Jubail Industrial College
Department of Business Administration
Semester 462
Deliverable 3

| Course Name:	**Capstone Project**	
Course Code:	**MIS 451**	
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The Application Architecture
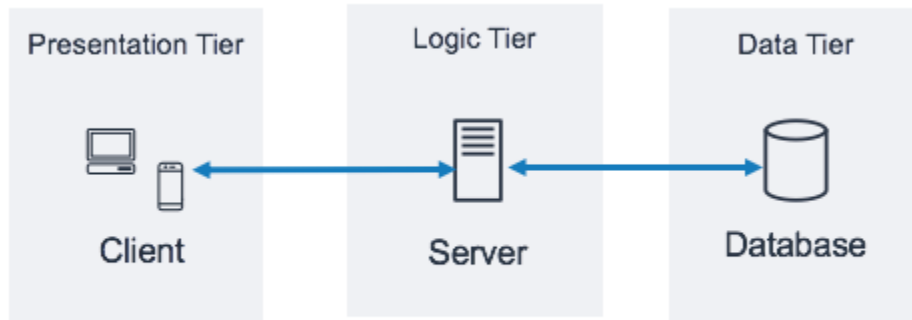
The system **Hafez** is a web-based system that is available via the internet, and it can be accessed by any browser and any device.

A three-tier client-server architecture will be more appropriate to offer a higher level of reliability, flexibility, and availability for the client since each tier is deployed separately and running on its own infrastructure. The three-tier architecture will be the view layer, the business layer, and the data layer. The view layer will include the user interface where the user can interact with the system and access it using any browser and any device. The view layer front- 26 end development is made with (HTML, JavaScript, CSS). The business layer will include a cloud firewall as well as the application server and the web server that receives the request and information from the view layer and processes it is using (HTTPS and HTTP). The data layer will include the database server where data is stored and processed. The programming languages for back-end development are SQL and PHP (Hypertext Preprocessor).

For external usage, cloud computing will be a suitable option and has many advantages. Unlike traditional computing, cloud computing can help the users to access the system from any location at any time and at any scale, as well as reducing the cost and it is more secure and reliable. Applications and websites are accessible via cloud resources thanks to cloud hosting. The solution is not set up on a single server, unlike conventional hosting. The program or website is instead hosted by a network of linked physical and virtual cloud servers, offering more flexibility and scalability.

Network Diagram
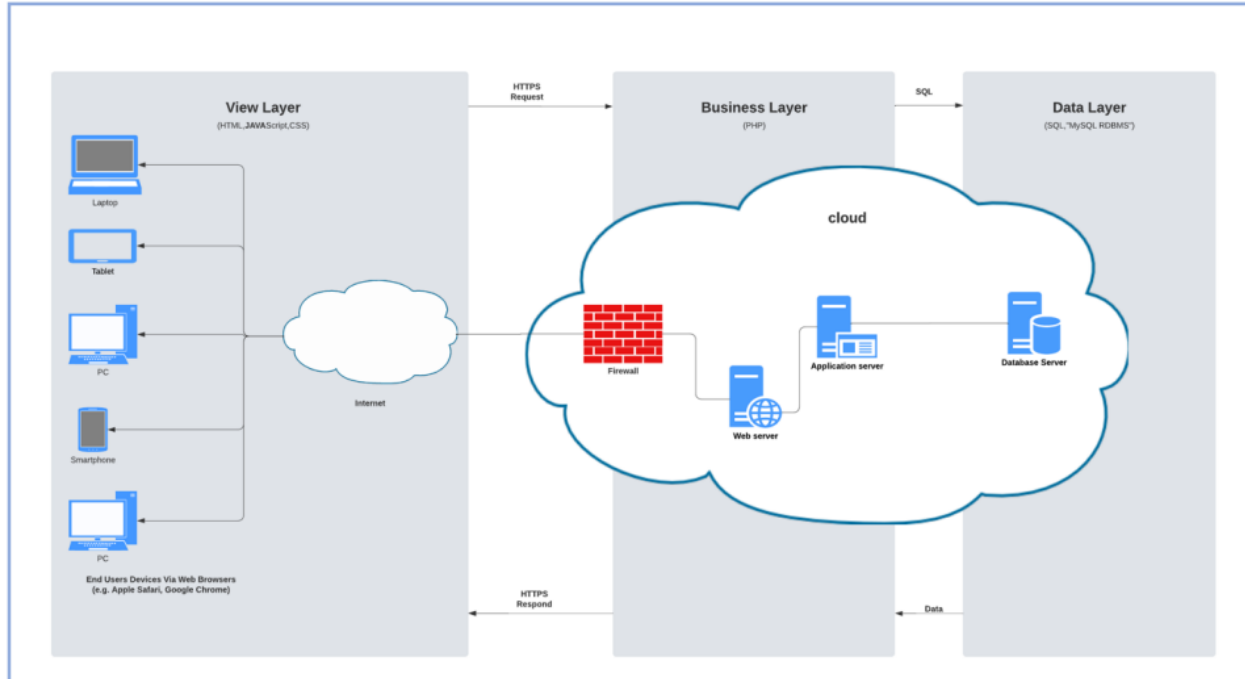
The Network Diagram shows by virtue of what **Hafez** system will be used across networks and designs and represents the interactions that occur between each of the three layers, the view layer, the application layer, and the database layer. The system will support various types of devices accompanying various screen sizes and accompanying various operating.

