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# Mood Meals

Eat Better, Feel Better

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<https://moodmeals.site>



**Modern eating behaviour is highly emotional, people eat in response to stress, boredom, or anxiety. Most nutrition apps track calories or macros but completely ignore how the user feels.**

**Mood Meals** bridges this gap by transforming emotional data into nutritional guidance. Users log their moods and receive meal suggestions linked to emotional balance, magnesium-rich meals for stress, energising foods for fatigue, and comforting yet healthy options for sadness.

**Key Message:**

Turning emotions into insight, and insight into action through food.

# Core Features

The app delivers an intuitive, emotionally-aware user journey: from logging in, selecting a mood, viewing recipe recommendations, tracking patterns, and maintaining a grocery list. The visual system is deliberately calm, rounded edges, pastel gradients, and generous spacing create a gentle tone.

# Feature Highlights

- **Secure Authentication:** JWT tokens + bcrypt hashing.
- **Mood Selector:** Eight core emotions → curated meals.
- **Tracker:** View your streak.
- **CRUD Recipes & Groceries:** Add, edit, delete, save.
- **Profile:** Personal dashboard with history and preferences.
- **SEO & Analytics:** Google Analytics 4 + Indexing.

# CRUD Highlights

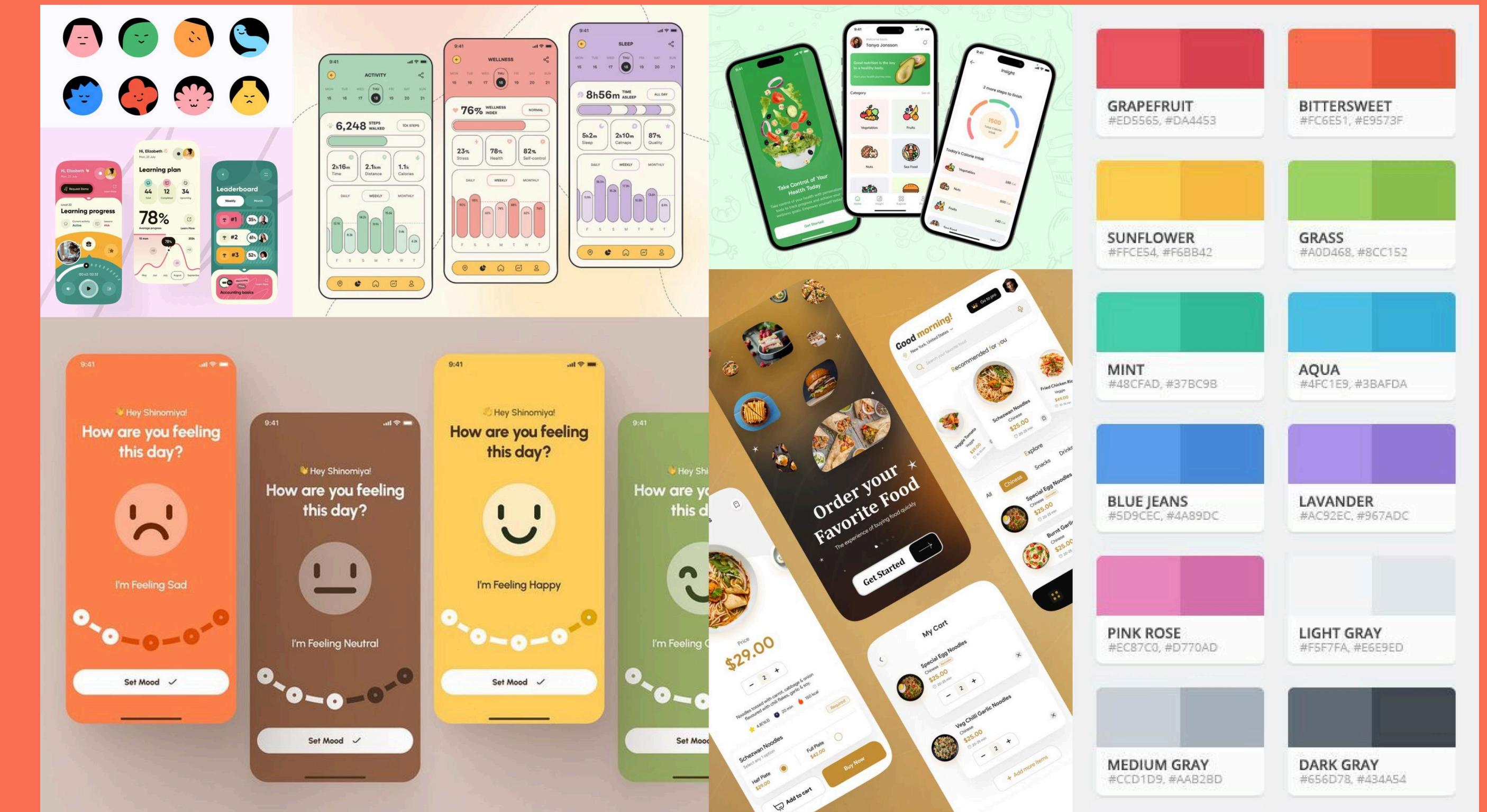
CRUD functionality underpins both meals and moods:

- **Create:** Log a new mood or add a grocery item.
- **Read:** Fetch historical data and display recommendations.
- **Update:** Edit or re-order entries instantly.
- **Delete:** Remove old logs or list items.

