

Business Proposal For Cashless POS Management Solution

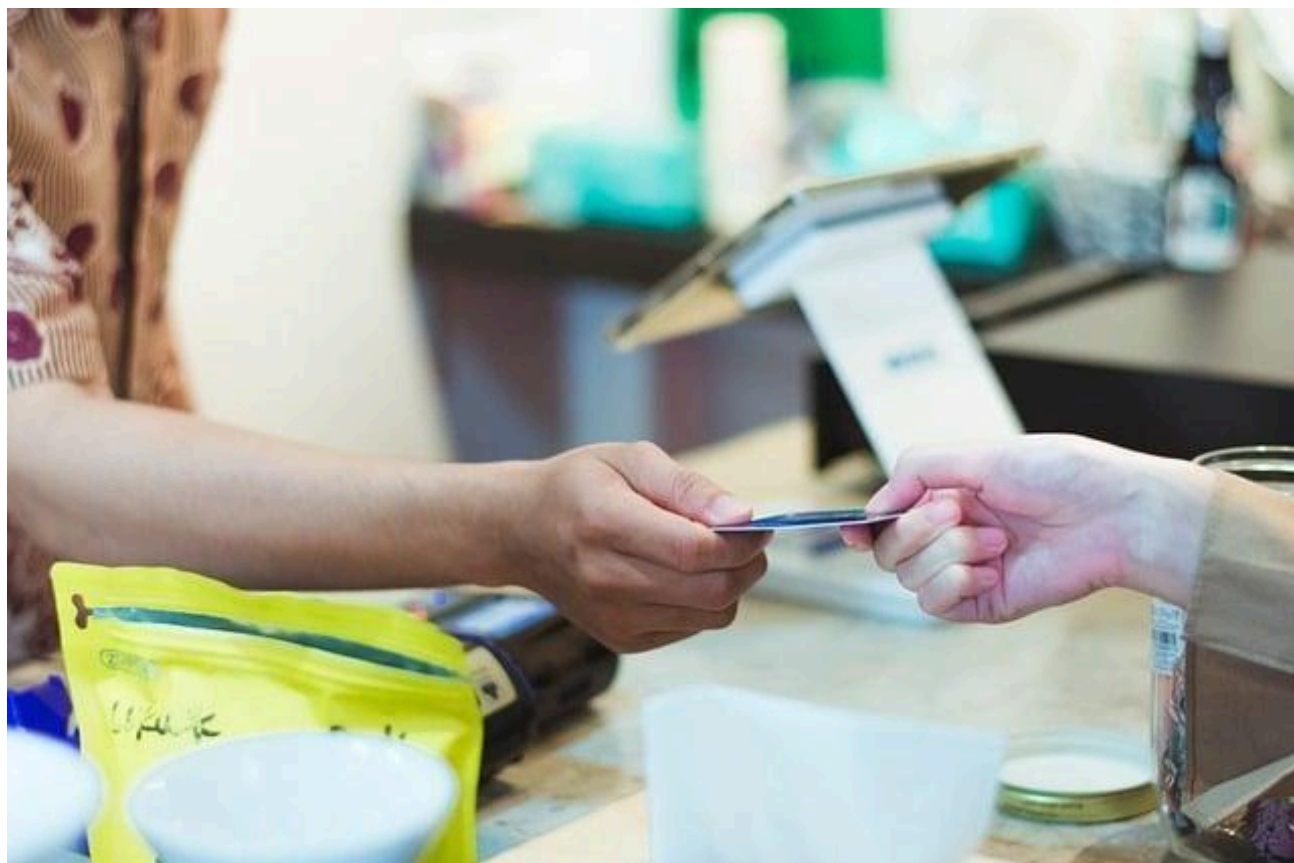
Syed Sajeem

Written By

Shoeb Khan

Business Analyst

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EXECUTIVE SUMMARY

CloudXperte is a team of mobile app & web app experts passionate about converting simple ideas to amazing web & mobile apps. We aim to be a part of successful entrepreneurial journeys by helping innovative people and businesses to attain their dreams and vision in applying their business.

Our experienced developers and designers ensure each web and app is specifically built for its own unique characteristics. Their years of experience come in quite handy as we raise constructive suggestions that augment the effectiveness of each app. In addition, rigorous app testing takes place with the help of our dedicated testing team to ensure there are minimal flaws to each app we create. In short, we ensure your simple idea is converted into an amazing web and mobile app.

