Document and Task Management

Software Architect

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What we know?

The system shall:

- Allow a user to add documents
- Version documents
- Allow a user add tasks to a document
- Allow a user to download a document

Extracted from Skill Assessment Email

What we need to considerate

- UI currently with design
- Product started stories but **needs to ensure technical solution before continuing**
- Solution needs to consider how integrations with client document management will be affected / handled
- This roadmap item is critical to new client launch, which is expected to be completed by october.

Extracted from Skill Assessment Email

Let’s create a solution!

1. We need to define a **Solution** including **Architect Documentation**.
2. The solution must support Customer integrations.
3. The solution must be a **MVP**.

About the **Backend/Frontend** Premises

We have a existing code base

This solution will be integrated with existing project framework and libraries.

We are using Laravel and Vue

This solution can use framework components and patterns.

We have a MySQL and Redis

We have persistent and non-persistent storage.

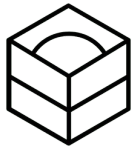
We are using the Cloud and Continuous Integration/Deployment

We can consume AWS and the solution must consider testing and deployment instructions.

About the **Solution**

About the **Solution**
Definitions

Models



Are classes designed to work with database information

Observers

Are classes designed to react on models events dispatching

Policies

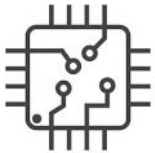
Are classes designed to authorize user actions

Storages

Are classes designed to implement customer storage adapters

About the **Solution**
More Definitions

Controllers



Are classes designed to interact with models and returns HTTP responses

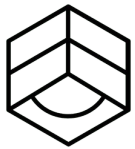
Components

Are classes or definitions which doesn't have any dependencies.

Requests

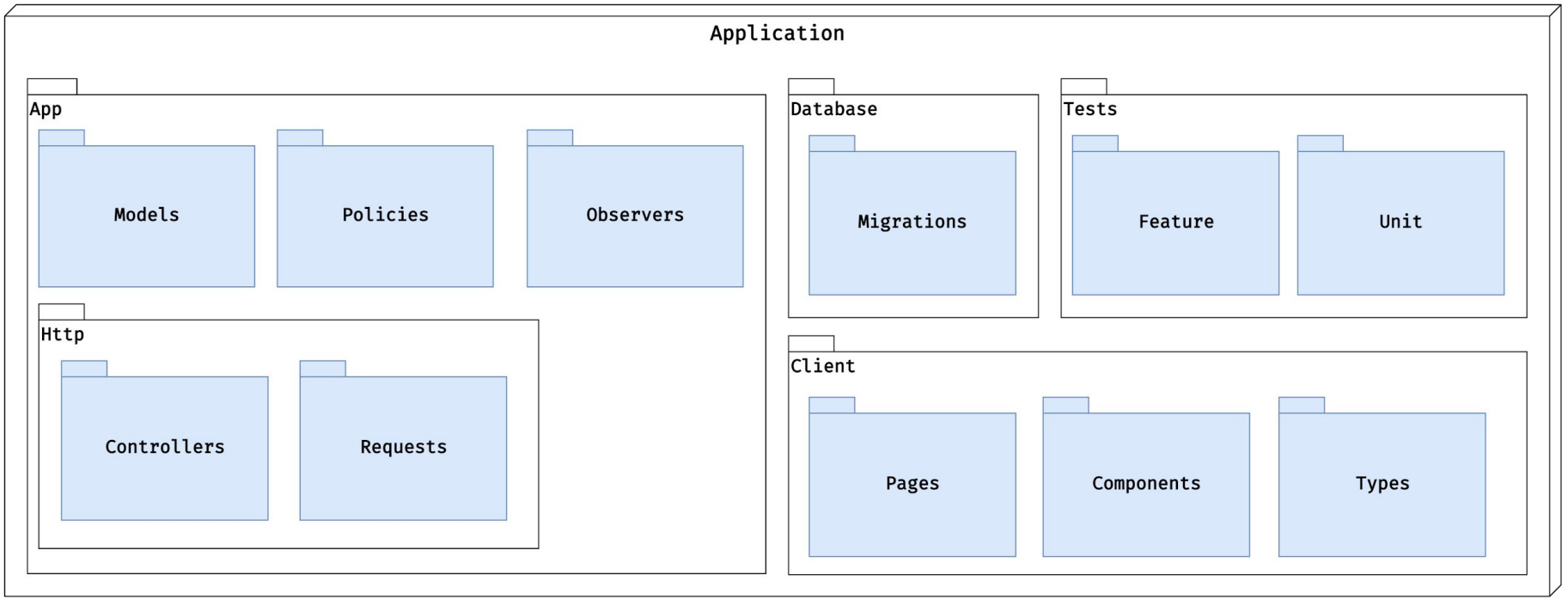
Are classes designed to authorize and validates HTTP requests and payloads