React's state management and API integration via Express ensure real-time updates without page reloads, producing a native-app-like experience.

# Mood Tracker & Emotional UX

UX decisions were guided by calm-design principles. Rounded cards, soft gradients and subtle shadows convey warmth. The Glassy Mood Jar animates logged emotions into coloured bubbles, visually translating data into self-reflection. Accessibility is first-class, compliant contrasts, scalable type, and large tap areas make it inclusive across devices.



# Database & ERD

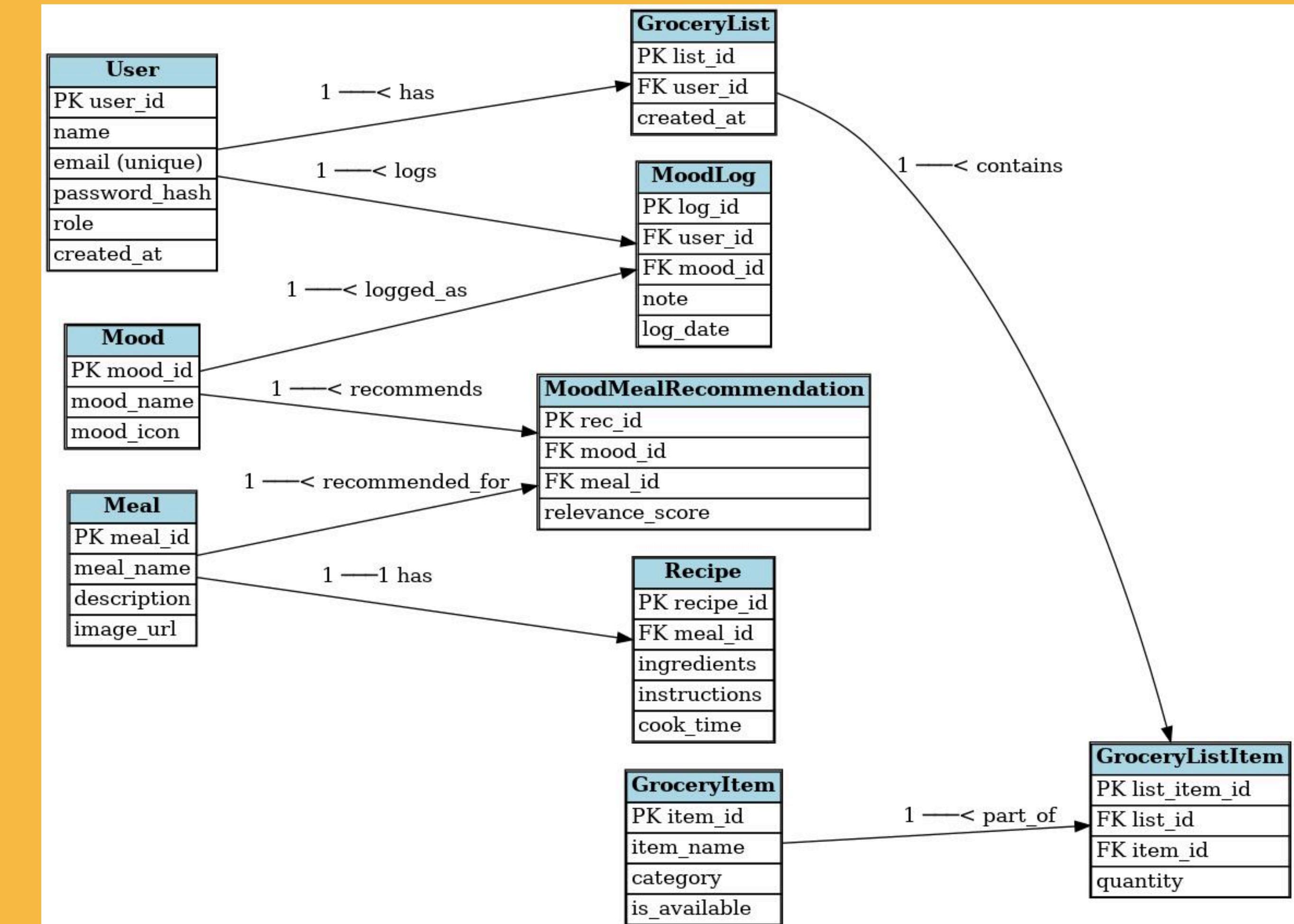
The database is built in MySQL and normalised to Third Normal Form (3NF).

