MICHIGAN STATE UNIVERSITY

Project Plan Presentation

Employee Recognition on Blockchain

The Capstone Experience

Team Vectorform

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From Students…
…to Professionals

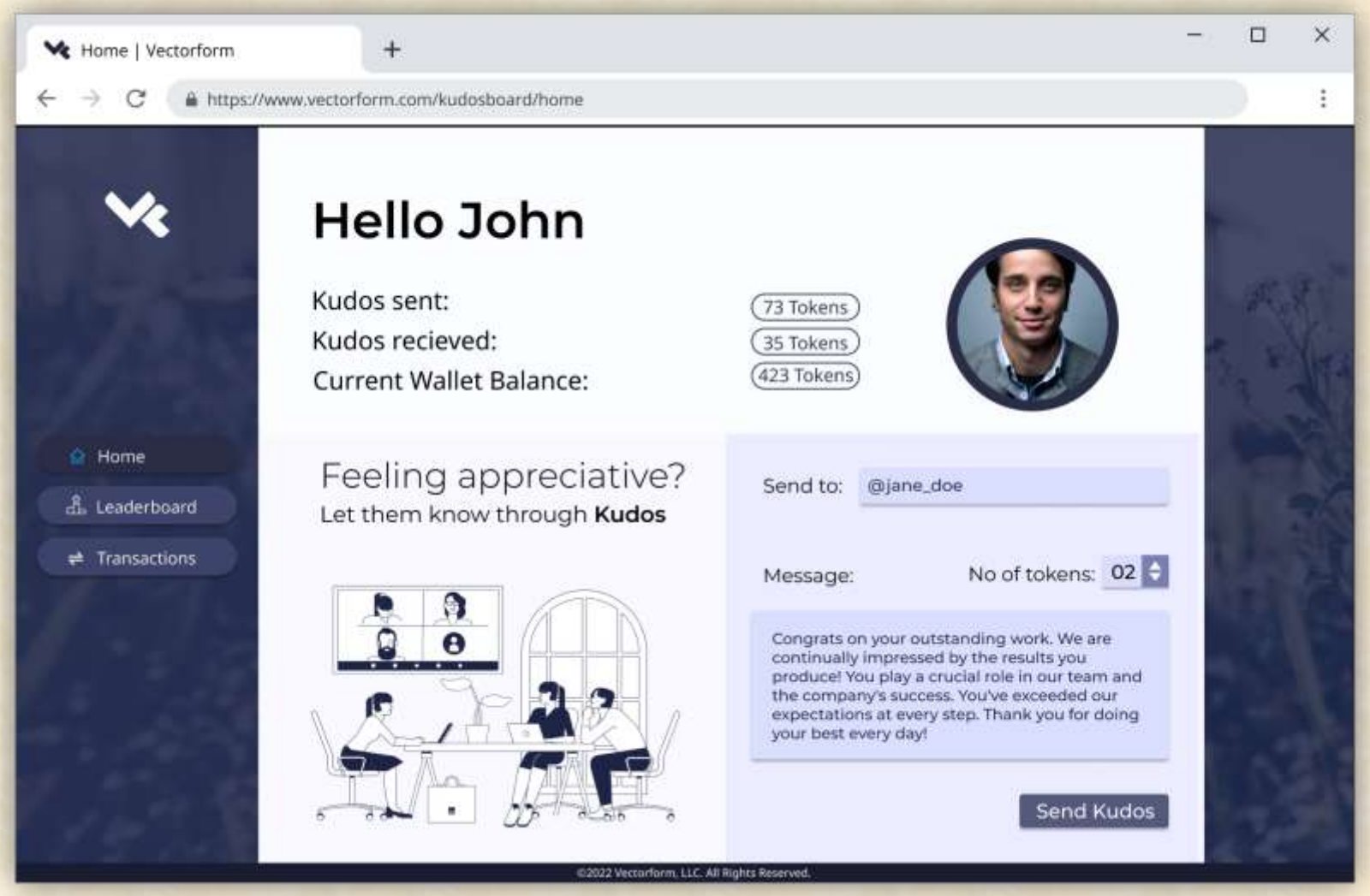
Functional Specifications

- Employee recognition happens in real-time but is not always visible to managers and there is no history log.
- A system that provides a streamlined experience for giving recognition in a way that is recorded.
- Allows for employees to be more publicly recognized.
- Creates a sort-of workplace economy.

