

UroRads: Data Models

Overview

This document defines the data structures used throughout the app. Use these shapes for frontend state, API responses, and database schema. Two primary models: Case and ChatMessage.

Model: Case

Represents a single teaching case with its image, explanation, and metadata.

Field	Type	Description
id	string	Unique identifier (UUID or auto-increment)
caseNumber	number	Sequential case number for display (e.g., Case #14)
title	string	AI-generated short title (3-4 words). Example: "Staghorn Calculus Left Kidney"
imageUrl	string	URL/path to the CT slice image
explanation	string	AI-generated explanation (approved by attending)
category	string	AI-generated pathology category. Example: "Stones", "Hydronephrosis", "Mass"
attendingPrompt	string null	Custom prompt provided by attending (optional, for reference)
createdAt	datetime	Timestamp when case was published

Example Case Object:

```
{
  "id": "a1b2c3d4",
  "caseNumber": 14,
  "title": "Staghorn Calculus Left Kidney",
  "imageUrl": "/images/case-14.jpg",
  "explanation": "This axial CT image demonstrates a large staghorn calculus...",
  "category": "Stones",
  "attendingPrompt": "Focus on the staghorn morphology",
  "createdAt": "2025-01-15T10:30:00Z"
}
```

Model: ChatMessage

Represents a single message in the case chat thread. The explanation is treated as the first AI message.

Field	Type	Description
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id	string	Unique identifier
caseId	string	Foreign key to the Case this message belongs to
role	string	"ai" or "user"
content	string	Message text
createdAt	datetime	Timestamp when message was created

Example ChatMessage Object:

```
{
  "id": "msg-001",
  "caseId": "alb2c3d4",
  "role": "user",
  "content": "What would this look like on a KUB?",
  "createdAt": "2025-01-15T10:35:00Z"
}
```

Note: Chat Thread Construction

When displaying a case, the chat thread is constructed as follows:

1. First message = Case.explanation (displayed as AI message bubble)
2. Subsequent messages = ChatMessage records for that caseId, sorted by createdAt

Chat messages are ephemeral per session (not persisted) unless you choose to persist them for analytics. The explanation is always the anchor.

Archive List Item (Derived)

For the Archive screen, you only need a subset of Case fields:

Field	Type	Description
id	string	For navigation
caseNumber	number	Display: "Case #14"
title	string	Display: "Staghorn Calculus Left Kidney"
category	string	Optional: for future filtering/grouping

Mock Data for Frontend Development

Use this sample data array to build the frontend before backend is ready:

```
const mockCases = [
  {
    id: "case-001",
```

```
    caseNumber: 1,
    title: "Staghorn Calculus Left Kidney",
    imageUrl: "/mock/case1.jpg",
    explanation: "This axial CT image shows a large branching calculus filling the renal pelvis and",
    category: "Stones",
    attendingPrompt: null,
    createdAt: "2025-01-10T08:00:00Z"
  },
  {
    id: "case-002",
    caseNumber: 2,
    title: "Grade 3 Hydronephrosis",
    imageUrl: "/mock/case2.jpg",
    explanation: "This image demonstrates moderate-to-severe hydronephrosis of the right kidney. Not",
    category: "Hydronephrosis",
    attendingPrompt: "Emphasize the grading system",
    createdAt: "2025-01-11T09:30:00Z"
  }
];
```