Key Tables: users, moods, recipes, mood\_logs, groceries, saved\_meals.

Relationships maintain data integrity:

- Users → Mood Logs (1-M)
- Moods → Recipes (1-M)
- Recipes ↔ Groceries (M-M via junction table)

Foreign keys enforce referential integrity and enable efficient joins for complex queries.



# Backend Logic & APIs

**The backend uses Node.js + Express, with modular routes and controllers.**

**Endpoints cover authentication, moods, recipes, groceries, and user data.**

**Security middleware validates JWTs and sanitises inputs to prevent SQL injection.**

**Requests follow a clear flow:**

**React → Express API → MySQL → JSON**

**Response**

**All credentials are stored securely via dotenv, ensuring a professional, maintainable architecture.**

```
// GET all moods (with authentication)
router.get('/moods', verifyToken, async (req, res) => {
  try {
    const [rows] = await db.query(
      'SELECT * FROM moods WHERE user_id = ?',
      [req.user.id]
    );
    res.json(rows);
  } catch (err) {
    res.status(500).json({ message: 'Server error' });
  }
});
```

# Deployment: Google Cloud

The full stack is hosted on Google Cloud Platform using an Ubuntu VM.

Frontend: Nginx serves the React build.

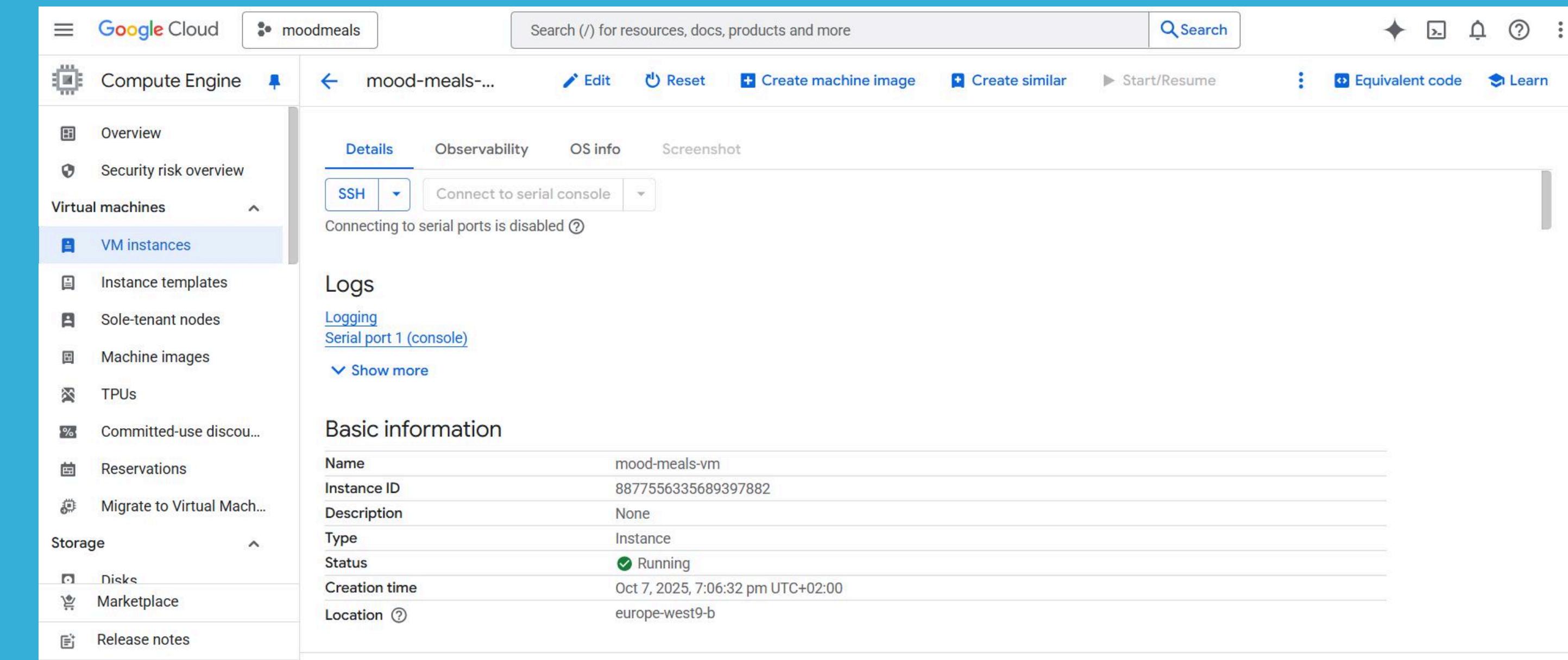
Backend: Node/Express managed by PM2 for persistence.

Database: MySQL running on the same instance.

Deployment workflow: local development → GitHub → SSH pull onto VM.

Domain name moodmeals.site secured via Certbot SSL.

For SEO, the site includes meta tags, sitemap.xml, robots.txt and Google Indexing.



