README file for your "Bitties" App Build

# Bitties App

## Project Overview

\*\*Bitties\*\* is an innovative online mobile and web application designed to help a close-knit group of friends track their shared Bitcoin investments, which commenced in 2022. The app provides \*\*live updates on contribution status\*\*, \*\*real-time Bitcoin charts\*\*, and \*\*dedicated member tabs\*\* to foster transparency and engagement within the group.

Our vision is to build a robust and user-friendly application that simplifies the management and monitoring of our collective Bitcoin pool, while also offering advanced analytical and planning tools.

## Core Features

The Bitties app is engineered with a comprehensive set of features to meet the diverse needs of its users:

\* \*\*Dual-Currency Dashboard\*\*: Instantly toggle all charts and values between ZAR and USD for comprehensive financial oversight.

\* \*\*Personal & Group Dashboards\*\*: View individual contributions and performance alongside collective group totals, BTC holdings, portfolio value, and overall goal progress.

\* \*\*Trader Analytics\*\*: Access live and historic BTC charts (candlestick, line, area), contribution/balance graphs, Profit & Loss (P&L), volatility, drawdown, and various timeframes (1D, 1W, 1M, YTD, All). Track goal progress and performance against target trajectories.

\* \*\*Speculation Tool\*\*: Utilise a "what-if" simulator to explore scenarios based on contribution amounts, BTC price fluctuations, inflation, trip costs, and member count. Instantly update forecasts and export/share scenarios.

\* \*\*Manual BTC Entry\*\*: Authorised persons can add new Bitcoin purchases via a single, accessible form, which then automatically splits the value across the member pool.

\* \*\*Notifications\*\*: Receive timely email and (where possible) WhatsApp reminders for contributions, milestone achievements, and crucial BTC price alerts.

\* \*\*Membership Management\*\*: Easily manage member join/leave events, fairly adjust shares, support various user roles (admin/member/viewer), assign nicknames/avatars, and maintain a comprehensive audit log.

\* \*\*Trip Goal Logic\*\*: Automatically track and dynamically update savings goals for the Augusta 2036 trip, integrating live flight, accommodation, and ticket cost data via API-based refresh and scenario simulation.

\* \*\*Mobile Responsive Design\*\*: The entire dashboard and all UI elements are meticulously optimised for seamless use on both desktop and mobile/touch devices.

## Design Principles & User Experience

The Bitties app prioritises an intuitive, accessible, and aesthetically pleasing user experience, echoing the premium, elegant aesthetic of the Masters Tournament.

\* \*\*Accessibility-First Controls\*\*: All actions are designed for \*\*single-tap/click operation\*\* and are \*\*accessibility friendly\*\*, including one-click navigation for both mobile and desktop. The app allows for \*\*full use by someone with only one hand and limited typing ability\*\*.

\* \*\*Zero Manual Setup\*\*: \*\*All data structure creation, migration, and completion are 100% automated\*\*, ensuring the user is never prompted to manually set up or configure anything. The aim is a \*\*"single upload, everything works"\*\* deployment.

\* \*\*Modular Architecture\*\*: The application is built with a modular design to facilitate \*\*future feature additions\*\* and robust extensibility.

\* \*\*Global Styling\*\*: All user interface styling, including fonts, typography, and colours, is organised in a separate module. This allows for \*\*global styling changes by modifying only the styling module\*\*, without altering the core app code.

\* \*\*Typography\*\*: All text consistently uses the \*\*"Poppins" font\*\*.

\* \*\*Colour Palette\*\*: Inspired by the Masters Tournament, the app uses a clean and purposeful colour palette:

\* \*\*Primary Blue (`#0656A3`)\*\*: Dominant brand and navigation colour, used for app bars, primary buttons, links, key highlights, headings, and actionable text.

\* \*\*Accent Green (`#00722D`)\*\*: For success messages, progress indicators, and positive highlights.

\* \*\*Accent Yellow (`#FFB81C`)\*\*: Used sparingly for alerts, warnings, or notification badges, accent lines, separators, or call-to-action highlights.

\* \*\*Accent Red (`#D62718`)\*\*: Applied for errors, destructive actions, or urgent notifications, status indicators, or confirmation of critical actions.

\* \*\*Backgrounds\*\*: Primary background is \*\*White (`#FFFFFF`)\*\* for clarity, with \*\*Very Light Grey (`#F6F7FB`)\*\* for cards, surfaces, or sections to reduce visual fatigue.

\* \*\*Text Colours\*\*: Primary text uses the brand blue (`#0656A3`) for headings and key text, while body text considers \*\*soft black (`#242424`)\*\* or dark grey for optimal readability. All text ensures \*\*WCAG AA/AAA contrast for accessibility\*\*.

\* \*\*Modern UI Touches (2025)\*\*: Incorporates \*\*rounded corners (12-20px radius)\*\* for cards and buttons, \*\*subtle drop-shadows\*\* for elevation, \*\*smooth micro-interactions\*\* on hover/focus states, and \*\*generous padding and margins\*\* for a clean, uncluttered interface.

\* \*\*Robustness\*\*: The app is designed to be robust against missing, incomplete, or inconsistent data.

## Technology Considerations

The app will be built using either \*\*Python or PowerShell\*\* for its backend logic and functionality. \*\*GitHub\*\* will be utilised for version control and collaboration, and \*\*Cloudflare\*\* can be integrated for enhanced performance and security.

## Data Sources

The app relies on live and historical data from various public APIs and web scraping:

\* \*\*Bitcoin Price Data\*\*: Current and historical BTC price data (ZAR and USD) will be pulled from public APIs such as \*\*CoinGecko and CryptoCompare\*\*.

\* \*\*Augusta 2036 Trip Costs\*\*: Current and projected trip costs (flights, accommodation, tickets, spending) will be retrieved via \*\*live web scraping and APIs\*\* where possible.

\* All live data will \*\*update regularly and automatically\*\*.

## Development Guidelines & Maintenance

\* \*\*Modular Build\*\*: The project structure will be modular, with clear separation of concerns, particularly for styling and core logic.

\* \*\*Version Control\*\*: Any errors that arise will lead to a change in version.

\* \*\*Documentation\*\*: The `README.md` file will be continuously updated.

\* \*\*Token Efficiency\*\*: All development and communication will maintain token efficiency, especially considering token upload limits for GPT chats and build handover briefs.

\* \*\*Automated Output\*\*: Any script output will be provided as a \*\*single block\*\* ready for copy-pasting, eliminating the need for manual folder or file creation.

\* \*\*No User Input During Execution\*\*: All actions and logic within the app and its build scripts will be \*\*automated and documented\*\*, without prompting the user for input during code execution.

\* \*\*Language & Formatting\*\*: All app outputs will use \*\*UK English spelling\*\*, \*\*UK number/date formats\*\*, and \*\*professional but friendly language\*\*.

\* \*\*Chart Presentation\*\*: Each chart will be wrapped in a fluid container.