The mileage tracking application will require four main service endpoints for the MVP version, structured into authentication, client/project management, trip/expense entry, and reporting. The authentication endpoint will handle invitations (for potential new users), registration (account creation), account management, and signing in. The client/project management endpoint will be used by users to add and edit the various clients and projects that they assign mileage and expenses to. The trip/expense endpoint will handle adding new entries and updating existing ones, as well as allowing entries to be reviewed. The reporting endpoint will provide summary data about the entries based on time period, client, and/or project specifications, as well as details about the corresponding entries.

While the application should eventually support an API with a RESTful HTTP interface, that is beyond the MVP which will consists of a webpage application that relies on server-side controllers to interact with the data services.

Endpoint	Interaction	Response
Authentication	Create Invitation	Success/Failure
	Verify Invitation Code	Valid/Invalid
	Create Account	Success/Failure
	Login	Success – Account data/Failure
	Change Username	Success/Failure
	Change Password	Success/Failure
	Change E-Mail Addresss	Success/Failure
	Change Display Name	Success/Failure
Client/Project	Add Client	Success/Failure
	Rename Client	Success/Failure
	Delete Client	Success/Failure (projects with expenses)
	Add Project	Success/Failure
	Rename Project	Success/Failure
	Delete Project	Success/Failure (expenses assigned)
	Get Client List	List of Clients
	Get Project List for Client	List of Projects/Error for invalid Client
Expenses	Add Expense Item	Success/Failure
	View Expense Item	Expense Details/Error for nonexistent entry
	Edit Expense Item	Success/Failure
	Delete Expense Item	Success/Failure
	View Recent Expenses	List of recent entries
Reporting	View entries for date range	Summary + List of entries
	View entries for client	Summary + List of entries/Error for invalid client
	View entries for project	Summary + List of entries/Error for invalid project

Endpoint Purposes

At least through the MVP stage, registration will be limited to invitees so an administrator will generate an invitation code and provide that to potential users. When the user creates their account, they will provide the invitation code along with their username, password, and e-mail address. As long as the invitation code is valid and the other parameters meet acceptance criteria the account will be created and the invitation code entry will be update to reflect that it has been used to create the account.

Upon returning to the site, users will enter their username and password which can be verified by the same service. If valid, the user's account information (AccountID, name, et c.) will be returned so that a session can be established. Once authenticated, the dashboard on the homepage will show a list or recent expense entries retrieved from the expenses endpoint. If they wish to edit the client and project lists they can retrieve lists from that endpoint and identify one to update or remove. To prevent the deletion of important data, projects with expenses assigned to them, and thus clients with such projects, cannot be deleted without first reassigning or deleting the associated expense entries so an error will be returned if that is attempted.

When adding an expense, the client and project lists are retrieved from the client/project endpoint, and the entry is added through the expenses endpoint. Later updates to the entry will retrieve information from the expenses endpoint and also from the client/project endpoint to associate user-friendly names with the IDs.

The reporting interface will draw the client and project lists from the client/project endpoint, and then use the reporting endpoint to retrieve the summary and list of items for expenses matching the specified criteria.

Interface/Service Mapping