Automaspec Analytics Report

Project: Automaspec
Document version: 1.1

1. Overview

Automaspec includes an Analytics Dashboard that summarizes test/spec health for the currently active organization. The dashboard is implemented as a Next.js App Router page and is powered by a single oRPC endpoint that returns aggregated metrics.

Primary goals:

- Provide a quick "health snapshot" (counts + status distribution)
- Show growth over time (new tests created)
- Highlight stale specs (not updated recently)

2. UI (Analytics Dashboard)

Route: `/analytics` (`app/analytics/page.tsx`)

The page renders:

- **Metrics cards**: total tests, total requirements, total specs, active members
- **Tests Growth chart**: line chart of tests created per day for selected period
- **Test Status Distribution chart**: bar chart grouped by current test/spec status
- **Stale Tests table**: specs with `updatedAt` older than the selected period threshold

Period selector: `7d`, `30d`, `90d` (tabs at the top of the page)

3. Backend (oRPC)

Endpoint: `GET /rpc/analytics/metrics` (`orpc/routes/analytics.ts`)

Input:

```
{ "period": "30d" }
```

Output (shape):

```
{
  "totalTests": 0,
  "totalRequirements": 0,
  "totalSpecs": 0,
  "activeMembers": 0,
  "testsByStatus": { "passed": 0 },
  "testsGrowth": [{ "date": "2026-01-01", "count": 0 }],
  "staleTests": [{ "id": "spec-id", "name": "Spec name", "updatedAt": "2026-01-01 00:00:00" }]
}
```

Auth behavior:

- Requires an authenticated session and an active organization (oRPC middleware).

4. Data Sources and Aggregations

Tables used (Drizzle ORM):

- `test_spec` (spec list, `statuses`, `updatedAt`)
- `test_requirement` (total requirement count, scoped via spec org)
- `test` (total test count, created-at timeline)
- `member` (active member count)

Computed metrics:

- `testsByStatus`: aggregated by summing `test_spec.statuses` across specs in the organization
- `testsGrowth`: counts tests created on each date within the selected time window
- `staleTests`: specs whose `updatedAt` is older than `now - periodDays`

Period constants:

- ANALYTICS_PERIODS in `lib/constants.ts` maps 7d|30d|90d to day counts.

5. Charts and Components

UI visualization stack:

- Charts: Recharts (`LineChart`, `BarChart`)
- Wrapper components: `components/ui/chart`
- Status labels and colors: `STATUS_CONFIGS` and a local status-to-color mapping in the chart component

6. Error Handling and UX

- Loading state: centered loader while the analytics query is in-flight
- Error state: "Failed to load analytics" + error message when query fails
- Empty states: charts and tables show friendly "no data" placeholders

7. Verification Checklist

- Open `/analytics` while logged in with an active organization
- Switch between `7d`, `30d`, `90d` tabs and confirm query updates
- Confirm totals match the dashboard data model for the organization
- Create a new test and confirm it appears in growth chart over time
- Ensure stale specs appear when `updatedAt` is older than the selected period window