Types

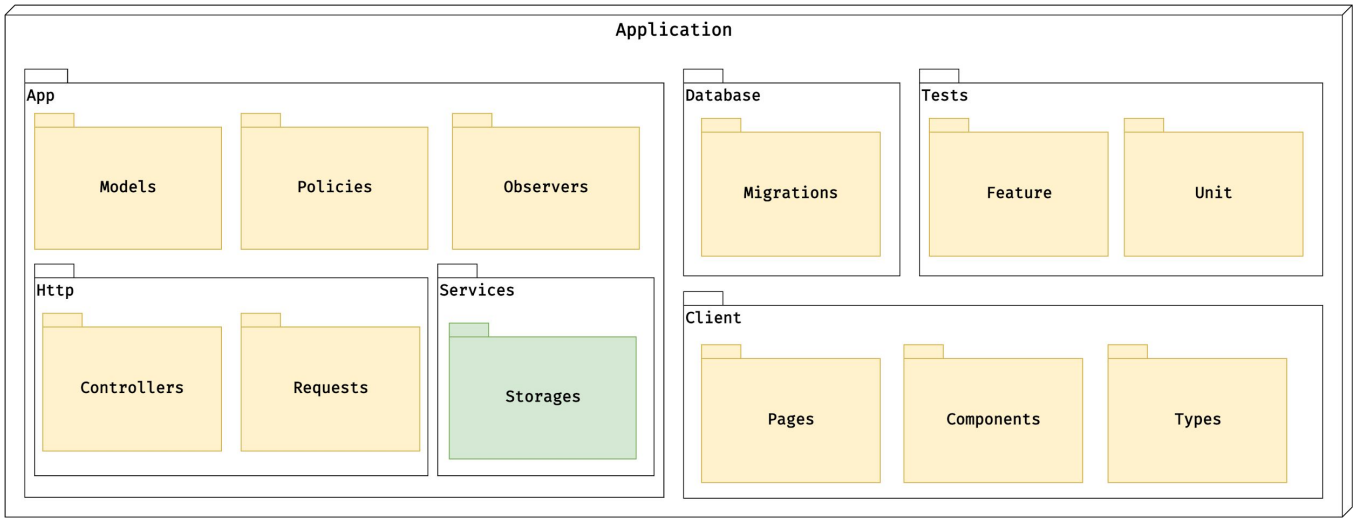


Are TypeScript models designed to store application instances states.

