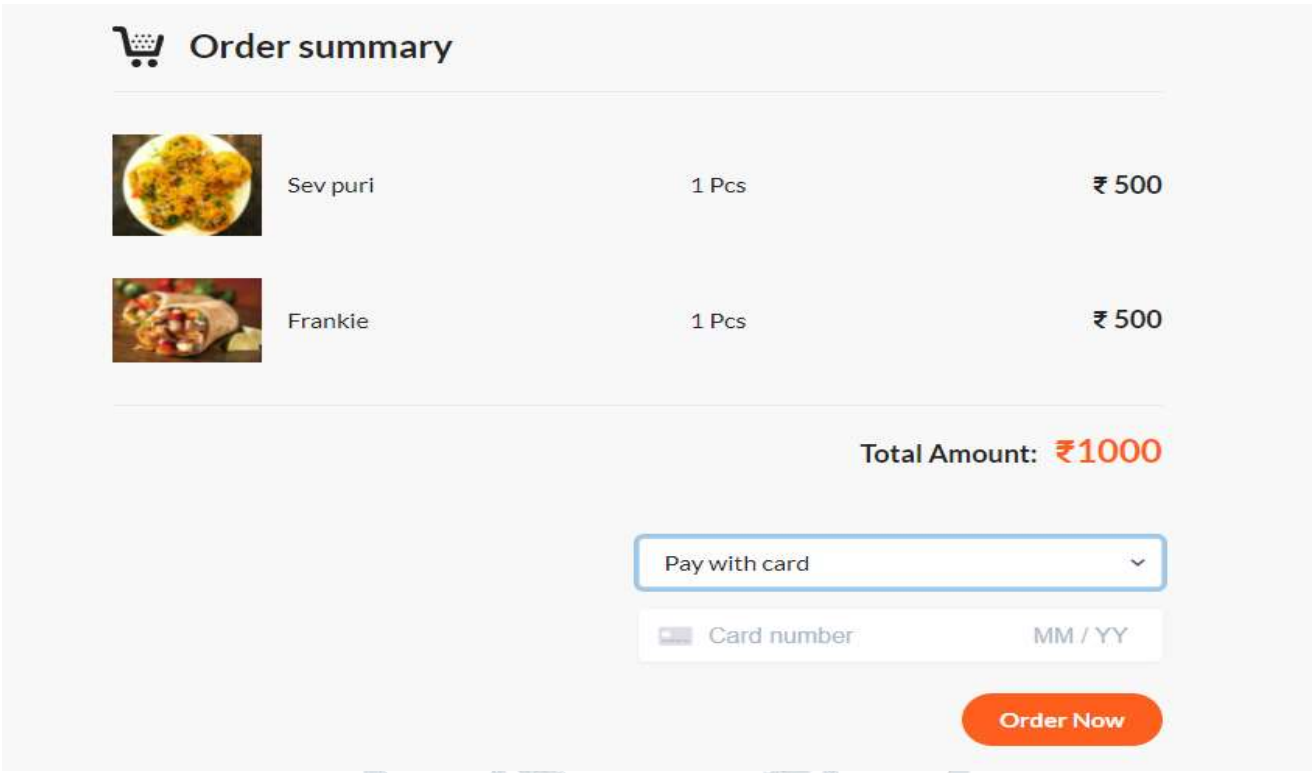

Fig 5. Order Summary

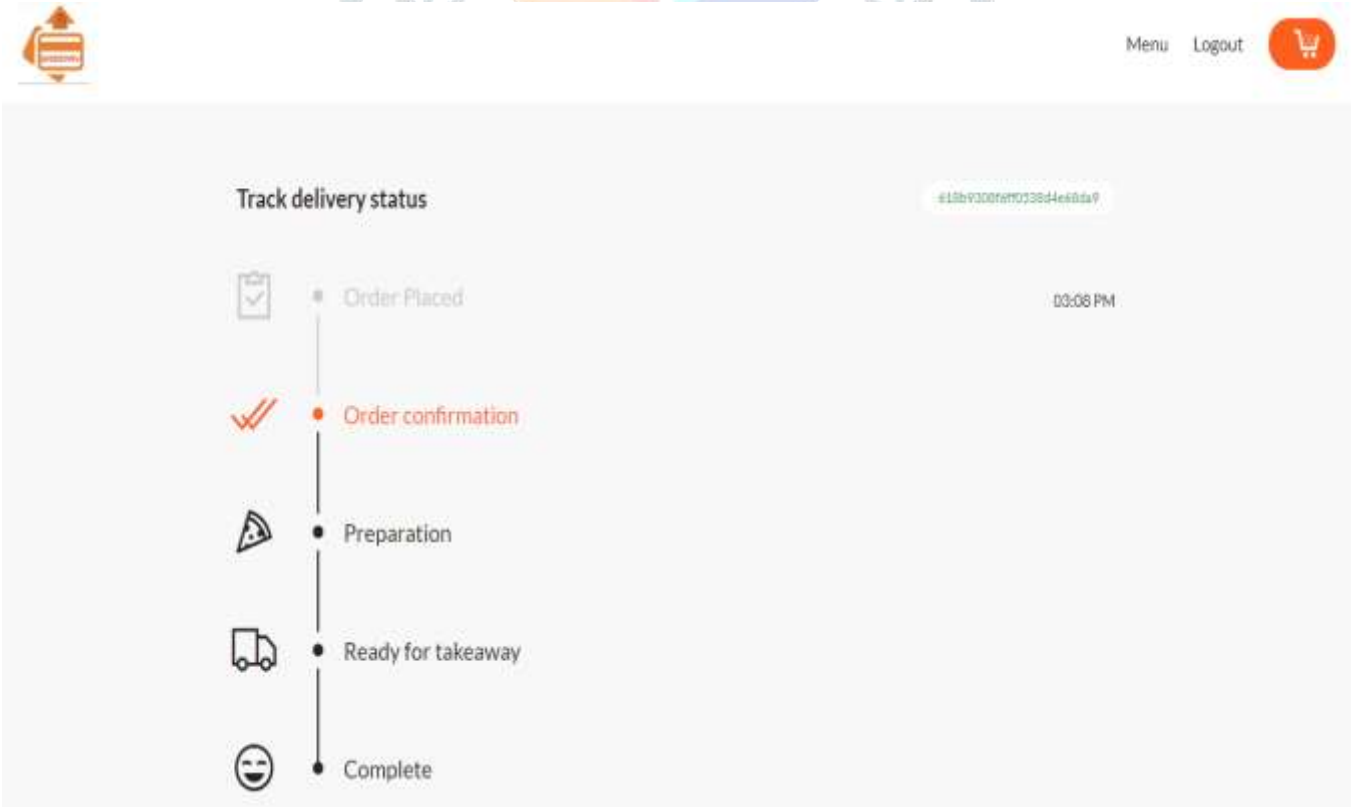

Fig 6. Food Order Summary