# Performance Optimisation

The Mood Meals Lighthouse audit confirms strong optimisation across key areas.

- Performance – 77: Slightly lower due to live API calls and dynamic data fetching. Optimised with WebP compression, lazy loading, and route-based code splitting.
- Accessibility – 88: WCAG-compliant layout, refined contrast and ARIA labelling.
- Best Practices – 100: Secure HTTPS, clean code, consistent asset handling.
- SEO – 100: Full metadata, sitemap, and robots.txt validation.

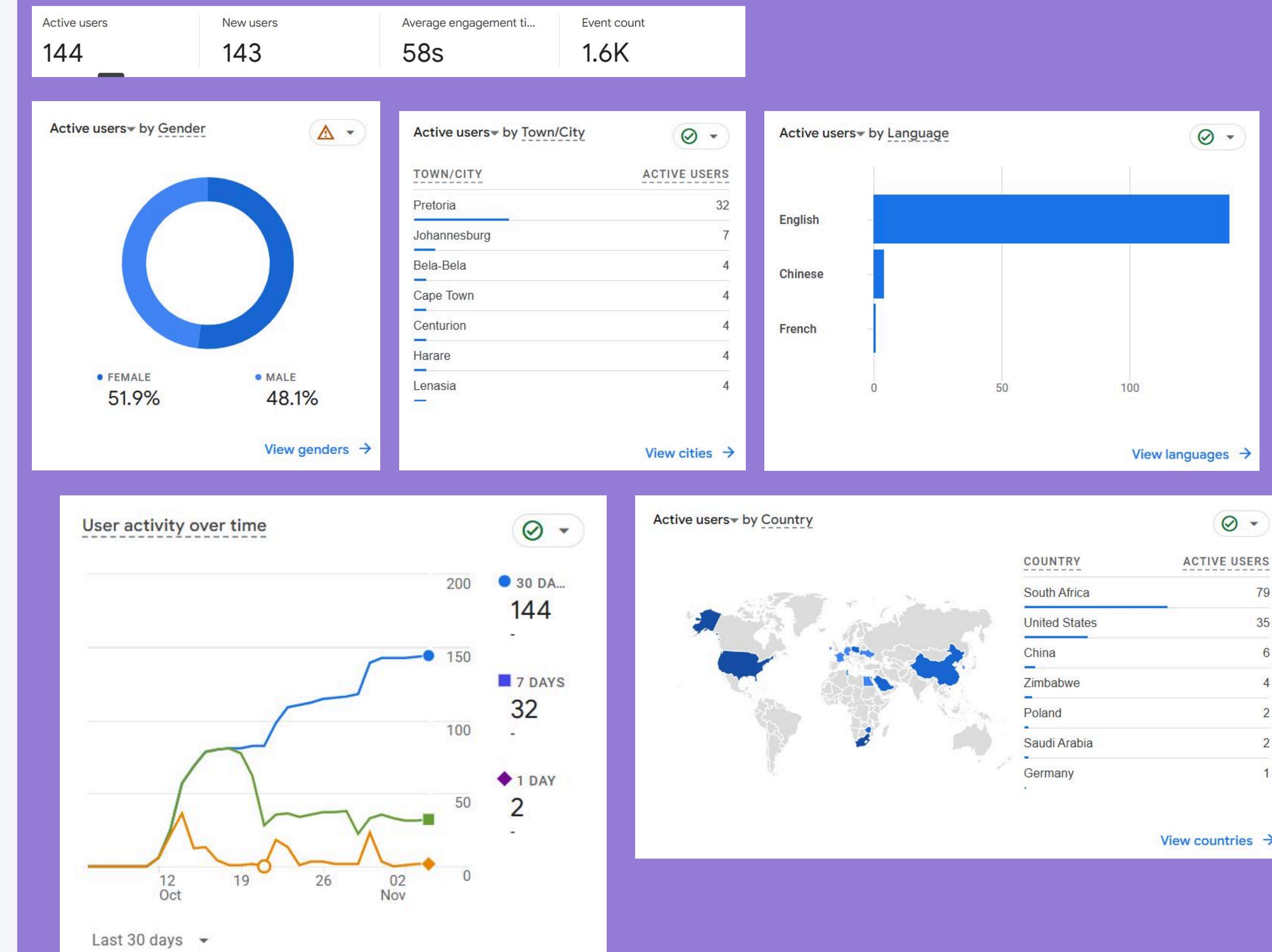


# Google Analytics

Google Analytics 4 provides insight into how users interact with Mood Meals in real time.

Key metrics show that user engagement is consistent, with returning visitors exploring mood tracking and recipe pages most frequently.

Engagement rate and session duration indicate that users spend meaningful time within the interface, a positive sign for UX and emotional retention.