Existing Project Structure



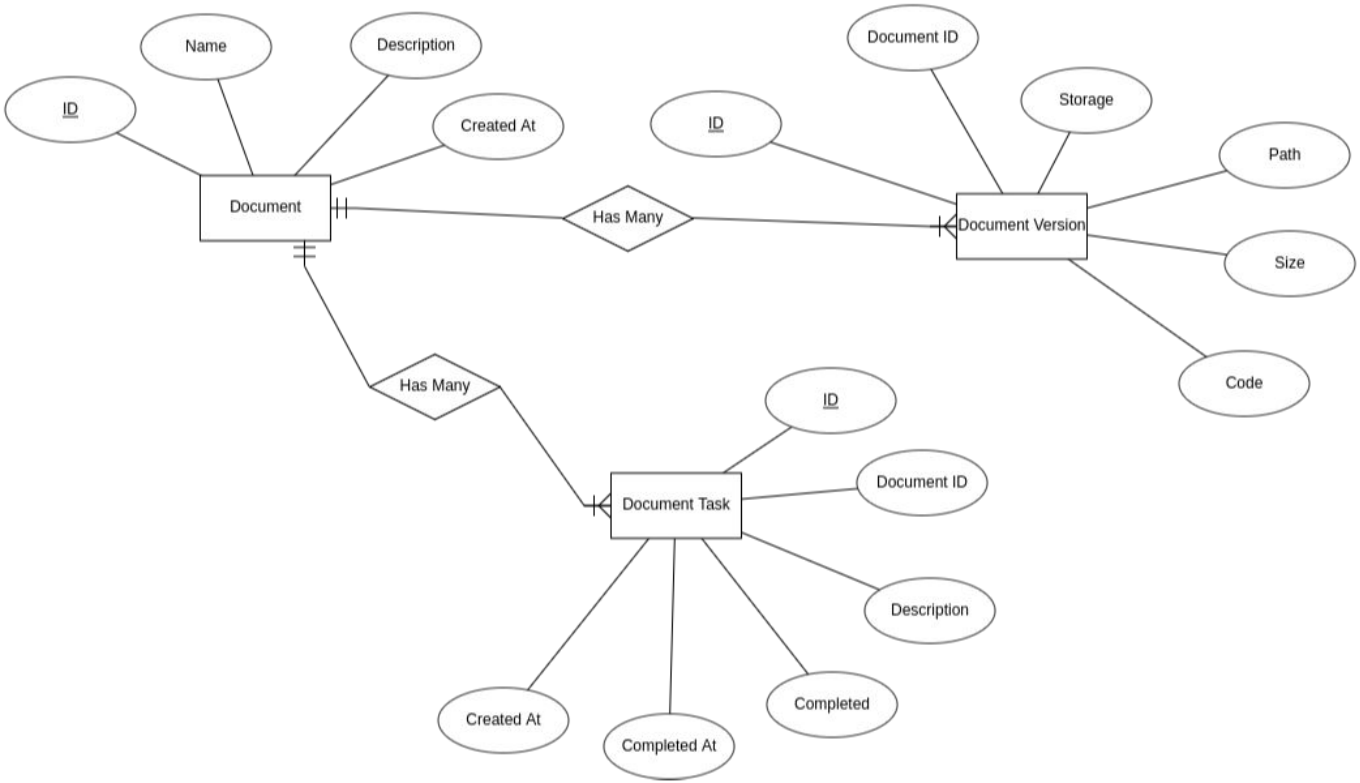
Proposed Project Structure



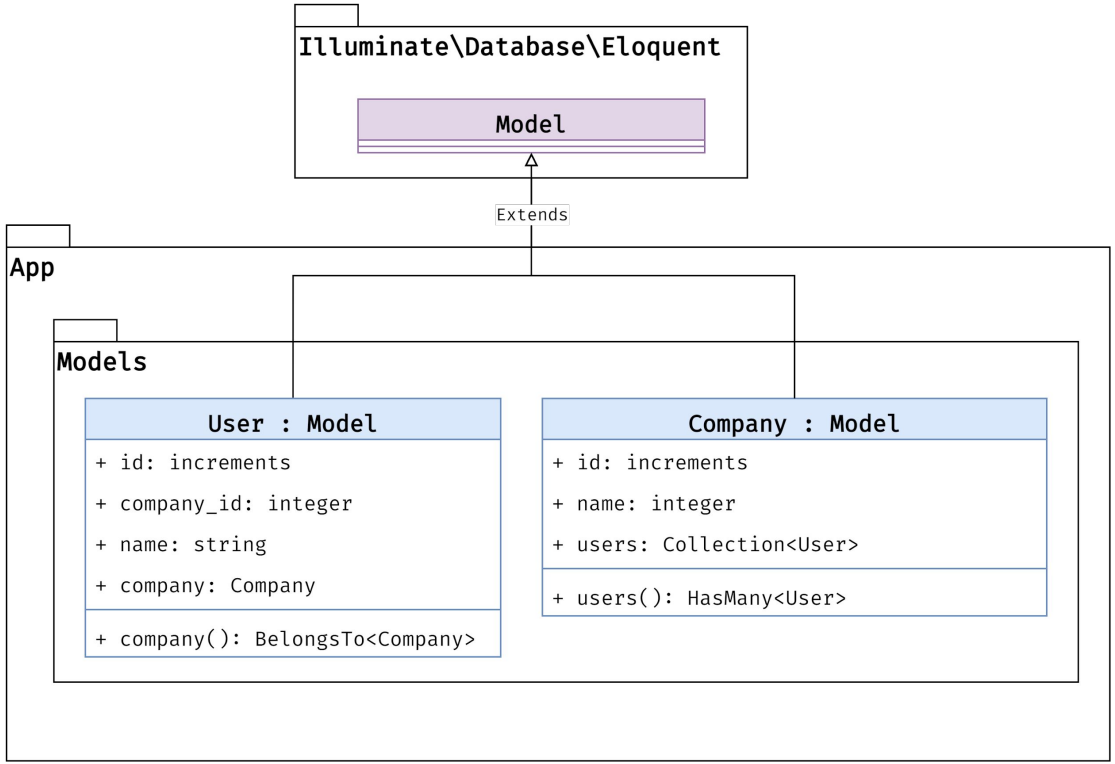
Note

Yellow are touched packages and Green are new packages.