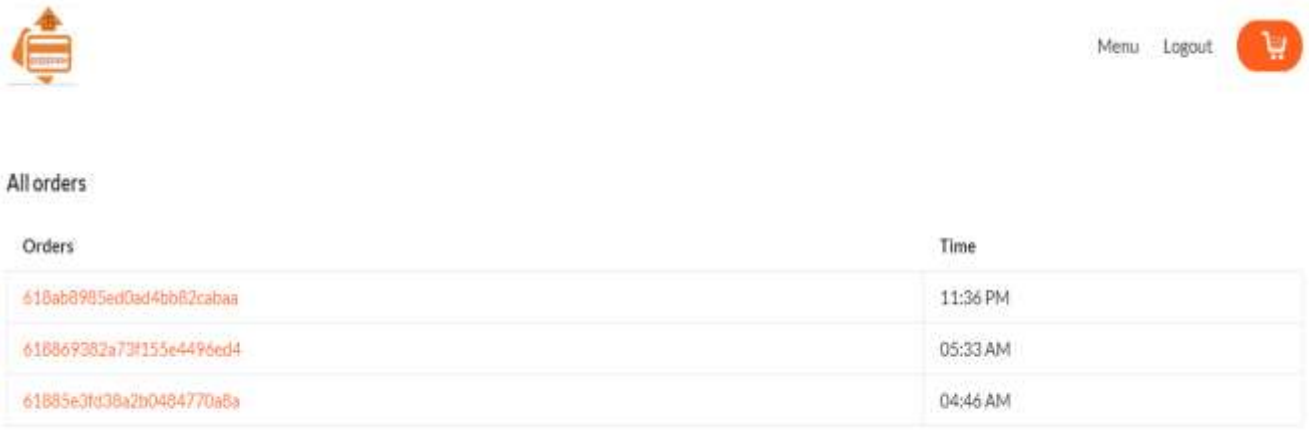

Fig 7. Order Status

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