

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

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|---------------|---------------------------|
| Creator Login | Fill Doc Info (ag fields) |
|---------------|---------------------------|

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| Upload Word Doc (No header/footer) | Send to Approver (Notify) |
|------------------------------------|---------------------------|

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| Approver reviews doc (with header/footer) | Approve Document |
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| Decline (add remark) | Add remarks, |
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| Goes back to Creator | select sharing dept. | Send to Issuer (MR) | Issuer reviews |
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| doc (header/footer) | Issue Final Copy | Decline (add remark) | Add |
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| Issue remark | Goes back to Creator | Convert to PDF (Final) | Auto |
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| Notify All Users | Assign Control Copy NosUsers View/Print Controlled PDF only | (No download, traceable by User |
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ID)-----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)