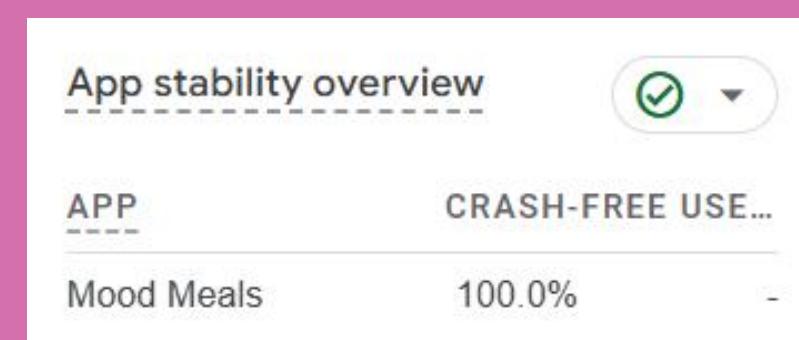
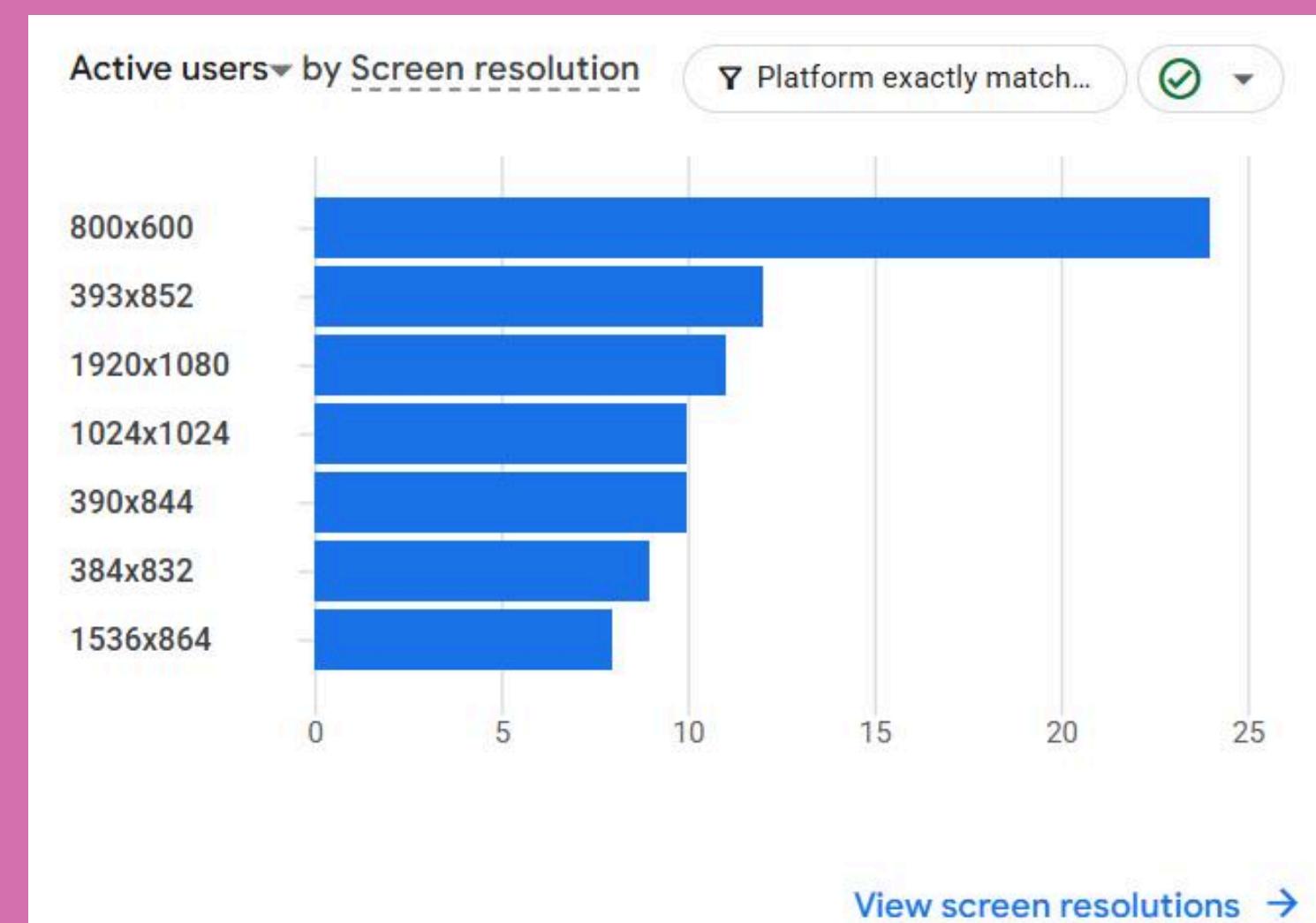
