- # Brew Metrics - Project Handoff Document (v0.6 - MVP Core Complete)

  Date: April 18, 2025 (Simulated Date from Logs)
  Current Version: Approx. 0.6 (Core MVP Workflow Complete, including QR Code Generation)
  Handing Off From: Previous AI Developer Session
  Handing Off To: New AI Developer

  ## 1. Project Goal & Overview

  - **Project Name:** Brew Metrics
  - **Website:** www.brewmetrics.xyz (Placeholder)
  - **Repository:** `brewmetics-app` (Assumed GitHub: `https://github.com/your-org/brewmetics-app.git` - Replace `your-org`)
  - **Purpose & Vision:** To create a web-based tool for microbreweries to easily collect and analyze batch-specific customer feedback via web forms. Patrons access feedback forms via a persistent brewery-specific URL/QR Code that leads to a page where they select the active batch they are drinking. The tool provides aggregated feedback insights on a private dashboard.
  - **Key Differentiator:** Incorporate patron education and engagement via the **"Brew Clues Challenge"** directly into the feedback process (e.g., witty tips explaining flavor descriptors, with plans for quizzes/challenges later).
  - **Current State:** Core functionality is in place. Brewers manage detailed batch info (including active status). A brewery-specific URL & corresponding QR Code are generated on the dashboard, leading to a public page where patrons select an active batch. Selection redirects to the appropriate feedback form which includes educational tips (part of the "Brew Clues Challenge" concept). Feedback submission and aggregation logic are complete, but the dashboard display of aggregated feedback is currently non-functional *in the emulator* due to a known issue.

- ## 2. Technical Stack & Setup

  - **Frontend:** HTML, CSS, Vanilla JavaScript (ES Modules)
  - **Backend:** Firebase Cloud Functions (Node.js) - *Minimal usage, known bug.*
  - **Database:** Firestore (NoSQL)
  - **Authentication:** Firebase Authentication (Email/Password)
  - **Hosting:** Firebase Hosting
  - **Storage:** Firebase Storage *(Planned/Available, not yet used)*
  - **Libraries:** `qrcode.js` (Client-side, via CDN for QR code generation)
  - **Development Environment: Firebase Emulator Suite (MANDATORY)**

        - **Services Used:** Auth, Firestore, Hosting, Functions
        - **Command to Start:** `firebase emulators:start`
        - **Accessing App:** `http://localhost:5000`
        - **Accessing Emulator UI:** `http://localhost:4000`
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- ## 3. Repository & Project Association
    - **Repository:** `brewmetics-app` (See Project Overview)
    - **Firebase Project:** Associated via `.firebaserc`. Assumed ID: `brewmetrics-app` (Verify with `firebase use`). Login using `firebase login`.

4. Key Files & Code Structure

```
brewmetics-app/
├── functions/          # Firebase Cloud Functions
│   ├── index.js        # Functions implementation (createUserRecord has bug)
│   └── package.json
│   └── ...
├── public/             # Firebase Hosting root
│   ├── assets/
│   │   ├── css/
│   │   │   └── styles.css
│   │   └── js/
│   │       ├── app.js      # *** Core Dashboard Logic ***
│   │       ├── auth.js     # Auth functions
│   │       ├── feedback-form.js # Logic for feedback page (includes Brew Clues Challenge tips)
│   │       ├── firebase-config.js # *** Firebase SDK Init *** (Emulator/Prod Keys)
│   │       ├── flavor-data.js # Static definitions (includes Brew Clues Challenge tip text)
│   │       └── select-batch.js # *** Logic for Batch Selection Page ***
│   ├── brewery/
│   │   └── dashboard.html # Brewery's private dashboard page
│   ├── feedback/
│   │   └── index.html    # Public feedback form page
│   ├── select-batch/      # *** Batch Selection Page Directory ***
│   │   └── index.html    # HTML for batch selection page
│   ├── index.html         # Entry point (redirects)
│   └── login.html        # Login page
│   └── signup.html        # Signup page (Implied)
│
├── firestore.rules        # Firestore security rules (Current Secure Version)
├── firebase.json          # Firebase project/emulator configuration
└── .firebaserc          # Firebase project association
```

- └── ...
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- Use code with caution.

