

# Social Crypto Watchlist

## Description

The Social Crypto Watchlist is a web application that allows users to track cryptocurrency prices in real time, create a personal watchlist, and optionally make their watchlist public so others can follow it. Users can follow other public profiles to see what coins they are tracking. The goal is to combine cryptocurrency tracking with a simple social layer, making it easier for users to discover trending coins through their network.

## Stack

- **Frontend:** React, HTML, CSS, JavaScript
- **Backend:** Node.js with Express.js
- **Database:** PostgreSQL
- **API:** CoinGecko API for cryptocurrency data
- **Deployment:** Render (frontend + backend) and GitHub for version control
- **Authentication:** JSON Web Tokens (JWT) with bcrypt for password hashing

## Focus

This will be an **evenly focused full-stack application**.

- The backend will handle authentication, user relationships (followers/following), and CRUD operations for watchlists.
- The frontend will focus on displaying real-time crypto data, providing a clean UI, and managing user interactions.

## Type

Website

## Goal

To give users an easy way to track cryptocurrencies, discover trending coins through people they follow, and share their own watchlist if they choose. The project aims to balance practical crypto tracking with lightweight social networking.

## Users

- Crypto hobbyists who want to track prices and trends without using complex exchange interfaces.
- Beginners who want a simple and social way to discover new cryptocurrencies.
- Friends who want to follow each other's watchlists to stay updated on coin interests.

## Data

- **Source:** CoinGecko API (no authentication required, returns JSON data).
- **Data includes:** Coin names, IDs, symbols, prices, percentage changes, market cap, and images/icons.
- **Collection:** API calls from the backend server to CoinGecko, cached/stored when needed for performance.

## Database Schema

### Users Table:

- id (PK)
- username (unique)
- email (unique)
- password\_hash
- is\_public (boolean)

### **Coins Table:**

- id (PK, CoinGecko coin ID)
- symbol
- name
- image\_url

### **Followers Table:**

- id (PK)
- follower\_id (FK → Users.id)
- following\_id (FK → Users.id)

### **Watchlist Table:**

- id (PK)
- user\_id (FK → Users.id)
- coin\_id (FK → Coins.id)

### **Potential Issues**

- **API rate limits** — May need to cache API responses to reduce calls.
- **Data freshness** — Crypto prices change constantly, so balance between real-time updates and performance will be needed.
- **User privacy** — Must ensure private watchlists are only visible to their owners.

### **Functionality**

- User registration and login
- Search for cryptocurrencies by name or symbol

- Add/remove coins from watchlist
- Toggle profile between public/private
- Follow/unfollow other public profiles
- View followers and following lists
- View other users' watchlists (if public)
- Display live coin prices and 24h changes

### User Flow

1. **Sign Up / Log In**
2. **Search for coins** and add them to the watchlist.
3. **Toggle privacy** — choose whether others can see the watchlist.
4. **Follow other users** to see their watchlists in a "Following" feed.
5. **Check coin prices** on personal watchlist and on followed users' watchlists.

### Stretch Goals

- Display trending coins based on how many users are tracking them.
- Add pagination or infinite scroll for large watchlists.
- Implement basic charting for coin price history using a chart library.
- Allow tagging coins with notes (e.g., "Long-term hold", "Short-term trade").