Our projects include technologies based on iOS, Android, React Native, Node Js, Python, Flutter, Firebase, Xamarin, .Net, and React Js we have experience in working with domains like the transport, game, education, healthcare, automotive, marketplace, IoT, agriculture, construction, finance and entertainment etc.

Whether you are an innovative start-up or an established brand, we can create sophisticated and affordable mobile apps with proven technology standards to apply your business. With our technical experience, dynamic designs, User-friendly interface, and domain expertise, we strive to add value to your project ideas and be your best technology partner to Apply Your Business.

The aim of the cashless canteen management system is to automate the existing traditional system which is manual, with the support of application and web portal, so that the process for canteen management can be digitalized and the workflows can be automated, the valuable data regarding the payments, transactions, inventory, items, orders can be managed and quickly accessed, thereby improving the canteen management.

Our understanding of the scope of work is to:

- Understanding of business processes
- Analysis of current system capabilities
- Propose a workable solution as per business requirements
- Design and implement an enterprise maintenance management solution
- Complete the User Acceptance Test
- Deploy the solution
- Provide necessary user training

PROPOSED SOLUTION

We understand that the customer's needs is on the path of digital transformation. We plan the implementation of a cashless canteen management solution in a structured, planned, and methodological manner. The proposed solution is scalable and will meet the current and future needs to the organization.

Our Cashless Canteen solution is a legitimate RFID based prepaid smart card system that school students/parents can store their cash in and can utilize it for making cashless payments at canteens. It is much more secure than carrying cash. For instance, if a card is lost or stolen, it can be deactivated in no time before any misuse, but stolen or lost cash cannot be recovered, and this is the primary advantage of a cashless meal management system.

The system proposed focuses on canteen business process automation i.e., to digitalize the processes and management of canteen.

- Efficient use of resources through rising productivity by automation
- It satisfies the business requirement of users.
- Understanding the working of system is not complicated in case of both the users and the admin.
- Easy to operate.
- Have a good user interface
- Scalable.

At every step, industry best practices to ensure that our customers' credibility and trust, of which we are the custodians, are preserved by deploying the latest wave of security solutions the industry has to offer.

HIGH LEVEL OVERVIEW

Solution Overview



Objective is to empower the parents , students and the school canteen to go cashless using smartcards



Students should be able to use the school canteen facilities using the smart cards



Mobile App (Online & Offline) for Canteen Salesperson, School Students, parents



Website for Canteen Salesperson, School students, Parents

The current scope is the development of:

- IOS & Android mobile application for Parents for Cashless Canteen solution.
- Web application using WP/ Laravel. (Will decide based one)
- Cashless Payments by School Students by Smart Cards Parents (They can also add funds through mobile app)
- Card Recharged, Top- Ups Made by Online Payments
- Transaction History of the Card Usage.
- Accept Smart Card and Process Order for The Student.
- Check Card Balance.
- The Application would support English language.

HIGH LEVEL FEATURES

STEP 1 – USER/CARD REGISTRATION



- By Canteen App/Portal
- By Parents App/Portal
- By School App/Portal

STEP 2– TOP UP/RECHARGE



- By Parent Mobile App/Portal
- Credit Card
- By Canteen App
- Cash

STEP 3– INVENTORY REQUEST TO KITCHEN BASED ON DEMAND



- Canteen Salesperson to Order the items by Canteen App/ Portal

STEP 4 – CENTRAL KITCHEN TO PROCESS ORDER PLACED BY SALESPERSON AND DELIVER TO SCHOOL



- By Canteen App/Portal
- Central kitchen should view all school inventory requests by item, School

STEP 5– STUDENT PLACE ORDER & PAYMENT IS PROCESSED AT CANTEEN COUNTER



- Canteen App / Portal
- Provision to Push Invoice to parents
- Provision to Email Invoice
- Card Balance
- Top Up
- Inventory
- Daily Stock/Closing

IN SCOPE DETAILS- FEATURES

Below is the task list that is considered as In-Scope

- Any new feature/ enhancement will be considered as change request and will need to be handling as new request.
- User/Card Registration through Web Portal.
- User/Card Registration through Mobile App.
- Introduction of Payment Gateway and Wallet.
- Email & App Notification of Registration and Low Balance.
- Top Up/Recharge.
- Email & App Notification of Top Up/Recharge.
- App Notification of Low Canteen Inventory.
- Order of Items by Canteen App/ Portal.

- Management Reporting.

