

Plotwise Writer Design

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01 Vision

Product Vision

Problem Statement

Goals & Non-Goals

Success Metrics

Stakeholders & Personas

02 Requirements

Requirements

Functional Requirements

Non-Functional

Constraints & Assumptions

03 Solution Overview

Solution Overview

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Key User Journeys

High-level Risks

04 Architecture

Architecture

Container Diagram

Tech Stack & Rationale

Cross-cutting Concerns

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05 Components

06 Data Model

Data Model

Plotwise Writer Projects are self-contained SQLite3 databases.

ER Diagram / Schemas

Here's the schema definition which is stored as a resource in the Plotwise Writer executable.

```
CREATE TABLE metadata
(
  id INTEGER PRIMARY KEY AUTOINCREMENT,
  "key" TEXT,
  value TEXT
);

CREATE TABLE folders
(
  id INTEGER PRIMARY KEY AUTOINCREMENT,
  parent_id INTEGER REFERENCES folders (id) ON DELETE CASCADE,
  name TEXT NOT NULL,
  sort_index INTEGER DEFAULT 0,
  flags INTEGER DEFAULT (0) NOT NULL
);

CREATE TABLE files
(
  id INTEGER PRIMARY KEY AUTOINCREMENT,
  folder_id INTEGER,
  name TEXT NOT NULL,
  sort_index INTEGER DEFAULT (0),
  updated_at DATETIME DEFAULT (CURRENT_TIMESTAMP),
  CONSTRAINT FK_files_folders FOREIGN KEY (folder_id) REFERENCES folders (id) ON DELETE CASCADE
);
```

```
CREATE TABLE content
(
  id      INTEGER PRIMARY KEY AUTOINCREMENT,
  file_id INTEGER NOT NULL,
  content_md TEXT NOT NULL,
  updated_at DATETIME DEFAULT (CURRENT_TIMESTAMP),
  is_autosave INTEGER NOT NULL,
  content_hash TEXT NOT NULL,
  CONSTRAINT FK_autosave_files FOREIGN KEY (file_id) REFERENCES files (id) ON DELETE CASCADE
);

CREATE TABLE tags
(
  id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,
  label TEXT NOT NULL,
  color TEXT NOT NULL
);

CREATE TABLE _version
(
  id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT,
  version TEXT NOT NULL,
  date DATETIME DEFAULT (CURRENT_TIMESTAMP)
)
```

Migrations

Migrations are run every time a project is opened or created. This should bring the project schema up to date automatically. Each migration is logged in the `_version` table so that each one is only run once.

Version Mismatches

It's possible that someone could open a project file using an older version of the software. If the database version is higher than the current software version, a warning should be displayed and the file opened in read only mode. An effort should be made to display the project data, but there should be no guarantees.

07 User Interface

Main Window