systems, containing phones, desktops, laptops, and tablets. Also, all consumers will approach the system by way of various network browsers (such as Apple Safari, Google Chrome) utilizing the Internet. There's a cloud Firewall provided by the GoDaddy package to cover the system introduction points and avert some pirated approaches like hackers and dismissal of valuable attacks. In addition, it will stop the bug attacks and control the solitude by obstructing some hateful beginnings.

Since the system contains the web structure, we used the web server, the application server, and the database server. Web Server that will take and process the HTTP/HTTPS requests from customers (network browsers) constantly and returns HTTP/HTTPS responses in conditions of HTML pages, figures, etc., as a consumer interface.

And the server that is located between the web server and the database server is an application server. Application Server. Its main responsibility is to centrally accomplish the database server and the web server and control communication and interplays between customers and content. It is software that performs all the coding and security tasks necessary for the operation of the system as a whole.

Database Server will monitor and store the database on the server and form the **Hafez** system more securely by providing an approach only to approved consumers. **Hafez** system will consume a cloud database as noticed before that will supply an approach to the database by way of the Internet. It will allow the **Hafez** group to host the database outside purchasing fittings and to scale up or below IT resources as wanted. It will go on a database management system that is MySQL. Finally, all the servers (web server, application server, database server) will be hosted utilizing Cloud Computing.

Required System Controls

Controls that protect data and the system from any attacks. Our system has two types of controls **integrity** and **security** control.

Integrity Controls

Integrity controls are produced to protect the system and information overall to ensure correct system functions by rejecting erroneous data inputs, preventing illegal data outputs, and protecting data and systems from malicious or unintentional attacks. The system will use several integrity control types, including the ones listed below.

1. **Input controls**

   - Value limit control
   Value limit control is used to determine whether the value entered in the field is reasonable or not. For example, when the user enters a password above 10 values, the system will reject it.

   - Completeness control
   These controls are used to determine whether all the required field values have been entered or not. For example: if the user didn't complete all the required fields (full name, email, phone number, password) and goes to the next page the website will show the user they didn't complete the required fields.

   - Data validation control
   These ensure that numeric fields containing codes or identifiers are correct. For example, the vendor will need to choose their country.

2. **Transaction Logging**
   Transaction logging is a record and store of any actions updates and changes by the database. Also, its aim is to help deter fraudulent transactions or malicious database changes and to provide a recovery mechanism for wrong transactions.

3. **Complex Update Control**
   Complex Update Control is a control that prevents any error that may happen when multiple programs attempt to update the same data concurrently or when recording a single transaction requires multiple related database modifications.

4. **Backup and Recovery**

   Backup and recovery describe the process of creating and storing copies to ensure the users' data availability if any attack or failure happens to the system.

5. **Output Control**

   Output control ensures output is correct, up-to-date, complete, and reaches the right place. For example: when you open **Hafez** the website will display the trip on the home page. In another specific example When we generate a report will contain the date info at top of the page and the format of the page numbers with the total number of pages will be at the bottom of the page. Our logo **Hafez** will be included in all the generated reports.