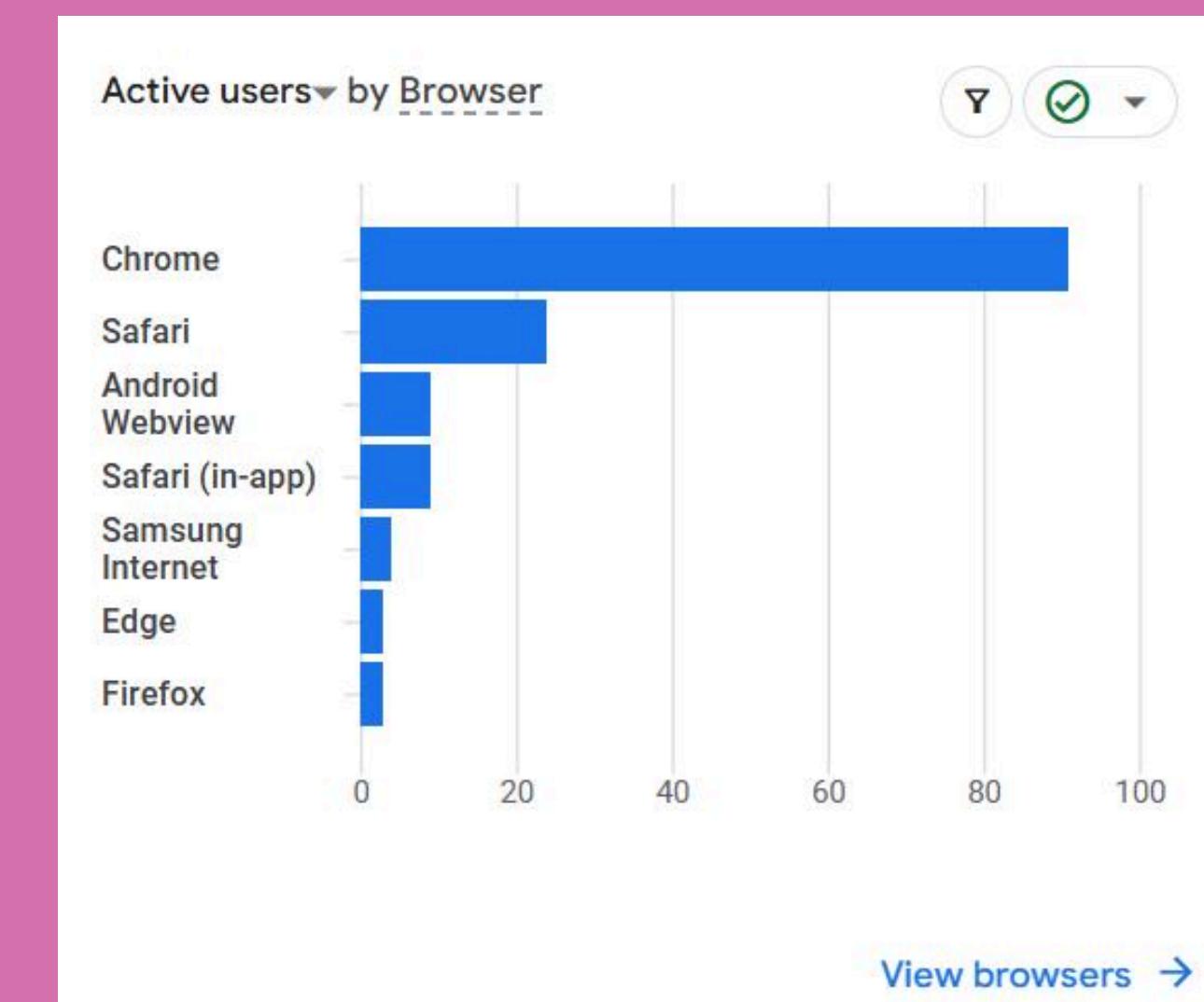
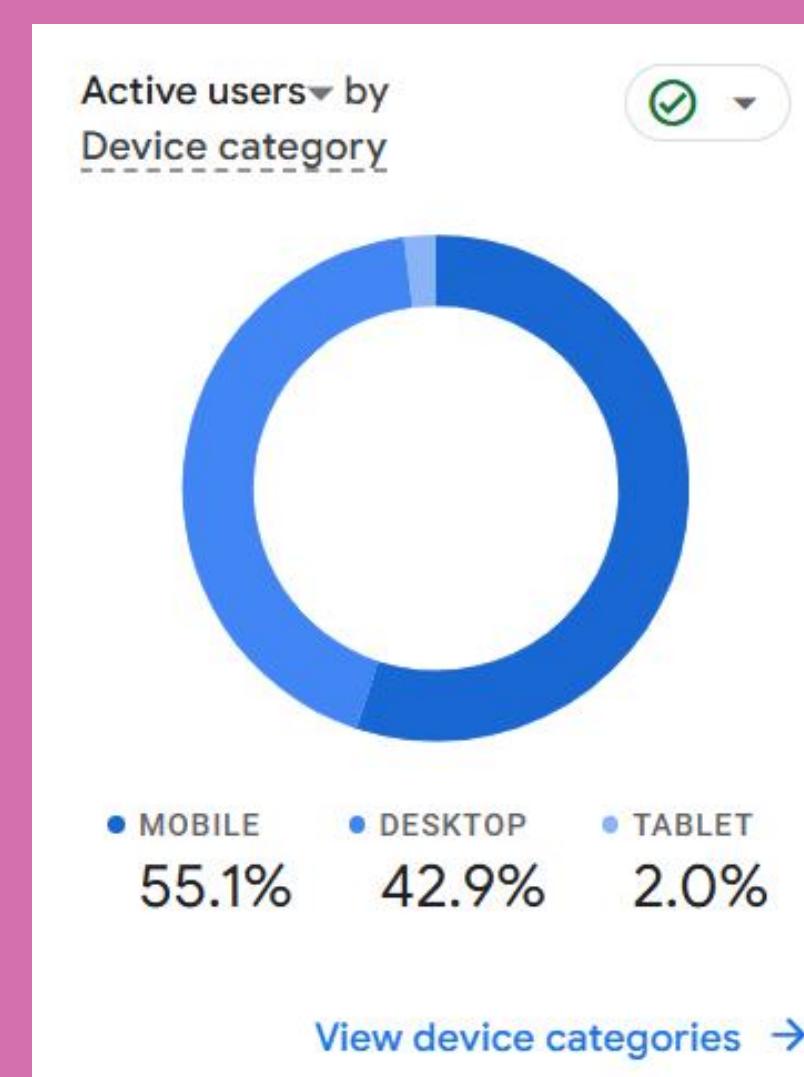