BENEFITS OF PROPOSED SYSTEM

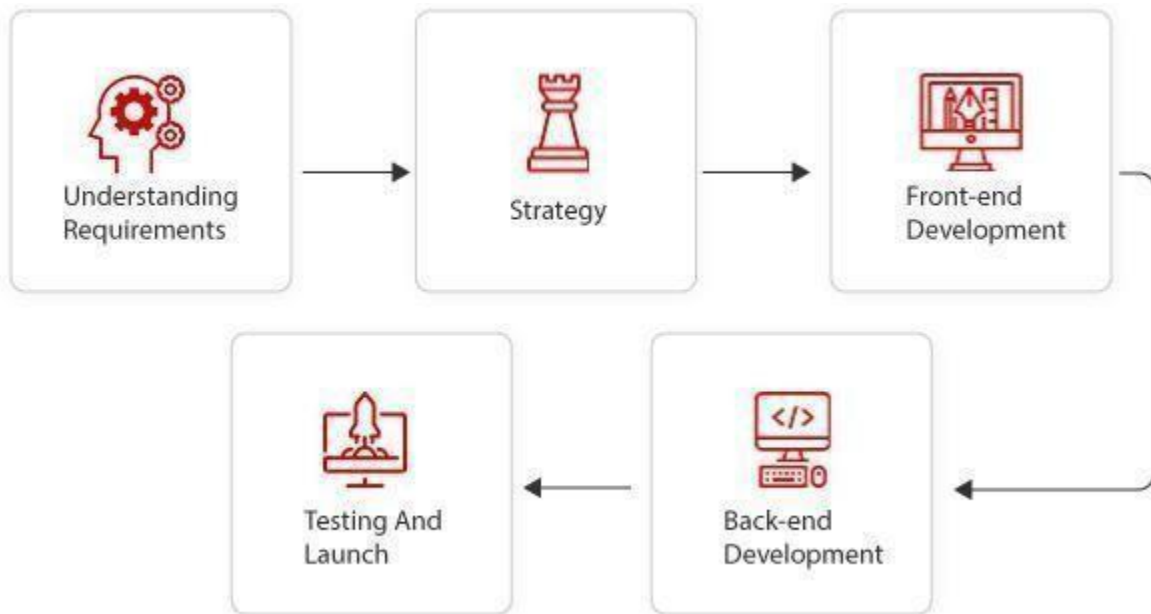
- The proposed system takes care of managing the cashless payments
- It also takes care of managing the order details, availability details, order details, payment details and user details.
- Cashless orders.
- Reduce queuing time with faster transactions
- Maintain student order history
- Maintain transaction & order details
- Save time (as no cash balancing need)
- Maintain food hygiene
- Increase the efficiency of canteen management
- Increase school and parents satisfaction

PROJECT TECHNICAL UPDATES

Web & Mobile Application:

- Mobile App - React Native.
- Front End & Backend – PHP Laravel.
- Database – MySQL.
- Cloud Hosting – AWS.
- Browsers Supported – Google Chrome, Mozilla Firefox.
- Payment Gateway Toolkit: Credit card.

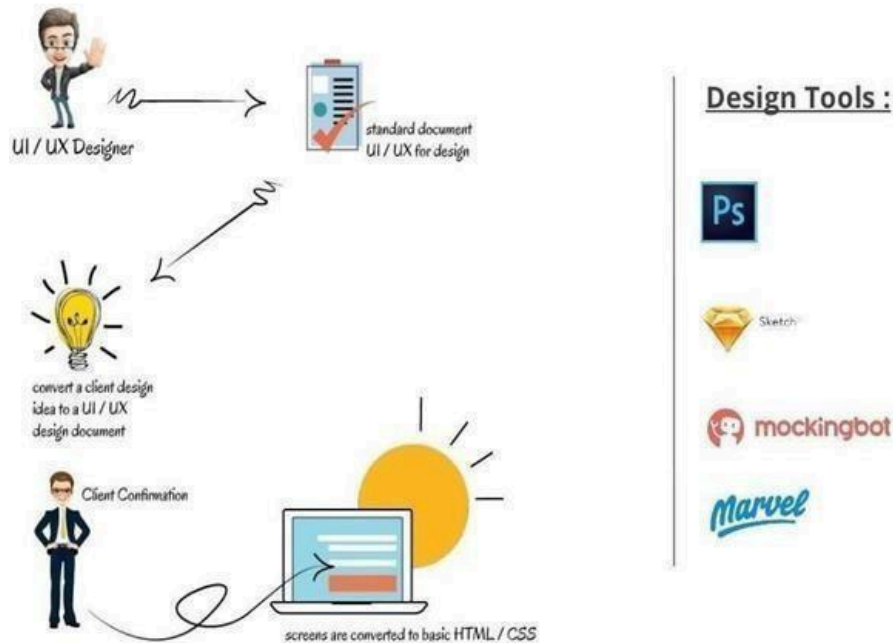
PROJECT INITIATION



The project manager along with the technical team and customer will work on requirement gathering of the project through calls and emails. This is a very important process as the scope of the project will be defined during this phase and it affects the project timeline & sprint planning.

