DIGITAL ASSURANCE

# ASSURANCE

## Evidence-based review for public web content

Product, workflow
and technical architecture



# Websites change. Issues accumulate.

01

## Content freshness

Outdated dates and expired application information can mislead users.

02

## Usability

Broken links and accessibility barriers can make services harder to reach.

03

## Follow-up

Scattered findings make review and rechecking harder to manage.

# What does Assurance provide?

## One workspace for findings and review

Content teams inspect the evidence. Technical teams investigate issues. Managers follow priorities and recorded decisions.

# The end-to-end workflow

01

## Choose a target

Workspace, URL and scope

02

## Run a scan

Pages, documents and checks

03

## Review findings

Evidence, owner and decision

04

## Follow up

Rechecks and reports

Every scan retains its own history and evidence.

SCAN COVERAGE

# Nine areas of inspection

**9**

inspection areas

01
**Content freshness**

02
**Accessibility**

03
**Link health**

04
**Documents**

05
**Images**

06
**Mobile layout**

07
**SEO basics**

08
**Redirects**

09
**URL coverage**

# Content and document review

WEB PAGES

## Freshness signals

Explicit update dates, expired deadlines and time-sensitive wording are flagged for review.

DOCUMENTS

## PDF inventory

Metadata and text extraction make documents visible in their page context.

Reviewers choose the GOV.UK reference. Date or saved-content changes can indicate potential drift.

# Accessibility and visual quality

A

## Accessibility

axe findings include the rule, impact, CSS selector and affected-node evidence.

B

## Images

Unavailable images appear as separate quality findings.

C

## Mobile layout

Horizontal overflow checks highlight potential small-screen issues.

# Links, SEO and redirects

01 **Link health**

HTTP failures, bounded link downloads and actual check outcomes.

02 **SEO basics**

Titles, descriptions, canonicals, noindex and links in the rendered page.

03 **Redirect quality**

Redirect chains, failed redirects and HTTPS downgrades.

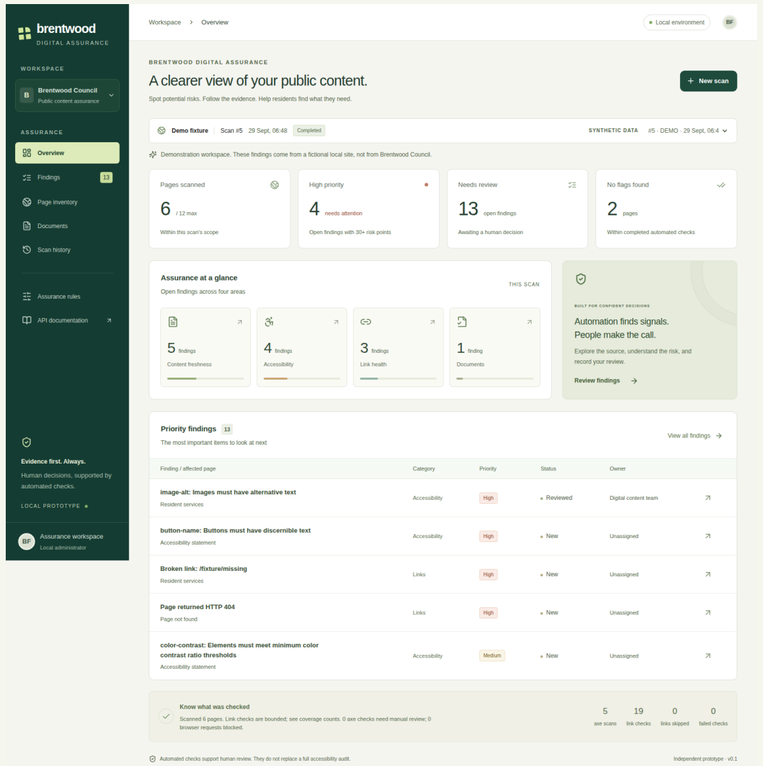
PRODUCT SCREEN

# The overview dashboard

## Priorities in one view

Scan summary
Findings awaiting review
Category breakdown
Check coverage

Earlier demo interface.
The figures shown are fictional.