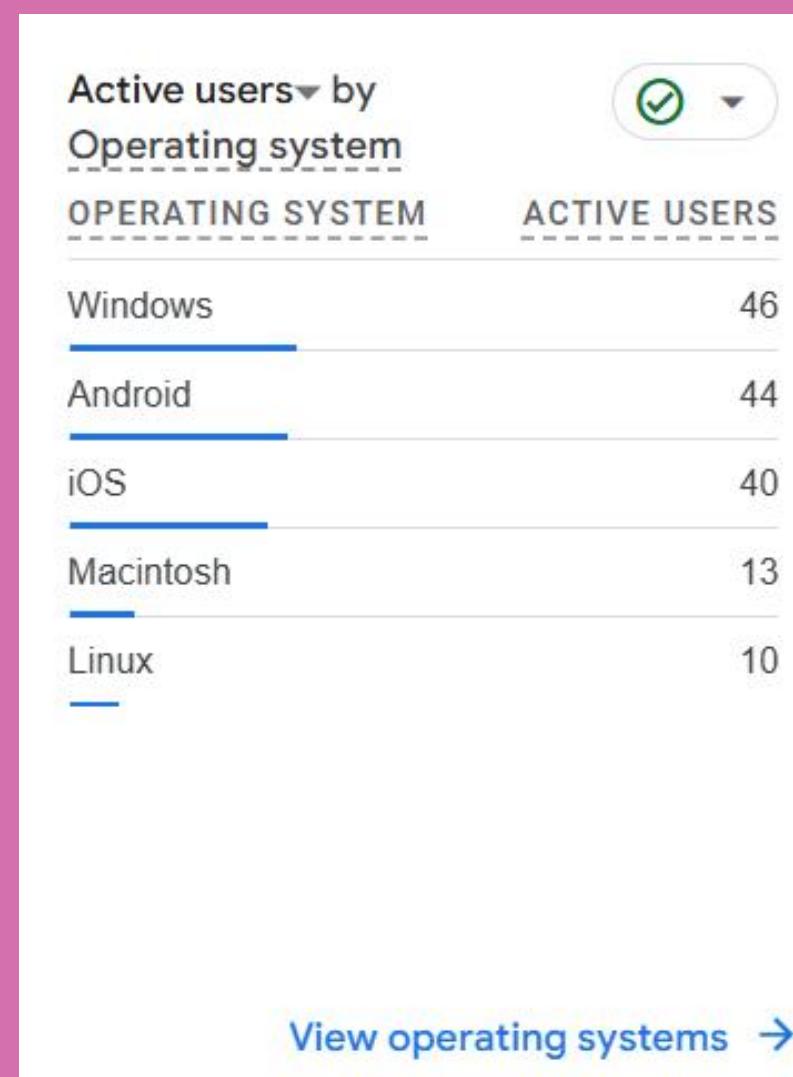
# Google Analytics