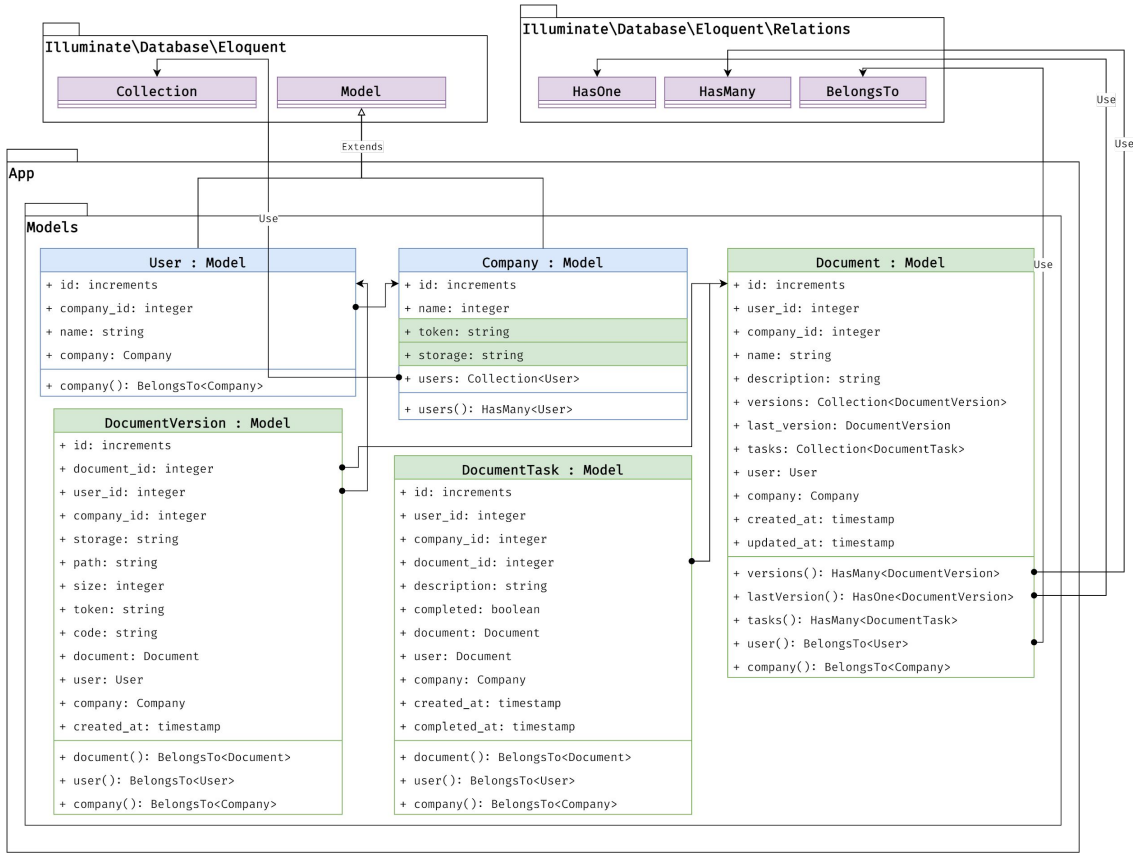
Expected Entities



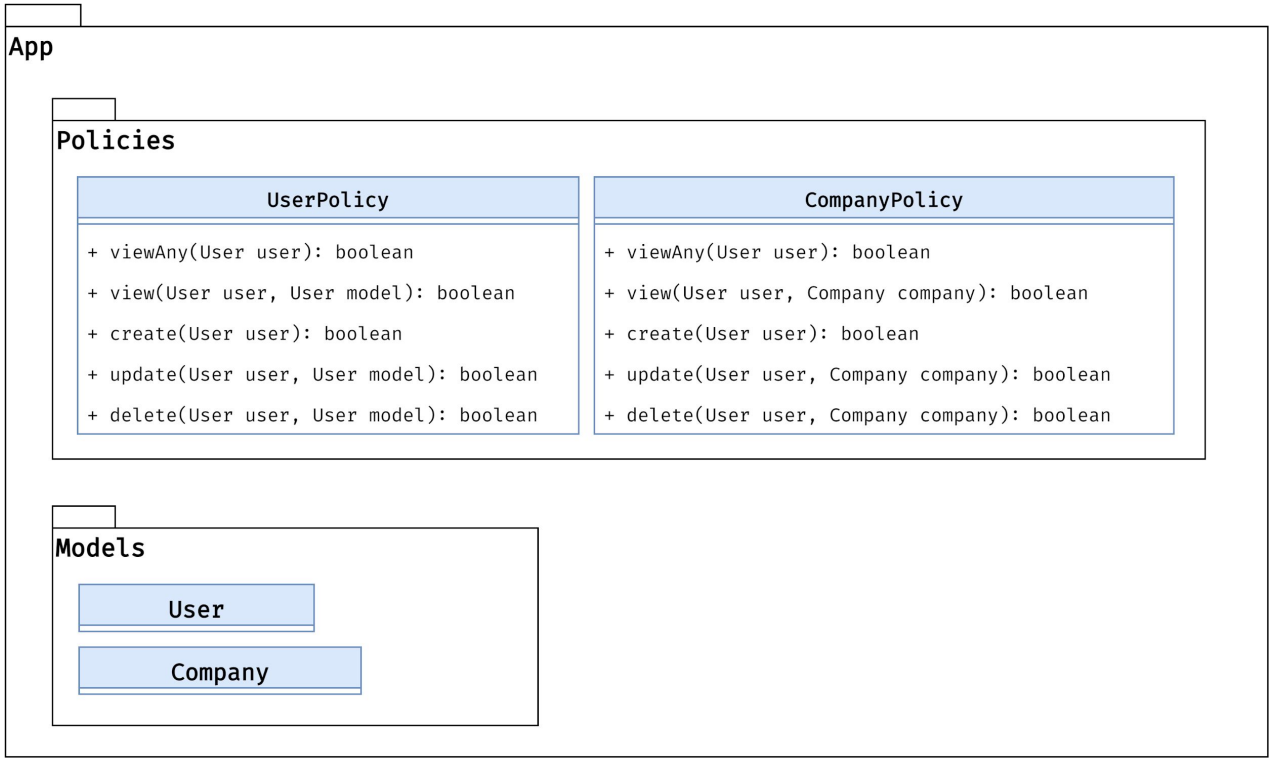
