WebApp Name: TownCost

Version: 1.1.0

Date: 05/02/2026

Introduction

Welcome to TownCost Documentation!

About TownCost

Towncost is a public web application that helps users understand and compare the cost of living across countries, states, and cities. It uses real user-submitted expenses to calculate weighted averages and present realistic cost-of-living insights.

Key Features

- User authentication (Email & Password)
- Add, edit, and delete personal expenses
- Currency-aware expense entry
- Cost of living calculation using weighted averages
- Location-based search (Country / State / City)
- Secure data access using Row Level Security (RLS)

Authentication Flow

If you don’t have the account, click “Sign up” on the login page. Fill in the email address and password, and you'll receive an email to verify your account.

In case, if you already have an account, enter your credentials and click the "Log In" button. You'll be redirected to the dashboard upon successful authentication.

When you log in for the first time you need to fill in the required information such as Name, Location and household size and click on continue to dashboard.

That's it! You're now ready to start using our web application.

User Dashboard and Insights

After a successful login, users are directed to the **User Dashboard**, which serves as the central hub for accessing features, monitoring expenses, and gaining insights. The dashboard is designed to be intuitive and data-driven, providing users with a comprehensive view of their financial activity and cost-of-living insights.

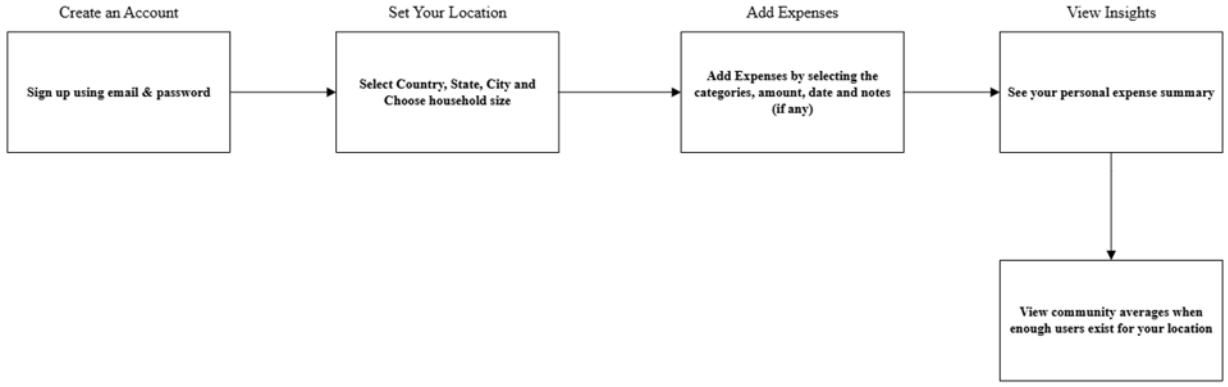
Header Section: This menu provides quick navigation to main areas of the application, such as Expenses, Community Insights, Settings, and Profile.

Cards and Insights Section: This section shows Monthly Expenses Card, Transactions Count Card, Average Transaction Card, Category-wise Expenses, Monthly Trend Chart.

Expense Section: This section allows users to add, edit, and view a detailed list of their expenses.

Community Insights Section: In this section users can search for countries, states, or cities to view Cost of Living Index information. It displays average expenses for each category based on real user data and provides comparative insights to help users understand differences between regions.

Application Flow Diagram



Architecture

TownCost follows a modern client-driven, backend-as-a-service (BaaS) architecture using Supabase. The system is designed to be scalable, secure, and simple to maintain.

- ***Frontend****:* The user interface is built using modern web technologies, such as React + TypeScript, ensuring a responsive and interactive user experience.
- ***Backend****:* The application's backend consists of PostgreSQL managed by Supabase, with Structured relational schema. All tables are Row Level Security (RLS) enabled.
- ***Database****:* We use a relational database (e.g., PostgreSQL) to store user data, content, and application configurations.
- ***Authentication****:* User authentication and authorization are managed entirely by Supabase Auth. Supabase issues a JWT after successful login. JWT is automatically attached to requests via the Supabase client.
- ***Domain:*** Got the domain through Hostinger and used Resend as SMTP provider

Database Tables

Our web application relies on a relational database system, which consists of various tables to store different types of data.

Profiles

- Id - Unique identifier for each user profile
- Name - Full name of the user
- Created_at - Timestamp when the user signed up

Users

- Id - Unique identifier for each user
- Location_id - Reference to the location where the user belongs
- Household_size - Number of members in the user's household
- Created_at - Timestamp when the user signed up

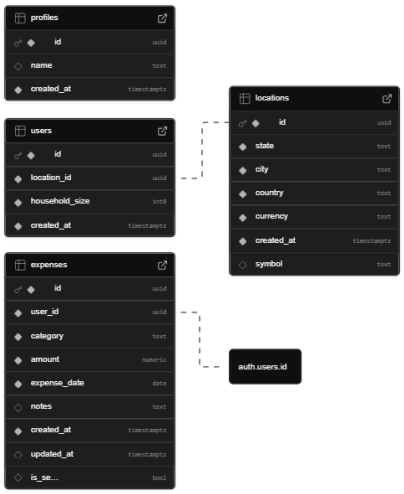
Locations

- Id - Unique identifier for each location
- Country - Name of the country the location belongs to
- State - Name of the state the city belongs to
- City - Name of the city
- Currency - Currency name of the country
- Symbol - Symbol of the currency
- Created_at - Timestamp when the location details were added

Expenses

- Id - Unique identifier for each expense record
- User_id - Reference to the user who incurred the expense
- Category - Expense category
- Amount - Expense amount
- Expense_date - Date when the expense was incurred
- Notes - Optional notes or description for the expense
- Created_at - Timestamp when the expense record was created

Entity-Relationship Diagram



Integration & External Services

Domain Setup

The application uses a custom .in domain purchased from Hostinger. DNS records were configured in Hostinger to point the domain to the hosting platform. HTTPS was enabled to ensure secure data transmission between users and the application, protecting sensitive information like authentication credentials.

Hosting Platform

CostScope is hosted on Vercel, providing fast global delivery through edge networks. Vercel enables automatic deployments, seamless CI/CD integration, and optimized performance for React-based applications. Environment variables are securely managed within the Vercel dashboard for production use.

SMTP Provider

For user email verification and authentication-related emails, Resend is used as the SMTP provider. Resend was integrated with Supabase Auth to replace the default email sender and overcome rate-limit constraints. Necessary DNS records (such as SPF, DKIM, and domain verification records) were configured in Hostinger to ensure reliable email delivery. This setup ensures higher email deliverability, scalability, and a more professional communication experience for users.

Changelog

Version 1.1.0 - February 05, 2026

Type: Initial Launch

Features:

- User authentication with email and password
- Email verification
- User dashboard with monthly expense insights
- Expense management (add, edit, view expenses)
- Category-wise expense breakdown
- Monthly expense trend analysis
- Community Insights to explore cost of living by country, state, and city
- Weighted average–based Cost of Living Index calculation
- Multi-currency support with currency symbols