

prepare a prototype (flow + structure) for a Document Management System (DMS) based on your detailed workflow (Creator Approver Issuer Controlled Access). -System Flow Chart (process steps) -Module-wise Functionality (dashboard, upload, approval, issuance, access control)-Database Design (sample schema)-User Role Permissions-Technology suggestion for development

Creator Login
 Upload Word Doc (No header/footer)
 Approver reviews doc (with header/footer)
 Decline (add remark)
 Goes back to Creator
 doc (header/footer)
 Issue remark
 Notify All Users
 Assign Control Copy
 NosUsers View/Print Controlled PDF only (No download, traceable by User ID)

Fill Doc Info (ag fields)
 Send to Approver (Notify)
 Approve Document
 Add remarks,
 select sharing dept.
 Send to Issuer (MR)
 Decline (add remark)
 Convert to PDF (Final)
 Auto

Issuer reviews doc
 Add
 Goes back to Creator
 Issue Final Copy
 Add

Responsibility: Module-Wise
 Functional Prototype PlanRoleFeaturesCreatorCreate new document entry, upload Word doc, view pending/returned docs, resubmitApproverView pending approvals, open doc (auto header/footer), approve/reject, add remarks, assign departmentsIssuer (MR)View approved docs, issue/reject, add final remark, track issued documentsUser/RecipientView issued documents (PDF only), print with control footerAdminManage users, roles, departments, track logs, export reportsThere is some conditions: -Auto reminders for revision (based on due period)-Comparison tool (old vs. revised doc)-Version history tracking-Export to Excel logs (per user or document)-QR code footer for authenticity

About Database table

need:usersColumnTypeDescriptionuser_idINT (PK)Unique usernameVARCHARUser nameroleENUM('Creator','Approver','Issuer','User','Admin')RoledepartmentVARCHARDept nameemailVARCHARNotification documentsColumnTypeDescriptiondoc_idINT (PK)Unique documentdoc_nameVARCHARSOP/Format namedoc_numberVARCHARUnique doc codedate_of_issueDATEIssue daterevision_noINTRevision countdue_period_yearsINTReview reminderprepared_byINT (FK)Creator IDreason_revisionTEXTRevision reasonfile_pathVARCHARUploaded filestatusENUM('Pending','Approved','Declined','Issued')Current statusapprover_idINT (FK)Assigned approverissuer_idINT (FK)Assigned issuer document_logColumnTypeDescriptionlog_idINT (PK)Log entrydoc_idINT (FK)Related documentuser_idINT (FK)Who performed actionactionVARCHARCreated, Approved, Declined, IssuedremarksTEXTAction remarksdate_timeDATETIMETimestamp

document_accessColumnTypeDescriptiondoc_idINT (FK)Documentuser_idINT (FK)Recipientcontrol_copy_noVARCHARAuto serial copy no.view_accessBOOLEANCan view PDFprint_accessBOOLEANCan print PDFprint_dateDATETIMETrack printed date FeatureCreatorApproverIssuerRecipientAdminCreate DocApprove DocIssue DocView PDF (Issued only)View Previous Revisions (Master copy)Export LogsLayerTechnologyFrontend (Web UI)React.js / Next.js (with Role-based Dashboard)Backend APINode.js (Express) or ASP.NET CoreDatabasePostgreSQL / SQL ServerFile StorageLocal folder or AWS S3 / Supabase StorageNotificationsEmail + In-app popup via Socket.io or Supabase RealtimeDocument ConversionLibreOffice / Word API PDF (with watermark + control footer)Audit LoggingAutomatic via middleware (store all user actions)