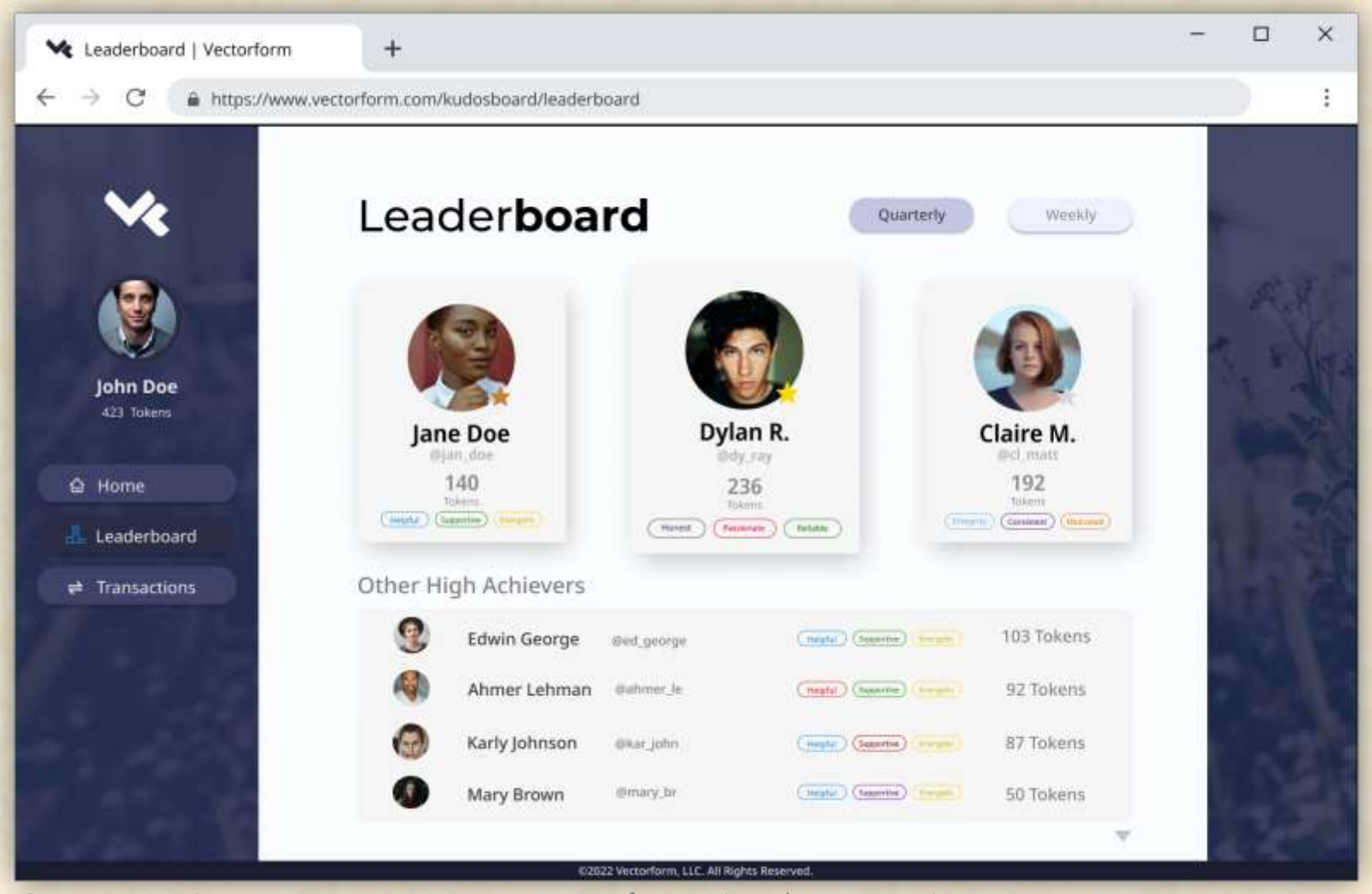
Design Specifications

- Dashboard containing a home, leaderboard, and transactions tabs.
- The home screen is what the user first sees upon login. It contains an option for users to send tokens to fellow employees.
- The leaderboard screen displays the top employees at Vectorform, ranked by the number of tokens they've received. The leaderboard is reset periodically.
- The transactions screen contains an active feed of all transactions between employees. Additionally, this tab displays user-specific records of transactions.
- The app will also feature a public profile screen where users can view key information on other users.
- The web application is mirrored into Microsoft Teams as a plugin and contains the same functionality.

