**Client Portal Technical Execution Document**

**1. Objectives**

Design and develop a secure, scalable, and user-friendly client portal to streamline communication, data exchange, compliance tracking, and documentation management between your firm and clients.

**2. Core Features**

**2.1 Client Access & Security**

* **Login & Authentication**
  + Username & password (set during onboarding)
  + Optional Two-Factor Authentication (2FA) via email or authenticator app
  + Role-Based Access Control (RBAC) for internal team members
* **Audit Logs**
  + Full logging of login attempts, document views, uploads, downloads, and edits
* **Session Management**
  + Auto-logout after inactivity
  + Concurrent session alerts

**2.2 Client Onboarding**

* **Data Collection**
  + Name, Email, Government ID, Password
  + Client type classification (individual, business, etc.)
* **Master File Generation**
  + Template-driven data record (key activities, compliance deadlines, status)
* **Automated Communication**
  + Predefined welcome email templates with customizable tokens
  + Email copy CC'd to client manager

**2.3 Portal Structure**

* **Dashboard Overview**
  + Client-specific widget view: Tasks, Compliance Status, Notifications
* **Main Sections**
  + **Data Shared to Client**
  + **Data Received from Client**
* **Folder Structure**
  + Hierarchical folders by category (HST, Payroll, Tax Return, etc.)
  + Document tagging (type, deadline, responsible party)

**2.4 Document Sharing & Notifications**

* **Real-Time Notifications**
  + Email triggered on document upload
  + Notifications contain filename, description, date, and uploader
* **Log Entries**
  + Each folder includes a real-time log table (Description, Date, Status)
* **QBO Integration (Optional)**
  + Auto-sync uploads to QBO’s "Attachments" via API
  + Fallback: Internal team member manually syncs docs and updates via notification

**2.5 Client Portal Policies**

* **Backups**
  + Encrypted daily backups stored in a separate cloud bucket (e.g., AWS S3)
* **Document Retention**
  + Retention rules per document category
  + Deletion policies based on compliance (e.g., 7-year tax rule)
* **Audit Trails**
  + Timestamps, user actions, IP address, affected files
  + Exportable as CSV or viewable via Admin Panel
* **Support System**
  + In-portal ticketing system with issue categories and SLA tracking
  + FAQ & documentation panel

**3. Feature Logic / Functional Specs**

**3.1 User Roles & Access**

| **Role** | **Permissions** |
| --- | --- |
| Client | Upload, Download, View Own Files, View Tasks |
| Team Member | Upload, View/Edit Assigned Client Files |
| Client Manager | Full Access to All Assigned Clients |
| Admin | All Access + Manage Users, Logs, Policies |

**3.2 Document Notification Logic**

**When Upload Event Triggered**:

yaml

CopyEdit

IF file uploaded TO folder:

GENERATE notification email:

Subject: "New Document Uploaded: [filename]"

Body: "Description, Folder, Uploaded By, Date"

CC: Client Manager Email

LOG entry in folder's history table

**3.3 Compliance Calendar**

* Predefined activities auto-assigned per client type
* Tasks auto-create reminders (e.g., 7 days before due date)
* Status: Pending, Submitted, Approved, Overdue
* Color-coded progress tracking on Dashboard

**4. Use Cases**

**4.1 Happy Path Scenarios**

| **Scenario** | **Flow** |
| --- | --- |
| Client logs in | Auth > Dashboard > See tasks, notifications |
| Uploads document | Upload > Notification > Log updated > Client Manager notified |
| Onboarding a new client | Admin adds > Client receives welcome > Credentials created |
| Internal review of documents | Team member accesses > Reviews > Updates task status |

**4.2 Edge Cases**

| **Edge Case** | **Handling Strategy** |
| --- | --- |
| File upload failure due to size | Max upload size: 20MB. Larger via secure upload link |
| Client forgets password | Password reset flow with identity verification |
| Duplicate file names | Append timestamp or version number automatically |
| Client uploads to wrong folder | Allow move/delete with comments. Email team for corrections |
| Client inactive post-onboarding | Auto-reminder after X days of inactivity |
| Email not delivered | Fallback alert in dashboard + resend option |
| QBO API failure | Log error, retry with exponential backoff, notify admin |

**5. Tech Stack**

| **Layer** | **Stack / Tool** | **Notes** |
| --- | --- | --- |
| **Frontend** | React.js + Tailwind CSS | Responsive UI, modern UX |
| **Backend** | Node.js (Express.js) | REST API architecture, scalability |
| **Database** | PostgreSQL / MongoDB | Structured data (PostgreSQL) or flexible data (MongoDB) |
| **Auth** | Auth0 / Firebase Auth / Passport.js | 2FA, JWT, OAuth integrations |
| **Storage** | AWS S3 / Google Cloud Storage | Encrypted file storage |
| **Email Service** | SendGrid / Amazon SES | For transactional notifications |
| **Integration** | QuickBooks Online API | For syncing financial documents |
| **Backup** | AWS Backup or Snapshots | Daily encrypted backups |
| **Support** | Freshdesk API / Custom Helpdesk | In-built or 3rd party ticketing |
| **Logging** | Winston + CloudWatch / ELK Stack | Real-time and historical logs |

**6. Additional Modules for Custom Build**

(For future development phase)

* eSignature support (DocuSign API)
* Client KPI dashboard with charts
* Real-time chat/messaging system
* Secure mobile app access

**7. Deployment & Hosting**

* Containerized app using Docker
* CI/CD pipelines (GitHub Actions, CircleCI)
* Deployed on AWS EC2 / Google Cloud Run
* SSL (HTTPS) + CSP, XSS & CSRF Protection

**8. Security & Compliance**

* **Data Encryption**
  + AES-256 at rest, TLS 1.2+ in transit
* **Compliance**
  + GDPR / PIPEDA compliance (depending on jurisdiction)
  + Admin tools to export/delete personal data upon request
* **Penetration Testing**
  + Quarterly automated + annual third-party manual tests

**9. Implementation Roadmap (High-Level)**

| **Phase** | **Timeline (weeks)** | **Deliverables** |
| --- | --- | --- |
| Requirement Finalization | 1 week | Approved spec document |
| UI/UX Design | 2 weeks | Wireframes & Prototypes |
| Backend & DB Setup | 2 weeks | Core logic & schema |
| Authentication | 1 week | Role-based access, 2FA |
| Document Logic | 2 weeks | Upload, notify, log, organize |
| QBO Integration | 1 week (optional) | API setup |
| QA & Testing | 2 weeks | Functional & security testing |
| UAT + Feedback | 1 week | User testing with clients |
| Launch | — | Post-launch support plan, rollout email templates |