UroRads: Executive Problem & Solution Statement

Problem

Urology trainees—residents (PGY-2+) and advanced practice providers—must develop competency in uro-radiology interpretation. Current training fails them for one core reason: **there is no time for guided learning in the moment of clinical work.**

Reading rooms are busy. Attendings are splitting attention. Cases move fast. The result is that trainees accumulate exposure without structured learning. They see hundreds of CT scans but lack the deliberate, bite-sized teaching that builds true visual recognition.

What's missing is not access to images—it's access to **micro-pearls**: single-image, case-based teaching moments that establish foundational pattern recognition.

Solution

UroRads is a mobile-optimized progressive web app (PWA) that delivers case-based uro-radiology education one image at a time.

How It Works

For Learners:

- View a single CT slice with an AI-generated explanation alongside it
- Explanation identifies key findings, teaches recognition features, and applies radiology first principles
- Ask follow-up questions via chat—AI maintains context of that specific case and explanation
- Browse a growing archive of cases, auto-categorized by pathology
- No login required. Open access. Learn on your own time.

For Attendings:

- Capture a teaching case by snapping a photo of your workstation, uploading a file, or selecting from your photo library
- Add custom prompts to guide the AI explanation (e.g., "emphasize the cortical thinning," "compare to normal")
- Review, directly edit, or iterate on the AI output until satisfied
- Approve to publish—explanation is saved permanently to the case library
- No login required. Open contribution.

Core Principles

|Principle |Implementation |

|------------|--|
Bite-sized	One image, one explanation, one concept at a time
Case-based	Real CT findings, not diagrams or abstractions
Mobile-first	PWA optimized for phone use during downtime
Open	No accounts, no gates—anyone can learn, anyone can contribute
Growing	Library expands organically as attendings upload cases

Future Roadmap

- Scrollable CT stacks with interactive arrow overlays
- Spaced repetition and progress tracking
- Case tagging and filtering by pathology type
- User accounts for personalized learning paths

Target Users

User	Description
Learners	Urology residents (PGY-2+), urology APPs, and any clinician seeking uro-radiology fundamentals
Contributors	Attending urologists with access to de-identified teaching cases

Success Definition

A trainee with 15 minutes of downtime opens UroRads, swipes through 5-10 cases, and walks away with durable visual patterns they will recognize next time they see them on a real scan.

Document 1 of N — UroRads Technical Documentation