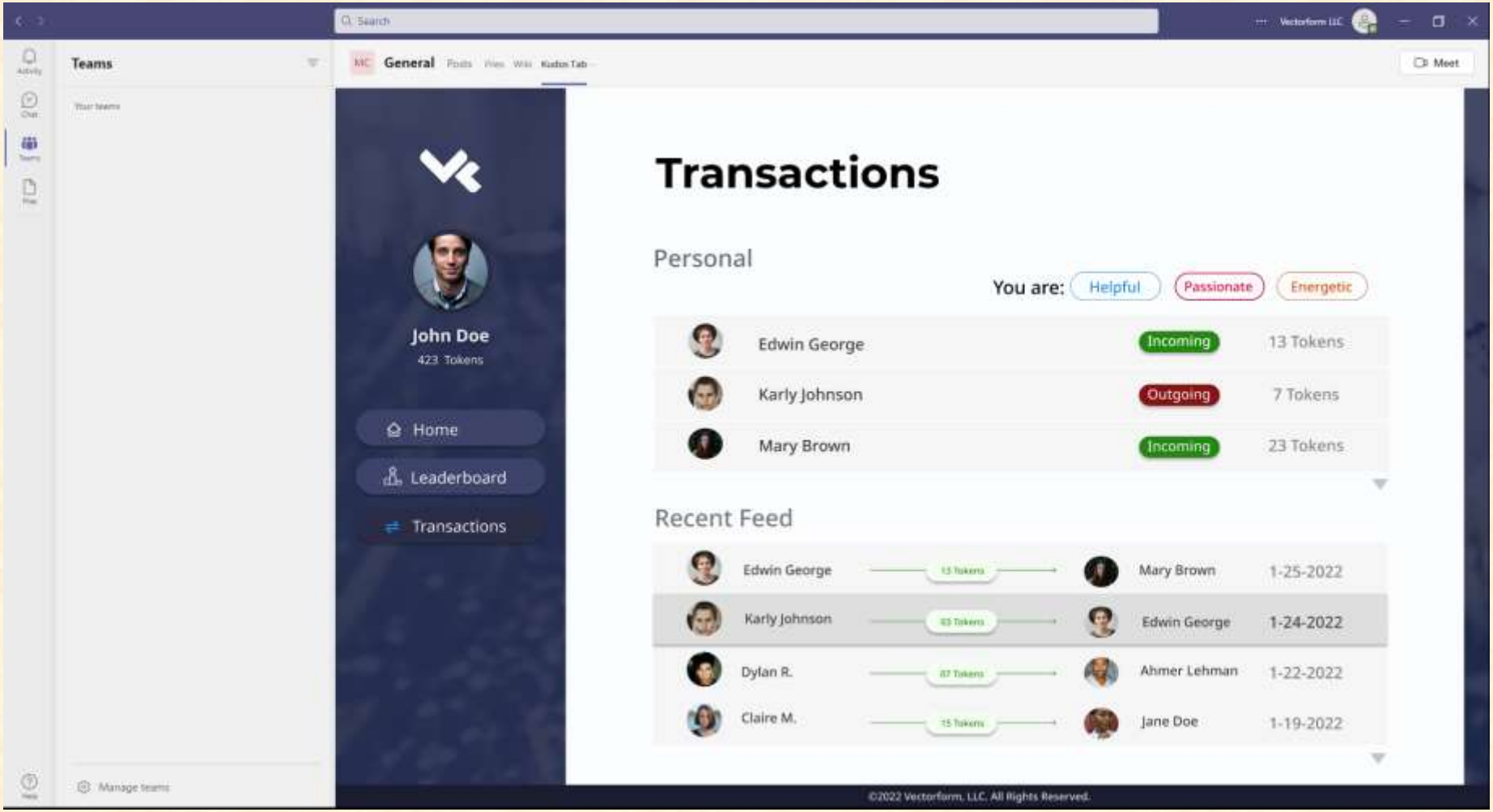
Screen Mockup: Home Screen



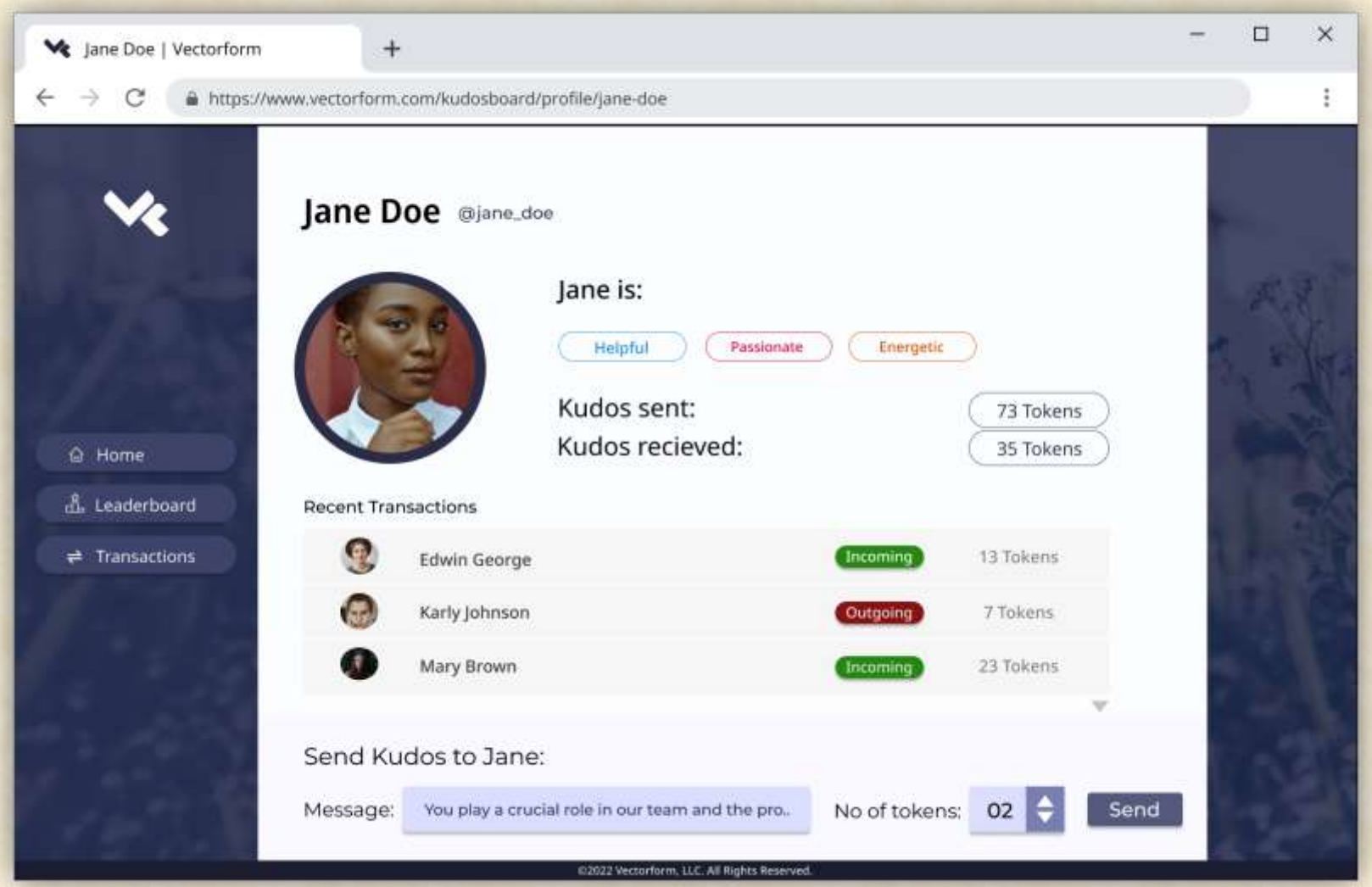
Screen Mockup: Leaderboard Screen



Screen Mockup: Transactions Screen



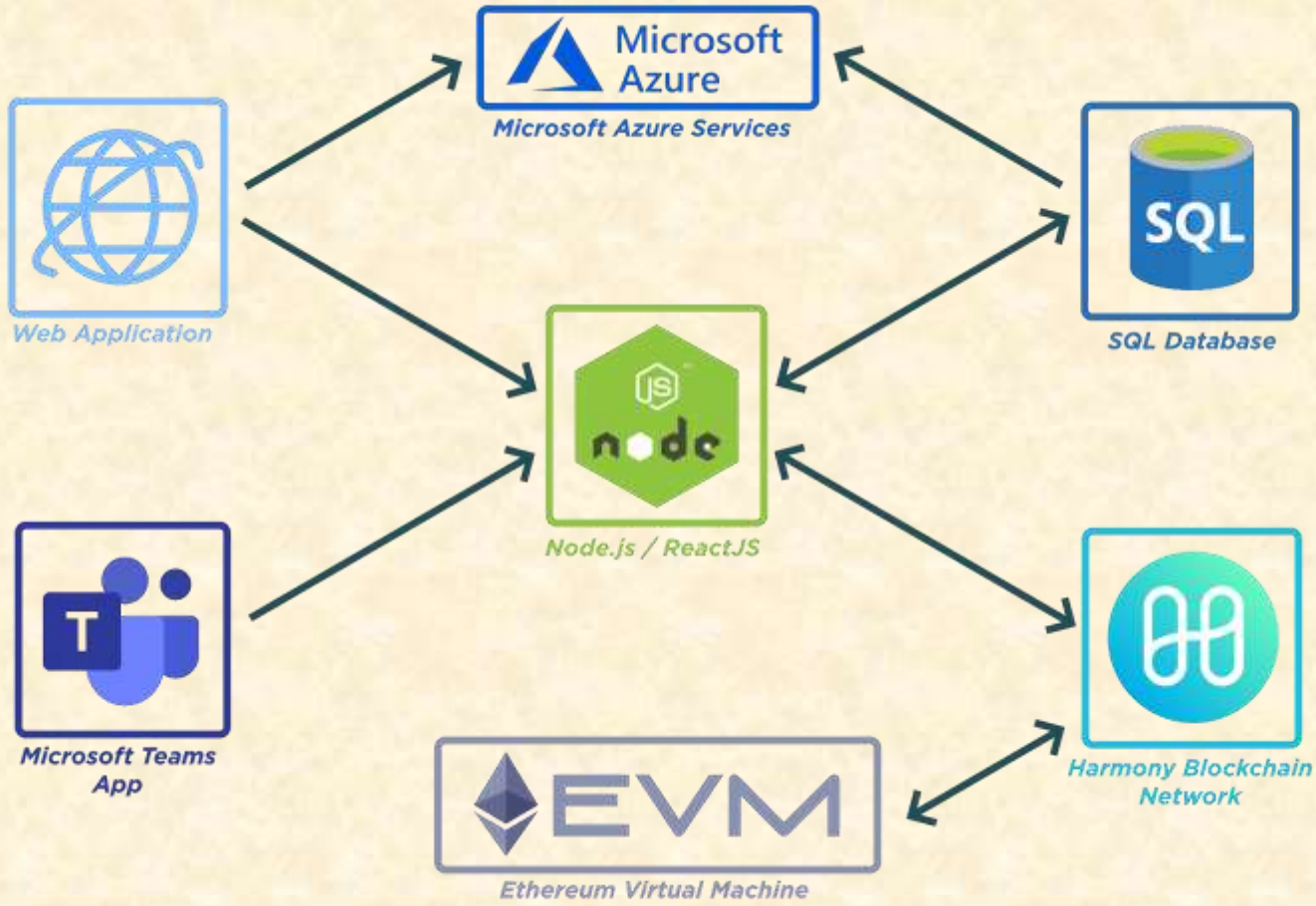
Screen Mockup: Profile Screen



Technical Specifications

- The web application will be built using the ReactJS framework with a backend that is cloud based in Azure.
- The application will record transactions using a Harmony blockchain network on an EVM. This will allow for an immutable history and public ledger of transactions.
- Messages will be stored in a SQL database on Azure with an association to a transaction ID from the blockchain network.
- The application will use OpenAI GPT-3 API to create descriptive key words for each employee based on the messages they've received.

System Architecture



