

MICHIGAN STATE

UNIVERSITY

Project Plan

New Customer Service Channel

The Capstone Experience

Team Consumers Energy

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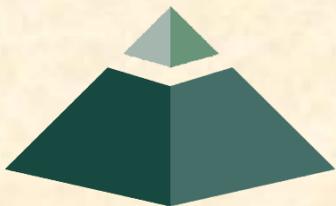
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*From Students...
...to Professionals*

Functional Specifications

- Create a web application to sync with an ongoing phone call that allows the user to navigate/interact a call tree through a visual interface by touch or click of commands on their mobile screen.
- The web application would allow the user to make payments, obtain information about their account, and setup payment services without a phone representative's help.
- If assistance is needed, the web application would route the phone call to an appropriate representative, with full context transfer.
- Potentially include a chat bot service to support a user faster in the event call volume is high.

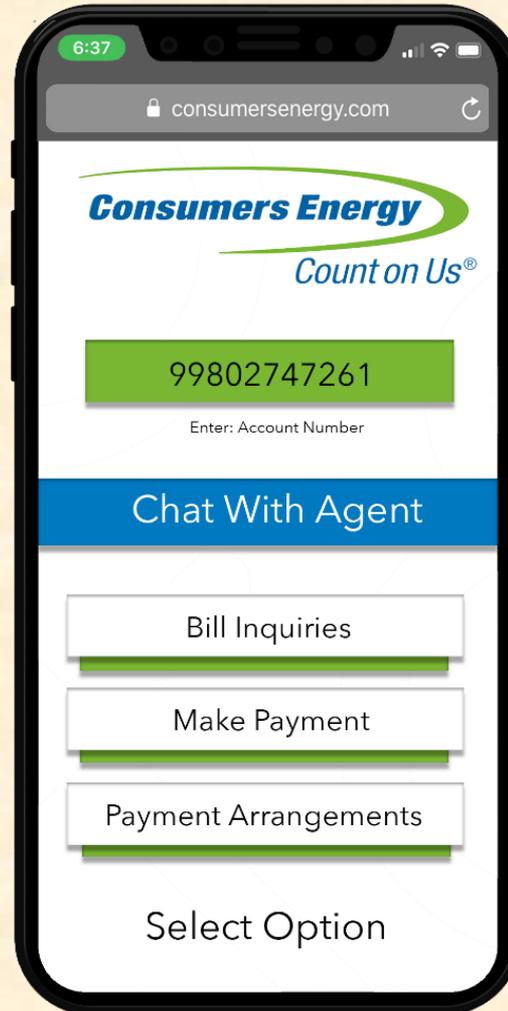


Design Specifications

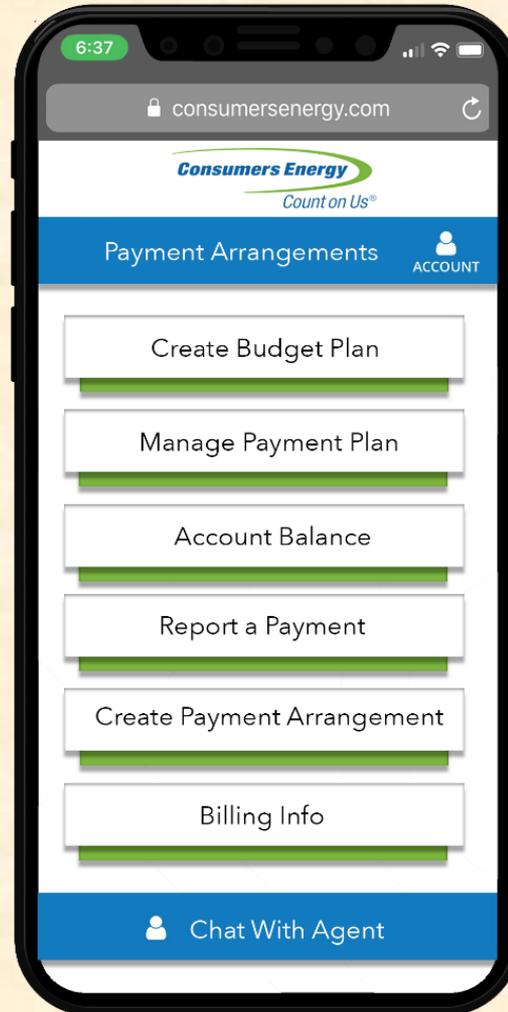
- Offer the customer an option to receive a link routing to the web app via text, after confirming they are on a mobile device.
- The user will not have access to other pages within the web application until proper authentication is provided based on meeting certain requirements.
- After validating the customer, the user will be able to navigate the call tree, allowing them to select and view information about their account, make payments to their bill, etc.
- Keep the client's phone position on the phone call queue and allow them to reconnect back to a live representative at any time. A button will be placed on every page allowing for the customer to use that feature.