- ## 5. Current Functionality (What's Working)
  - **Authentication:** Signup, Login, Logout working with correct redirects.
  - **Batch Management:** Create batches with enhanced details; Activate/Deactivate batches via dashboard toggle.
  - **Batch Listing:** Dashboard lists brewer's batches with details and active status.
  - **Public URL & QR Code:** Dashboard displays the brewery's unique "Public Batch Selection URL" with copy button and QR code generator.
  - **Batch Selection Page:** Public page correctly lists active batches and redirects to the feedback form upon selection.
  - **Feedback Form & Brew Clues Challenge (Tips):** Public feedback form loads batch name, dynamically generates flavor inputs, and displays educational tips (the initial part of the "Brew Clues Challenge") via tooltips `(?)` next to each descriptor. *(Enhancement pending: Does not yet show Brewer's Notes)*.
  - **Feedback Submission:** Saves all ratings and details correctly to Firestore.
  - **Feedback Aggregation Logic:** Implemented in `app.js`.
  - **Feedback Display (Partial - Emulator Issue):** Rendering logic for aggregated summary exists but fails to load data in the emulator due to secure rule issue.
  - **Incentive Display:** Post-feedback thank you screen shows `incentiveText`.
- ## 6. Data Model (Firestore)
  - **collection:** Fields: `batchName`, `breweryId`, `creationDate`, `isActive` (boolean), `style` (opt), `abv` (opt), `ibu` (opt), `description` (opt), `brewersNotes` (opt), `incentiveText` (opt)
  - **collection:** Fields: `batchId`, `breweryId`, `timestamp`, `overallRating`, `comment` (opt), `flavorSelections` (map)
  - **collection:** Fields: `email`, `createdAt` (via buggy function)

7. Security Rules (`firestore.rules`)

(Current secure version)

```
rules_version = '2';
service cloud.firestore {
  match /databases/{database}/documents {
    match /breweries/{userId} { allow read, write: if request.auth != null && request.auth.uid == userId; }
    match /batches/{batchId} {
      allow read: if true;
      allow create: if request.auth != null && request.resource.data.breweryId == request.auth.uid;
      allow update, delete: if request.auth != null && resource.data.breweryId == request.auth.uid;
    }
    match /feedback/{feedbackId} {
      allow create: if true;
      allow read: if request.auth != null && resource.data.breweryId == request.auth.uid; // Secure rule (Emulator issue here)
      allow update, delete: if false;
    }
    // ... other rules ...
  }
```

- }
- content_copy
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- Use code with caution.Firestore
- ## 8. API Keys / Credentials / Environment Variables
  - Located in `public/assets/js/firebase-config.js`. **MUST BE PROTECTED.** Check values for Emulator vs. Production. Do not commit production keys.
- ## 9. Development Environment Setup

  (Standard setup: Clone, cd functions && npm install && cd .., firebase login, firebase use, firebase emulators:start)

  ## 10. Current Known Issues & Challenges
  - **Firestore Emulator Read Rule Discrepancy (BLOCKER FOR TESTING FEEDBACK VIEW):** Secure `/feedback` read rule fails during list ops in the emulator. **Workaround:** Keep secure rule; acknowledge emulator testing limitation; trust production works. Add UI note?
  - **Cloud Function Error (** Crashes on user creation (`serverTimestamp` error). **Low priority.**
  - **Client vs. Server Logic:** Primarily client-side logic. Evaluate moving logic (aggregation, validation) to Cloud Functions later.
  - **Missing** Visually confirm `overall-rating` slider exists in `feedback/index.html`.
  - **Feedback Form Enhancement Pending:** Does not display `brewersNotes`.
  - **Emulator Performance:** Occasional slowness observed. Restarting emulators often helps.
- ## 11. Path Forward: Next Steps / Roadmap Items

  The core MVP workflow is functional. Focus can now shift to polish, enhancements, and addressing known issues.

  High Priority / Logical Next Steps:

    - **Feedback Form - Display Brewer's Notes:** Modify `feedback-form.js` to fetch and display the `brewersNotes` field. (Completes a planned feature).
    - **Refine UI/UX:** Improve overall styling, responsiveness (mobile use), loading indicators, error message presentation across all pages. (Improves usability).
    - **Dashboard Analytics Visualization:** Integrate a charting library (e.g., Chart.js) into `app.js` to visualize the aggregated feedback data (average ratings) instead of just listing text values. (Adds significant value).
    - **Brew Clues Challenge (Phase 2):** Begin planning/implementing the actual quiz/challenge aspect beyond the current educational tips.
- **Lower Priority / Future Enhancements:**
    - Add UI note/warning about emulator feedback display issue.
    - Verify `overallRating` input visually.
    - Fix `createUserRecord` Cloud Function bug.
    - Add client-side form validation (feedback form, batch creation).
    - Implement advanced dashboard features (feedback trends, filtering, export).
    - Authentication Enhancements (Password reset, email verification, profile management).
    - Consider refactoring logic to Cloud Functions.
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