Once the requirement is clear to the development team and project manager, the same will be documented and shared with the customer for sign off

DESIGN PROCESS



The designer will create screen design mockups based upon the document shared with him. Once the mock-ups are ready, it will be evaluated by the project manager and after everything is as per the defined scope, the same will be forwarded to the customer for his/her approval.

The customer along with the project manager will finalize the scope of the project and the screen design, post which the project will be signed-off by both the parties and development work on the same would be initiated.

A sprint plan will be shared with the customer post-sign-off with the details of what he/she can expect from each sprint.

PROJECT MILESTONES

Project Kick-Off:

- Kick-start the project with Kick-Off meeting, declare general expectations and milestones.
- Assign a Single Point of contact (SPOC) from the customer.

Analysis Documentation & Submission, Sign-Off:

- Prepare Functional Requirement Document (FRD) as an outcome of requirement gathering interviews.
- Review the functional points with users and submit for finalizing the scope.

Development:

- Do the necessary configuration / customization based on the FRD sign off and test the functionality.

UAT Sessions:

- Once the system configuration and setups are completed, User Acceptance Testing (UAT) phase commences, and customer's team needs to the testing of the system and report if any issues found during this phase.
- Once the UAT phase is signed off, CloudXperte will migrate to the Production (Go Live environment)

Training:

- Training will be provided to the key (super) users of the developed system.
- Customer needs to assign and share the super usernames with CloudXperte Project manager

Go-Live:

- Identify the cut-off date for declaring Go-Live, accordingly, the system will be promoted to the Live environment.

Support

- Online support to key users will be provided

Project Sign-Off

- On successful completion of support phase, the project is treated signed-off.

APPROACH & METHODOLOGY

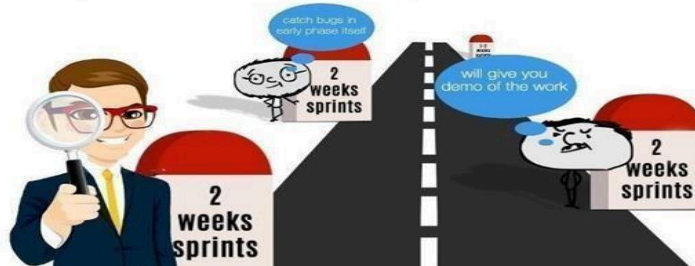


Benefits of using Scrum framework is as follows:

- It helps in distributing tasks and achieving them at the scheduled time. The features to be achieved are divided into sprints which are scheduled to be delivered every 2-4 weeks. This ensures smooth delivery of the project while ensuring that quality is maintained and consistent.
- It is a proven success methodology that helps in ensuring that the project is delivered on time and as per customer's expectations. The customer/stakeholders of the project can evaluate the work done after the completion of each sprint which will also enable them to evaluate the development team's performance.
- After each sprint is completed, the product created is shared with the stakeholders for which they can give their thoughts, suggestions, and feedback. The feedback given is then evaluated by the developers and necessary changes are made before the completion of the next build. This helps to ensure that each function is completed and satisfies the customer's expectations during the development phase itself

DEVELOPMENT & TESTING PHASE

- Each Sprint will have a clear entry and exit point
- Development will start when sprint entry criteria is met
- An independent tester tests after coding is done and validates sprint exit criteria
- The number of sprints which includes development and testing depends on complexity of the project
- Each sprint after completion is reviewed with client iterations of development work and review with clients



QUALITY



One of the key reasons for our continued success is the emphasis we put on quality from the very beginning to the end of each project. Maintaining consistently good quality is a challenging aspect of web development. That is why we emphasize it from grounds up. Web quality has several aspects:

- Ensuring your web system is built on the best platform with rich features and security
- Following coding best practices so that future updates are less complicated
- Best design elements to make it easy for users to operate
- Testing continuously to identify bugs as soon as they surface
- Above all, we keep an open eye on positive feedback

RISK MANAGEMENT

Some of the possible critical success factors for the engagement are identified and described for successful completion of the project. Some of the possible critical success factors could be:

- User involvement
- Clarity of requirement
- Expectation management in terms of scope and time
- Technology competence
- Proper planning
- Knowledge transition

ASSUMPTIONS & CONSTRAINTS

- Any new components or features that are out of scope document will be charged additionally.
- Customer will provide necessary data as per the format provided.
- Sign-off at each stage from customer's end.