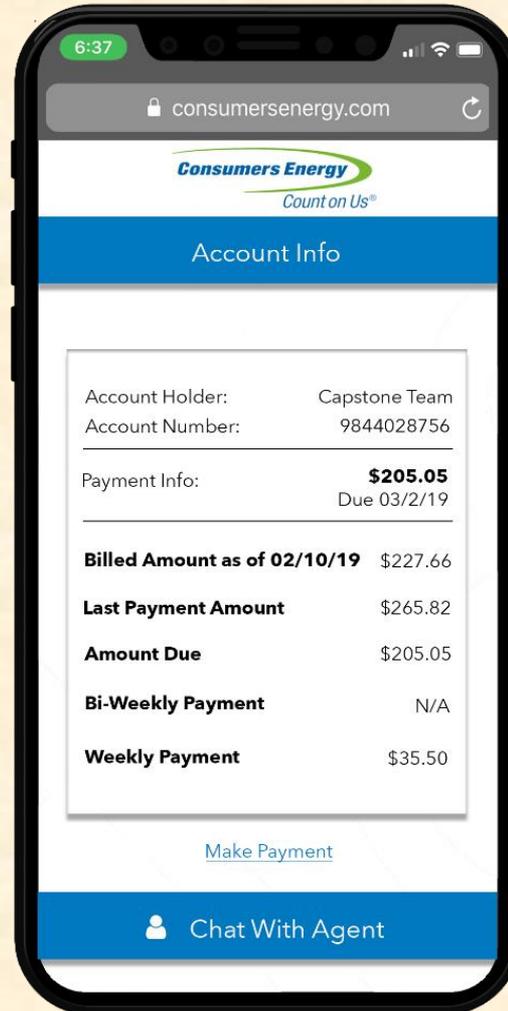
Screen Mockup: Main Menu UI



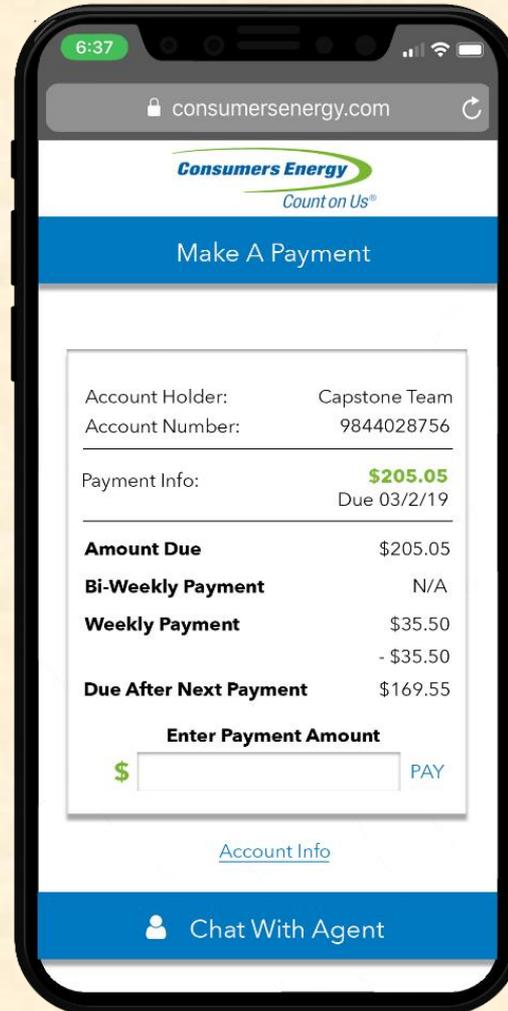
Screen Mockup: Payment Arrangement



Screen Mockup: View Account Info



Screen Mockup: Make a Payment

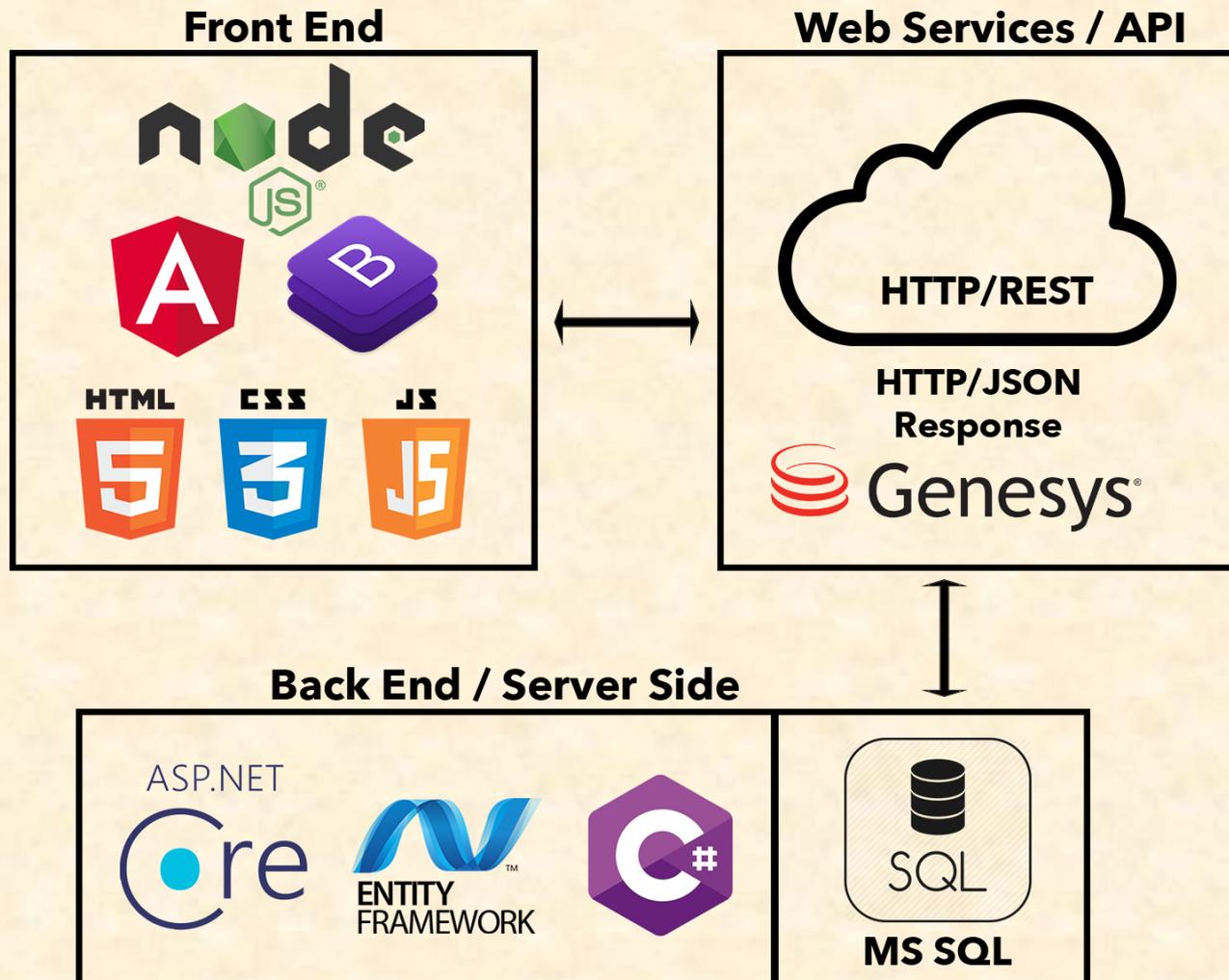


Technical Specifications

- Front-end
 - Angular 7
 - Bootstrap 4.2 – can easily scale onto a mobile phone
 - HTML 5, CSS 3, JavaScript, Typescript
 - Node.js
- Web Services/API services
 - RESTful APIs
 - HTTP request returning JSON
 - Genesys (internal API used for customer journey tracking and will be utilized for the callback functionality)
- Back-end
 - Microsoft SQL Server will be used to manage customer data which is hosted on the server in the capstone lab.
 - ASP.NET Core framework will be used to build the backend for the web application
 - MVC architectural pattern
 - C#



System Architecture



System Components

- Hardware Platforms
 - Server to host database
- Software Platforms / Technologies
 - Microsoft SQL Server 2016
 - Visual Studio IDE (Back-end development)
 - ASP.NET Core Framework, Entity Framework, C#, REST API Web Services, Angular 7, HTML 5, CSS 3, JavaScript, Typescript
 - Genesys API (customer service/call center technology)



Risks

- Redesigning existing call flow
 - Complicated call flow currently for IVR
 - Recreate a call flow specific to web app with approval from CE
- Integrating Web-Application with IVR
 - Sync with IVR and be quick and efficient for the back end systems
 - Use Genesys API (Instance provided by CE)
- Utilize Genesys API correctly
 - Accurately and efficiently use Genesys API (using provided instance)
 - Weekly code reviews to mitigate future integration risks
- Business Functionality into Customer Readability
 - Provide customers easy alternative, but maintain business standards
 - Create mock pages with CE approval
 - Communicate with CE Business Division



Questions?

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