**Dental Clinic Management System - Automation Test Plan (Playwright)**

### 1. Overview

This document outlines the automation test strategy and test cases for the Dental Clinic Management System using **Playwright**. The system includes workflows for Patients, Receptionists, Dentists, Radiologists, Admins, HR, Inventory, and Billing.

### 2. Objectives

* Automate UI workflows for all user roles.
* Validate form submissions, login sessions, notifications, and document uploads.
* Ensure secure role-based access.
* Test integrations such as DICOM viewer, file uploads, and payments.

### 3. Tools & Environment

* **Framework**: Playwright (TypeScript)
* **Browsers**: Chromium, WebKit, Firefox
* **Test Reports**: HTML & Allure
* **Execution**: CI/CD pipeline
* **Environment**: UAT/Staging

### 4. Test Scope

**In-Scope**: - Web UI workflows - File uploads/downloads - Secure routing - Payments & emails

**Out-of-Scope**: - API load testing - Performance testing

### 5. Test Cases by Module

#### 5.1 Patient Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| P-01 | Register new patient | None | Navigate to registration page → Fill and submit form | Patient is redirected to profile setup | TBD |
| P-02 | Patient Login | Patient account exists | Enter valid credentials on login form | Redirect to dashboard | TBD |
| P-03 | Upload medical history | Logged-in patient | Go to Profile → Upload PDF | File accepted, listed in documents | TBD |
| P-04 | Book appointment | Logged-in patient | View dentists → Select slot → Confirm | Booking confirmation shown and emailed | TBD |
| P-05 | View medical images | Patient has reports uploaded | Go to Reports → Click DICOM link | DICOM viewer loads correctly | TBD |

#### 5.2 Receptionist Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| R-01 | Register via invite | Admin sends invite | Open invite link → Set password | Access granted to receptionist portal | TBD |
| R-02 | Add patient | Logged in | Fill patient form → Submit | Confirmation sent to patient | TBD |
| R-03 | Book appointment for patient | Patient and dentist exist | Select patient → Choose dentist and time → Confirm | Booking created | TBD |

#### 5.3 Dentist Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| D-01 | Set availability | Dentist logged in | Go to Schedule → Set times → Save | Calendar updated | TBD |
| D-02 | Upload notes | Appointment exists | Open patient case → Upload note → Save | Note attached to patient profile | TBD |

#### 5.4 Radiologist Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| RD-01 | View assigned case | Cases assigned | Go to Radiology Dashboard | Cases filtered and listed | TBD |
| RD-02 | Generate report | Study exists | Open case → Write report → Save | Report status: Draft or Final | TBD |

#### 5.5 Admin Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| A-01 | Invite user | Admin logged in | Go to User Management → Send Invite | Email with link is sent | TBD |
| A-02 | Assign roles | User exists | Select user → Assign role → Save | Role determines access level | TBD |

#### 5.6 HR Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| HR-01 | Add staff | HR logged in | Go to Staff → Add → Fill form → Save | Staff added to system | TBD |
| HR-02 | Configure shifts | Staff exists | Open Shift Manager → Assign → Save | Shift reflects on calendar | TBD |

#### 5.7 Inventory Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| INV-01 | Add inventory item | Logged in | Go to Inventory → Add item → Save | Item listed in stock table | TBD |
| INV-02 | Alert for low stock | Item below threshold | Decrease quantity → Save | Alert notification triggered | TBD |

#### 5.8 Billing Workflow

| Test Case ID | Title | Pre-Conditions | Test Steps | Expected Results | Actual Result |
| --- | --- | --- | --- | --- | --- |
| B-01 | Generate invoice | Completed appointment | Go to Billing → Create Invoice → Save | Invoice generated and listed | TBD |
| B-02 | Process payment | Unpaid invoice | Click Pay → Enter details → Submit | Status updates to Paid | TBD |

### 6. Execution Strategy

| Suite | Frequency |
| --- | --- |
| Smoke | Every deployment |
| Regression | Nightly |
| Full E2E | Weekly or Pre-release |
| Module-specific | On-demand |

### 7. Maintenance Guidelines

* Page Object Model for structure
* Tags for modular runs (@billing, @admin, etc.)
* Environment configs per test
* Fixtures for mock users/data

### 8. Reporting

* Capture screenshots on failure
* Attach logs + videos
* Allure reports for suite overview
* Export coverage % for tracked workflows

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