**Technical Documentation**

**Overview**

The New Open Source Trouble Ticketing System is a self-hosted, browser-based application for managing support tickets. It uses modern web technologies (HTML, CSS, JavaScript) and IndexedDB for persistent data storage.

**Architecture**

* **Frontend:** HTML, CSS, and JavaScript.
* **Database:** IndexedDB for client-side storage.
* **No backend:** All logic and data storage happen in the browser.

**Key Features**

* **Ticket Management:** Create, edit, update, and delete tickets.
* **Persistent Storage:** Tickets are saved in IndexedDB and persist between browser sessions.
* **Search and Filter:** Search by creator, title, or description. Filter by severity.
* **Sorting:** Sort tickets by creation date, update time, severity, or creator.
* **Dashboard:** View statistics on total, open, and closed tickets.
* **Branding:** Customizable logo via logo.png.

**Data Model**

Each ticket contains the following fields:

* **id:** Unique identifier (auto-generated).
* **creator:** Name or identifier of the ticket creator.
* **title:** Short title of the ticket.
* **description:** Detailed description of the issue.
* **severity:** One of Low, Medium, High, or Critical.
* **status:** One of New, Open, In Progress, Resolved, or Closed.
* **createdAt:** Date and time the ticket was created.
* **updatedAt:** Date and time the ticket was last updated.

**How It Works**

1. **Initialization**
   * When the page loads, the application checks for an existing IndexedDB database.
   * If none exists, it creates one and sets up the required data structure.
2. **Ticket Operations**
   * **Create:** Adds a new ticket to the database.
   * **Edit:** Updates an existing ticket.
   * **Delete:** Removes a ticket from the database.
3. **Display and Filtering**
   * **Load Tickets:** Retrieves all tickets from the database.
   * **Filter:** Applies search and severity filters as specified by the user.
   * **Sort:** Sorts tickets according to the selected field.
4. **Statistics**
   * **Update Stats:** Calculates and displays total, open, and closed tickets.
5. **Security and Privacy**

* **No server communication:** All data remains on the user’s device.
* **No authentication:** Anyone with access to the browser can use the system.
* **Private data:** Tickets are only accessible from the browser where they were created.

1. **Customization**

* **Branding:** Replace logo.png to change the logo.
* **CSS:** Modify style.css to change the look and feel.
* **JavaScript:** Extend script.js for additional features.

1. **Compatibility**

* **Supported Browsers:** Modern browsers that support IndexedDB (Chrome, Firefox, Edge, Safari).
* **No installation required:** Just open index.html in your browser.

1. **Version Control and Updates**

* **IndexedDB Versioning:** The database schema is versioned to support future updates.
* **Data Preservation:** Upgrades to the application will preserve existing tickets as long as the browser data is not cleared.