EXCLUSIONS

The following shall be excluded from scope:

- Implementation of modules other than the requirement decided in scope.
- Changes/additions of new functionality besides the agreed scope of work
- Digital certificates or any other encryption infrastructure
- Smart Cards
- Tablets
- Bank related any communication/ documentation charges
- Payment gateways and integration
- SSL Certificate
- Hosting and domain

COMMERCIALS

Implementation cost		
Sr. No	Description	Total One Time Cost (inr)
1	Web portal development	60000
2	Android app development	60000
3	IOS app development	75000
4	Payment gateway integration	20000
5	Testing (independent Tester 3 rd Party)	20000
6	Training	Free
Total cost (INR)		235,000

Sr. No.	Service	Rate (USD)
1	Apple Developer Program	\$99/yearly
2	Google Play Developer Program	\$25 -50
3	The customer will arrange for the domain	-
5	SSL certificate charges	To be quoted separately
6	The customer will provide payment gateway through their respective banks; any charges pertaining to this will be borne by the customer and will be paid directly to the bank	-

ANNUAL MAINTENANCE SUPPORT

** AMC cost will be 30% of the development cost

** AMC will cover bug fixing and any issues of the application developed as per the agreed scope of work.

PAYMENT SCHEDULE

The below table contains the information about payment detail in different milestones.

Stage	Split up
Order Confirmation (Mobilization)	50%
User Acceptance Test (UAT) – Sign off Website	30%
User Acceptance Test (UAT) – Sign off mobile app	30%
Go Live - Sign off	10%

Product Security Features

Our product's security is one of the most important factors that would decide its reliability. Without a solid set of product security features, even the best software could be an easy target to malware and hacking.

In order to ensure the end user's privacy and that data are protected, we have included a few platforms' security features. Our platform security framework is built upon a superset of applications and operational level security features.



Secure steps are taken on how your data is collected, maintained, stored, and used. This security feature is applicable to all services and products offered by the platform, enhancing the security of all your data.

Overview

We understand that the security of the platform is extremely important for your business plans. So, all the services are secured over network communications using HTTPS and data encryptions.

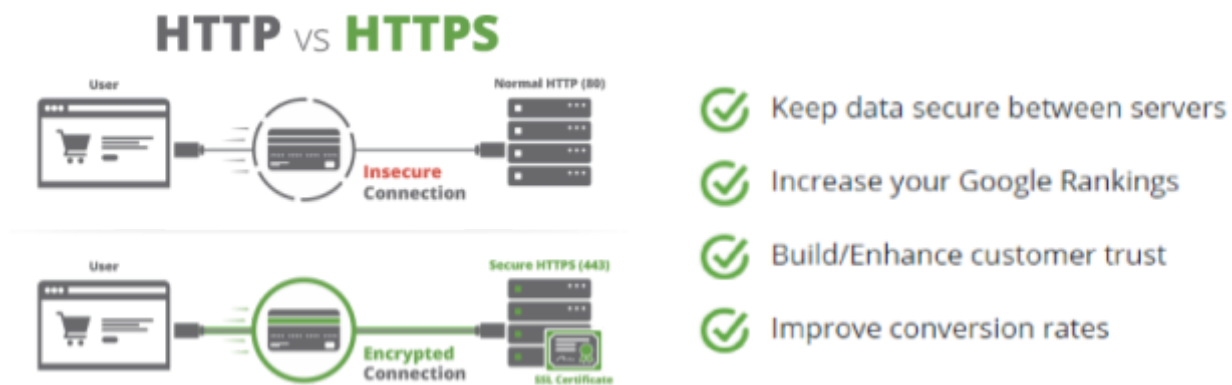
The software and security will be designed in a way to be one of the most secure and trustworthy SAAS facilities available today.

Application-level security features

To build a secure system experience for you, we will add many application-level security features. Let's see them in detail.

The following security level features will benefit all your users.

SSL Certified Application- As our platform is SSL certified, every data is encrypted prior to transmission. Data decryption can be done only by your server, thus preventing eavesdropping and ensuring our customers that data is always secured in safe hands.