System Components

- Hardware Platforms
  - N/A

- Software Platforms / Technologies
  - Git Repository
  - Node.js & React.js Libraries
  - Microsoft Azure
  - SQL database on Azure
  - Harmony EVM
  - Microsoft Teams (Integration)
  - OpenAI GPT-3 API

Risks

- Incurring costs of OpenAI API and Blockchain usage
  - There is a gas cost associated with making transactions on the blockchain, and there is a cost per usage of the OpenAI API. A lack of careful implementation could lead to high costs for the client.
  - We will work with the client to make calls to OpenAI only as needed. Additionally, we will make use of a test-net Blockchain to ensure the client is not being charged during our development.
- Authentication token implementation
  - Our software will be accessible both through a browser and the Microsoft Teams application. The authentication token would allow for an instant login on the Teams application. However, there is very little documentation on token extraction from the Microsoft Graph API.
  - If we are unable to get the authentication token operational, we will create a login screen that Microsoft Teams users may make use of instead.
- Employees abusing the recognition system
  - It would be possible for employees to "game" the system by sending each other tokens and racking up received tokens for the leaderboard. This can make the leaderboard misleading, and give the appearance that employees are receiving more recognition than they are.
  - We will evaluate each component of the system and decide whether it can be abused. If we find a vulnerability, we will set a limit in place. (Example capping token sending).

Questions??????????????????????????