Expected Models



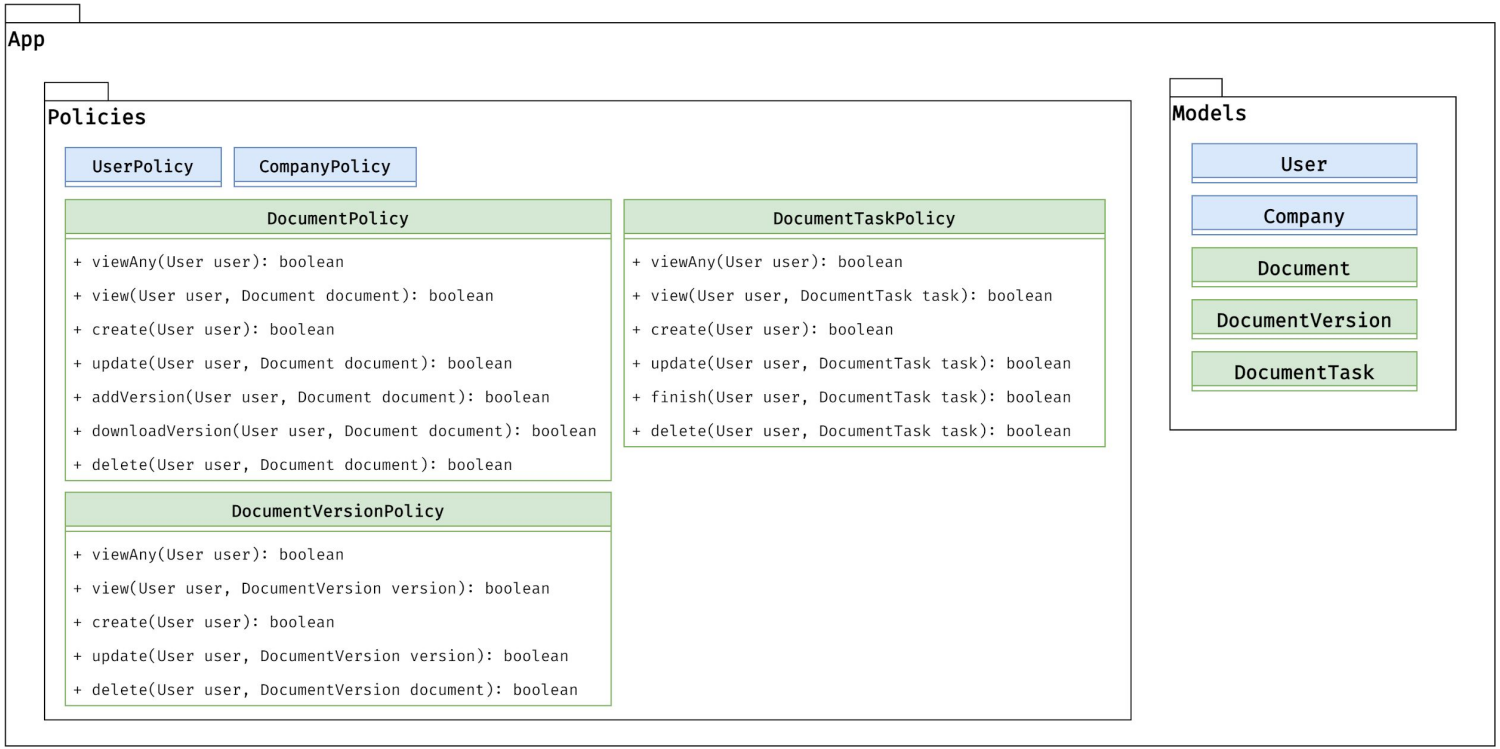
Proposed Models



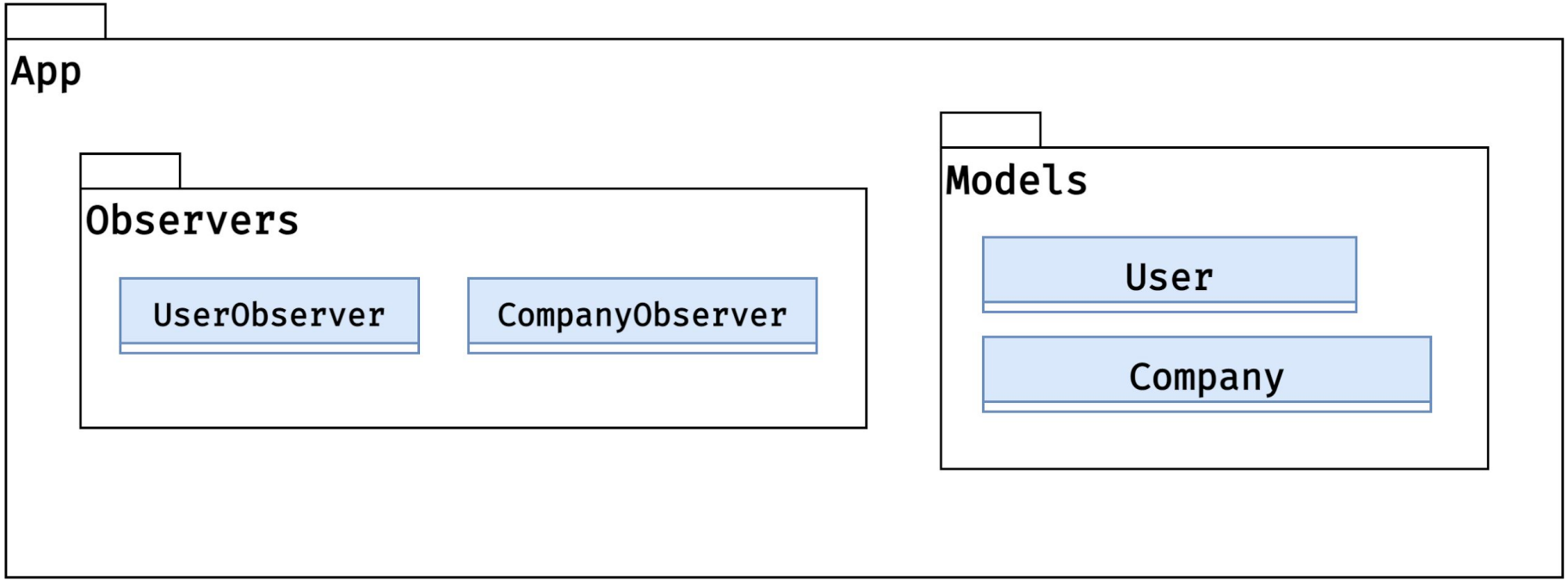