Security Controls

Security controls will be used to protect the system from any potential external threats, the users must be able to trust the system to work in a secure environment.

1. Access Controls

- Authentication

The system will check if the email, password length 6 and user type match what we had in the database.

- Authorization

There are three types of users (Admin, Vendor, Customer) each have authority in our system.

2. Secure Transaction

A Secure Sockets Layer (SSL) certificate will be gained by the GoDaddy package which has a free SSL. It is used with HTTP. To convert it into HTTPS, the data transmitted over the internet is encrypted and ensures the transactions between the server and browser are secure. This limits the ability of hackers to read sensitive data over the internet. For more security, the system will have a session timeout if the user doesn't take an action on the site in a while the system will show up that the session is ended.

3. Data Encryption

By using encryption technique "Hash", we make users' sensitive data more secure and protect it from unauthorized access. They can't see sensitive data such as passwords as readable text. All these data will show as encrypted text.

User Interface Design

Homepage
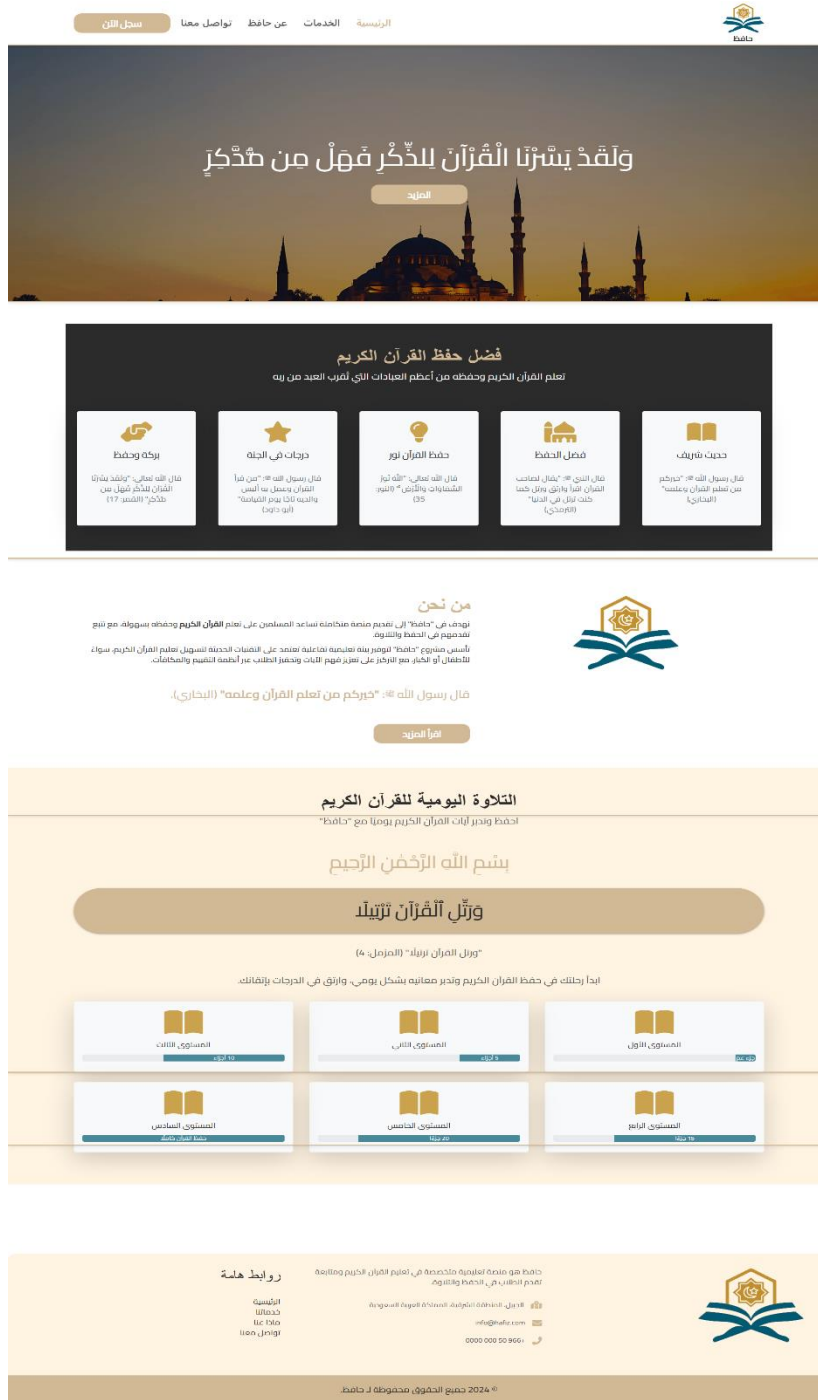
تواصل معنا

نحن هنا لمساعدتك في أي استفسارات أو أسئلة تتعلق بحفظ القرآن الكريم.