DEMO SCREEN / EARLIER VERSION

# Evidence behind every finding

01 **Source URL**

The page or document where the issue was found

02 **Captured evidence**

An excerpt, HTTP result or axe selector

03 **Rule and priority**

An explainable weight and review deadline

04 **Review history**

Owner, notes and recorded human decisions

# Human review and ownership

OWNERSHIP

## Owners and notes

Keep responsibility and the reason for a decision alongside the finding.

DECISIONS

## Status and history

Reviewed, Accepted, Dismissed and Resolved decisions create persistent review events.

Marking a finding as Resolved does not change the target website.

# Comparison and rechecking

COMPARE SCANS

## Four change states

Newly observed
Still detected
Not detected again
Not rechecked

RECHECK URL

## A new single-page scan

Check the target page again while retaining the earlier scan, evidence and history.

“Not detected again” requires the relevant check to run successfully again.

# Optional AI assistance

01

## Finding explanations

Evidence-based explanations, with a labelled rule fallback when AI is unavailable.

02

## Content review

Potential issues supported by quotations, with suggestions for human verification.

03

## AI scan reports

Summaries of saved results. Up to three reports per scan.

# Shareable reports

## PDF

PDF

### A presentation-ready report

Scope, timing, findings and evidence. Comparison reports explain changes.

## EXCEL

XLSX

### A detailed working file

Pages, documents, evidence and review history in separate sheets.

ONGOING REVIEW

# Scheduled scans and notifications

SCHEDULES

## Daily or weekly

Plan scans by timezone, page limit and target. Pause and resume when needed.

NOTIFICATIONS

## In-app updates

Scan completion, previously unseen high-priority findings and schedule errors.

Scheduled scans require the application infrastructure to remain running.

# Workspaces and user permissions

A

## Administrator

Manage workspaces, accounts, permissions and target policies.

R

## Reviewer

Run scans, use AI tools and review findings in authorised workspaces.

V

## Viewer

Read results and download permitted reports.

# Technical architecture

| | | |
|---|---|---|
| INTERFACE | **React + TypeScript + Material UI**<br>Nginx provides application and API access | 01 |
| APPLICATION | **Java 21 + Spring Boot**<br>JSoup crawling, rules, Tika and reports | 02 |
| BROWSER | **Node + Playwright + axe**<br>An isolated Chromium context for each page | 03 |
| DATA | **PostgreSQL + Flyway**<br>Scans, evidence, decisions and schedules | 04 |

# A data model that preserves history

SCAN CONTEXT

## Workspace and Scan

Pages, documents and findings are stored as part of a specific scan.

DECISION CONTEXT

## Evidence and Review

Evidence stays separate from human decisions. Rechecks retain the earlier record.

Coverage distinguishes “not checked” from “no issue found”.

PROTECTION LAYERS

# Security and data boundaries

01

## Identity and permissions

Server-side role, workspace ownership and CSRF checks.

02

## Network boundaries

Private-address blocking, URL and redirect validation, and hostname policies.

03

## Data handling

AI runs on request. Owner names and review notes are excluded.

# Deployment and observability

DEPLOYMENT

## Docker Compose

Run the services together locally. GitHub Actions, GHCR and a VPS support production deployment.

OBSERVABILITY

## Health and monitoring

Health checks, JSON logs, correlation IDs and optional Sentry. Beszel for administrators.

Versioned images and a database backup before deployment

# Scan scope and practical limits

**100**

Page limit in the interface

**1**

Scan running at a time

**15**

Minute scan budget

**Unchecked URLs remain outside coverage.**
**Automated checks do not certify full accessibility.**

LIVE DEMONSTRATION

# A five-minute demo

| | |
|---|---|
| 0:00 | **Start a demo scan**<br>Show the target and scope settings. |
| 1:00 | **Open finding evidence**<br>Explain the source, rule and priority. |
| 2:30 | **Record a review decision**<br>Show the owner, notes and status history. |
| 4:00 | **Show coverage and reports**<br>Open the checked pages and report outputs. |

# Proposed next steps

01

## Enterprise identity

Central account management with SSO and MFA.

02

## Larger scan volumes

A durable job queue, safe retries and multiple workers.

03

## Deeper verification

Manual accessibility workflows and specialist document audits.

# See the evidence.
# Record the decision.
# Track the change.

Questions and live demo

assurance.fircasiguzel.com ↗