Expected Policies



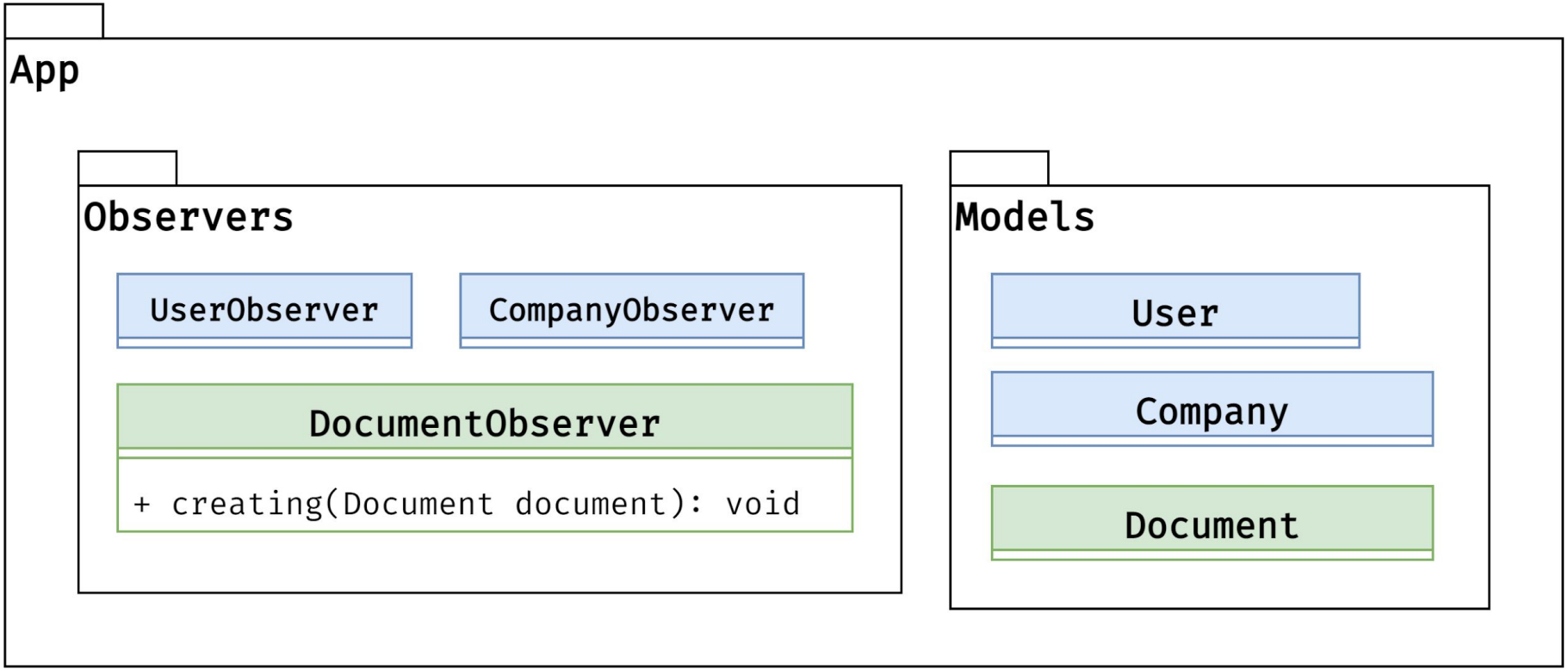
Proposed Policies