الهاتف

0000 000 50 966+

البريد الإلكتروني

info@hafiz.com

العنوان

الجبيل، المنطقة الشرقية، المملكة العربية السعودية

هل لديك استفسار؟

يمكنك التواصل معنا عبر البريد الإلكتروني أو الهاتف للحصول على الدعم والمساعدة.

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حافظ هو منصة تعليمية متخصصة في تعليم القرآن الكريم ومتابعة تقدم الطلاب في الحفظ والتلاوة.

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من نحن

تعرف على رسالتنا، أهدافنا، وكيف نساعدك في حفظ القرآن الكريم بكل سهولة ويسر.

رسالتنا

نهدف إلى توفير منصة تعليمية متطورة تساعد المسلمين من جميع الأعمار على حفظ وتلاوة القرآن الكريم بسهولة، مع متابعة تقدمهم وتحفيزهم بشكل مستمر.

رؤيتنا

أن نكون الوجهة الأولى عالميًا في تعليم وتحفيظ القرآن الكريم عبر الوسائل التقنية الحديثة، مع تقديم تجربة تعليمية تفاعلية ومتميزة.

انضم إلى "حافظ" اليوم!

ابدأ رحلتك في حفظ وتعلم القرآن الكريم معنا.

سجل الآن

خدماتنا

في "حافظ"، نقدم مجموعة من الخدمات المتميزة لمساعدتك في حفظ القرآن الكريم، تعلم التجويد، وتحقيق التقدم الروحي والمعرفي.

متابعة تقدم الحفظ
تتبع مستوى تقدمك في الحفظ وتحقيق أهدافك القرآنية بسهولة.

دورات التجويد
تعلم مخارج الحروف وأحكام التجويد بسهولة مع مدرسين معتمدين.

تحفيظ القرآن الكريم
برامج متكاملة لحفظ وتلاوة القرآن الكريم بإشراف معلمين متخصصين.

حلقات تحفيظ جماعية
انضم إلى حلقات التحفيظ الجماعية واحفظ القرآن مع أصدقائك.

التعليم عن بعد
دروس مباشرة وتسجيلات متاحة لتعلم القرآن الكريم من أي مكان.

أنظمة التحفيز والمكافآت
اكسب النقاط والمكافآت عند تحقيق تقدم في الحفظ.

لماذا تختار "حافظ"؟

نحن نقدم تجربة فريدة في تعليم وتحفيظ القرآن الكريم من خلال:

نظام تعليمي آمن
بيئة تعليمية موثوقة وآمنة لجميع الأعمار.

مرونة في المواعيد
اختر الأوقات التي تناسبك سواء صباحاً أو مساءً.

معلمين معتمدين
نخبة من المعلمين المجازين في تحفيظ القرآن والتجويد.

ابدأ رحلتك في حفظ القرآن اليوم!

انضم إلينا وحقق حلمك في إتقان القرآن الكريم.

سجل الآن

حافظ هو منصة تعليمية متخصصة في تعليم القرآن الكريم ومتابعة تقدم الطلاب في الحفظ والتلاوة.

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إنشاء حساب جديد

يرجى اختيار نوع الحساب وإدخال البيانات المطلوبة

معلم

ولي أمر

الاسم الكامل

البريد الإلكتروني

كلمة المرور

تأكيد كلمة المرور

رقم الهاتف

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كلمة المرور

تأكيد كلمة المرور

إنشاء حساب

تسجيل الدخول

يرجى اختيار نوع الحساب وإدخال بيانات تسجيل الدخول.

طالب

معلم

ولي أمر

البريد الإلكتروني

كلمة المرور

تسجيل الدخول