Technical data from GA4 helps ensure compatibility and performance optimisation.

The majority of users access Mood Meals on mobile devices, primarily using Chrome on Android.

Desktop sessions still account for a smaller but more engaged segment, suggesting responsive design and adaptive layouts function as intended.

This data informs future UX testing priorities and performance tuning.



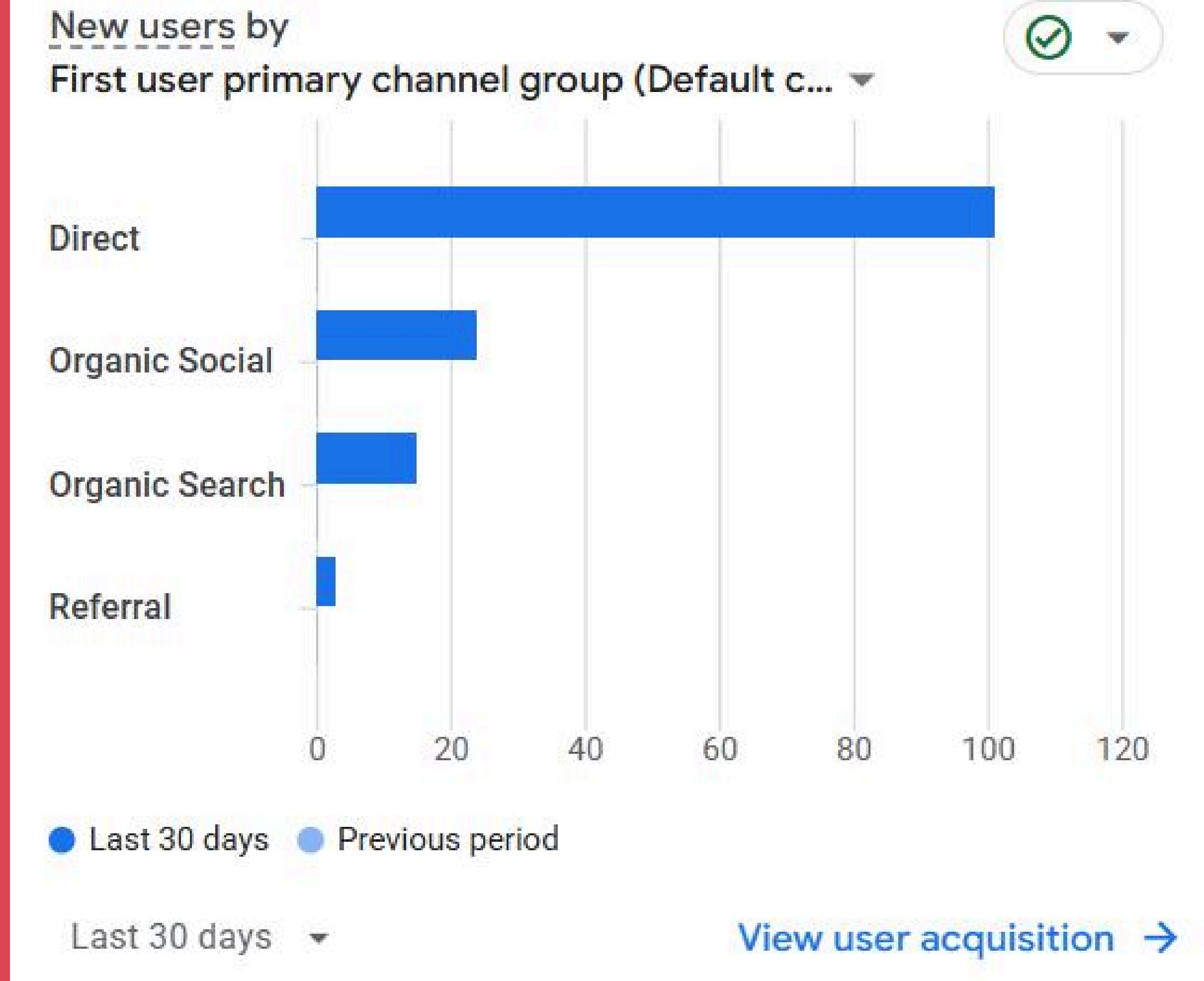
# Google Search Console

Google Search Console verifies that Mood Meals is fully indexed and performing well in search results.

The app has been crawled successfully, with pages like /home, /recipes, and /about appearing in search listings.

Meta descriptions and structured data tags contribute to a 100% index coverage score.

Search visibility has improved steadily since the sitemap.xml and robots.txt submission.



# Reflection & Learning

**Developing Mood Meals was a lesson in balancing empathy and engineering.**

**Key challenges: configuring JWT authentication, normalising complex relations, and deploying Nginx reverse proxy for the first time.**

**The project strengthened my confidence in full-stack deployment, API design, and UX strategy.**

**It also reinforced how documentation and testing are as vital as code.**



# Future Roadmap

**Mood Meals will continue evolving through intelligence, community, and wellbeing integration.**

- **AI Meal Suggestions** – Smart recommendations based on mood patterns and meal ratings.
- **Sentiment Analysis** – Detect emotion from journal notes using NLP.
- **Progressive Web App** – Offline access, notifications, and installable app mode.
- **Insights Dashboard** – Visual analytics showing links between emotions and food.
- **Mood Points** – Gamified rewards for healthy tracking and engagement.

# Thank You