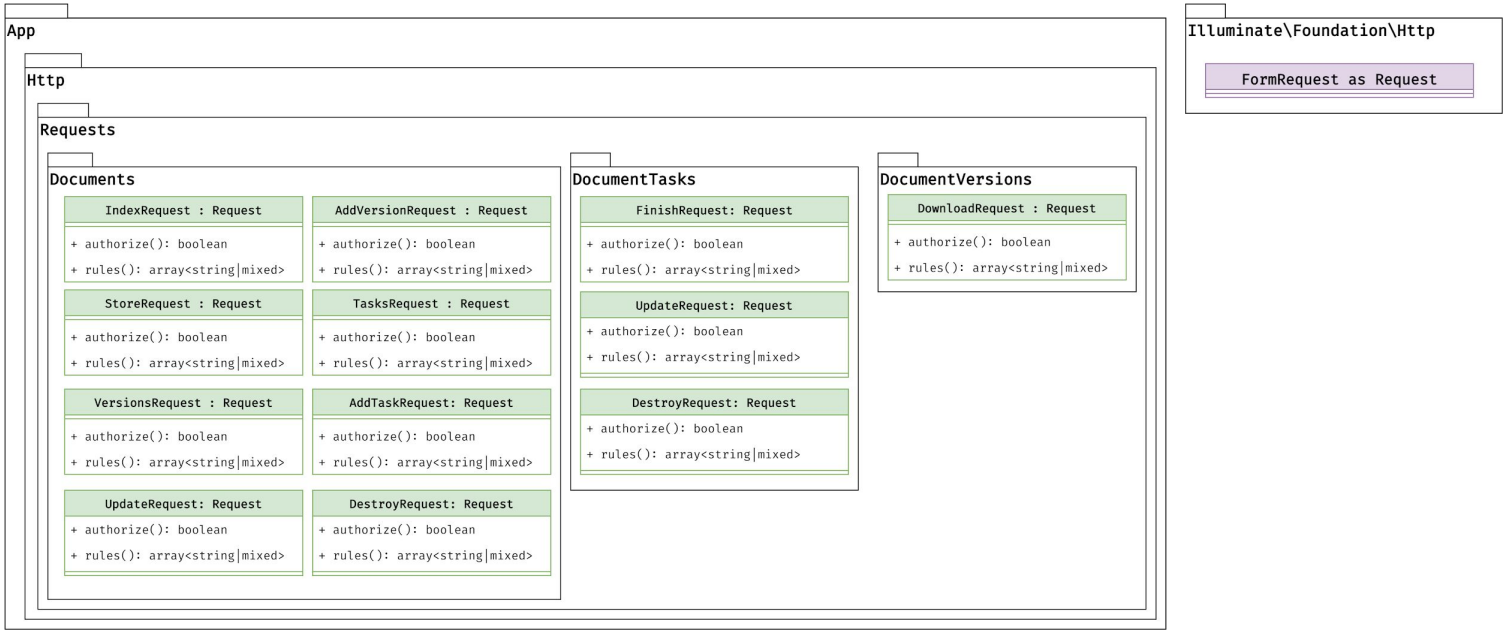
Expected Observers



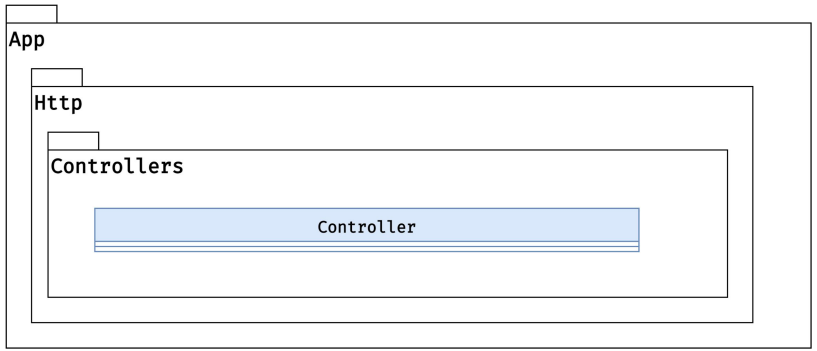
