Inventor Access Portal

Yaozong Shen
James Wasson
Graham Turner

SIU Southern Illinois University CARBONDALE

Problem

Clients of the **Office of Technology Transfer (OTT)** are **not able to access the data** involving their current patent status or other information without first contacting the **OTT** which can be **time consuming** for both parties

Solution

Create a web portal with updated access to the data presented by the **OTT** which has the following attributes:

- No need to contact the **OTT** for **access to your data**.
- Keep the site and data transfer **secure** at all times.
- Provide a **maintainable** and **dynamic** website.

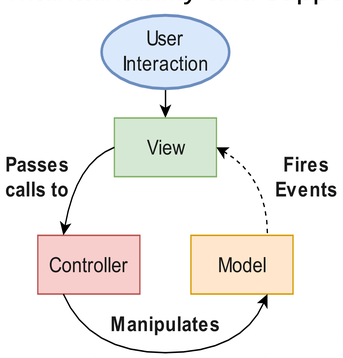
Portal Architecture

Microsoft's ASP.NET Framework was chosen for its:

- Stability as a long standing (since 2002) Microsoft application.
- Compatibility with the **OTT's** Access Databases
- Compatibility with **SIUC's** main database/server system.

Model-View-Controller(MVC)

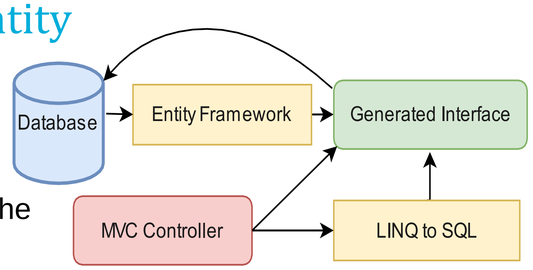
This architecture was chosen because of its known maintainability and support of dynamic websites.



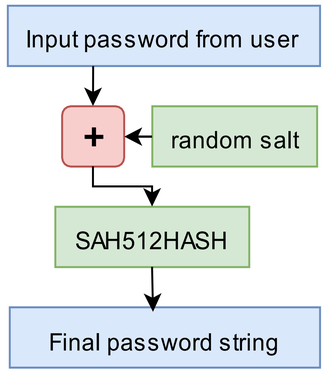
- **Model:** Manages the state of the **View** and allows the **Controller** to modify the **View**.
- **View:** Implements the display of the **Model** data and sends user interactions to the **Controller**.
- **Controller :** Interprets the users interactions then. performs the appropriate updates to the **Model** which in turn updates the **View**

Microsoft's Entity Framework

Takes a database and generates classes to **simplify reading/writing** to the database.



Security Features



- Protects against **SQL** injection by using **programmatic queries**
- Password hashing uses a randomly generated **128 character salt**
- **Anti-Forgery Tokens** are used to protect against **cross-site request forgery**
- **Microsoft's Forms Authentication** for user login
- The portal ensures **HTTPS** is used

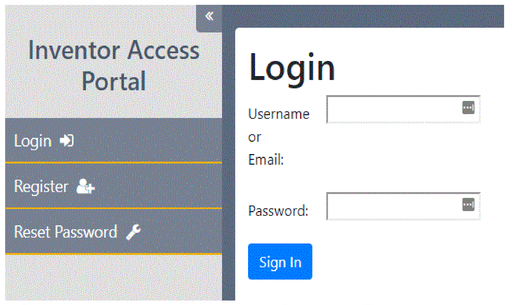


Image of application Login Screen

Dynamic Technologies

Razor

Dynamic rendering of server side webpages which facilitates the **View**

Bootstrap

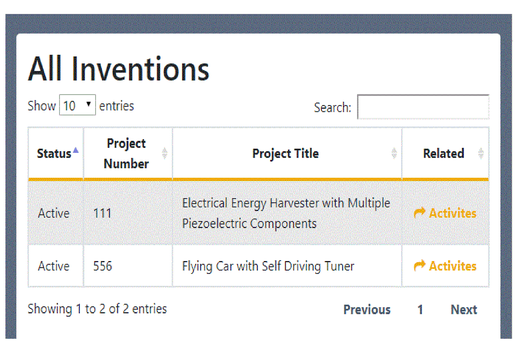
Open-source toolkit for developing with HTML, CSS, and JavaScript.

Less

A more reusable CSS alternative that reduces time spent styling and page load time.

jQuery DataTables

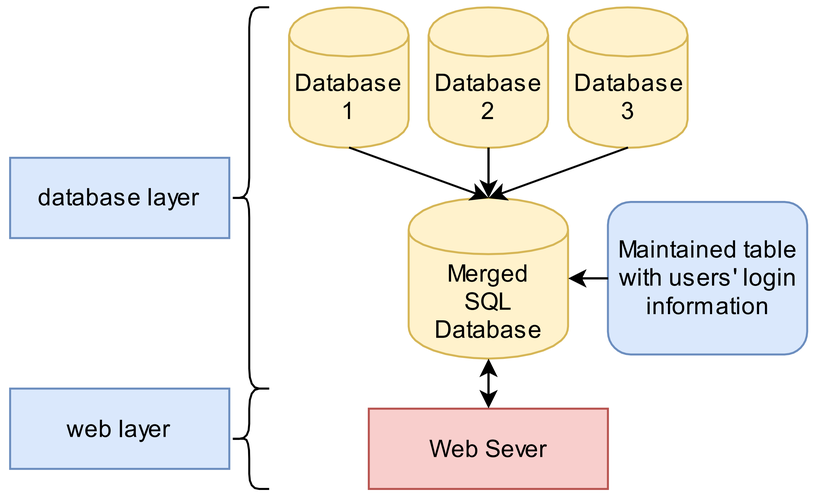
Dynamic resizing and paging of data tables for easy navigation and display of varied data entry sizes



Pictured Left: jQuery DataTables as seen in application.

Database/Server Structure

The **SQL** database used by the application compiled from three Access Databases by custom scripts implementing **Microsoft's Migration Assistant.**



We used **Microsoft's Internet Information Services (IIS)** as our webserver because of its support from **SIUC**

Conclusion

- Designed a implemented a **Microsoft Dot Net Stack**
- Created **dynamic** webpages using the latest technology
- Created custom database transfer and merge scripts
- Published a **secure** website on a **SIUC** server

Links

- Inventor Access Portal: **https://siuinventorportal.siu.edu**
- Documentation: **www2.cs.siu.edu/~alphanow**

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