Secure Network Access - Any type of communication via your network is secured with HTTP access (HTTPS) so that users do not have to bother about any security issues.

Activity Stream - Any type of user activity is logged in the Platform activity stream, which can be filtered and searched against.

Authorized Access - Authorized access is permitted for Platform, thus restricting unauthorized users from accessing the Platform.

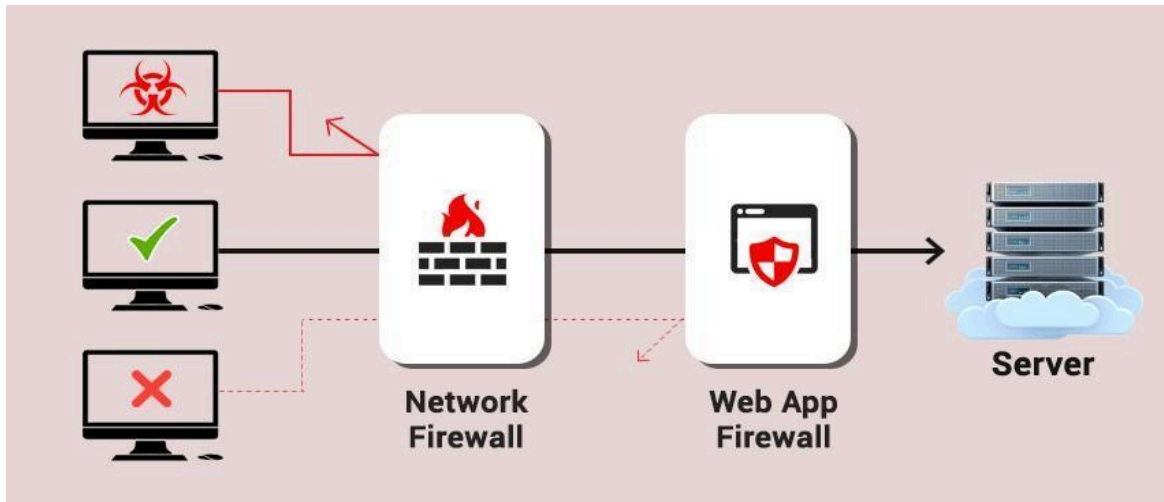
Access Rights Management - Access to data in your account is on a per user/per product basis, by restricting account administrators from accessing the data.

Layered security - In addition to access control, we have also checks at api level where only authorised role can access or execute api.

User Tokenization: We replace sensitive data with unique identification symbols that retain all the essential information about the data without compromising its security on user data, as

this is SaaS and information goes back and forth over the Internet.

AWS Firewall System - AWS Firewall Manager is to centrally configure and manage firewall rules across accounts and applications.



Encryption of data at rest - In our platform, all encryption of data is done using 256-bit AES encryption.

Third Party Access - Strict security measures are used against third parties from accessing the data. The database can only be accessed by a private network of application.

Operational Security - Operational security is a risk management process executed to protect sensitive data from suspicious hands.

System and Operational Security - Unauthorized system access is blocked using high-end firewalls and network services.

Software Security – Our platform is carefully crafted with security measures in a way to separate customer data and also restrict inadvertent disclosure of data from one another. SQL injection and cross-site- scripting are not possible under any circumstances.

We use a tool called Sonar Qube to ensure code quality and security. Network Security - Any form of communication is encrypted using TLS. Login and post-login web pages are served over HTTPS.

Amazon Web Services - Apart

From all these, our product is enhanced with Amazon Relational Database Services (Amazon RDS).

Using this, it is easier for you to migrate or replicate from your existing database to Amazon RDS.



It will be available on various database instances types– optimized for performance or I/O, memory and provides users with several database engines including Amazon Aurora, Microsoft SQL, Oracle, PostgreSQL, My SQL and MariaDB.

Why did we choose AWS as our hosting platform?

The specific reasons behind the AWS platform are:

- Highly scalable
- Easy to administer
- Available and durable
- Fast and secure
- Data backup and recovery
- Failure detection
- Patching and provisioning



Contact us

For any Questions and Queries regarding the proposal, please contact us at the below:

1. Business Analyst

Shoeb Khan

shoeb@cloudxperte.com

+91 8113861000

Please Note:

All prices and offers quoted are valid for **30 days** from the date stated on the quotation.

Let's Get Started

If you would like to join us and become a client then we'd be delighted to have you.