Proposed Observers



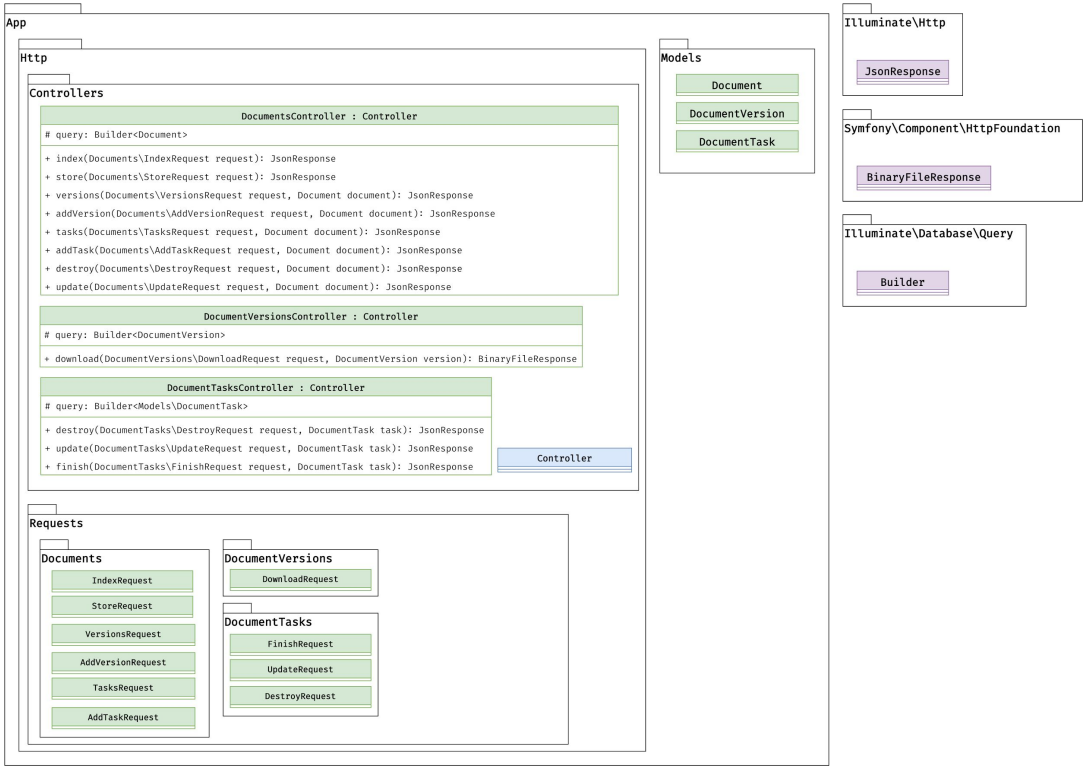
Proposed Requests



Expected Controllers

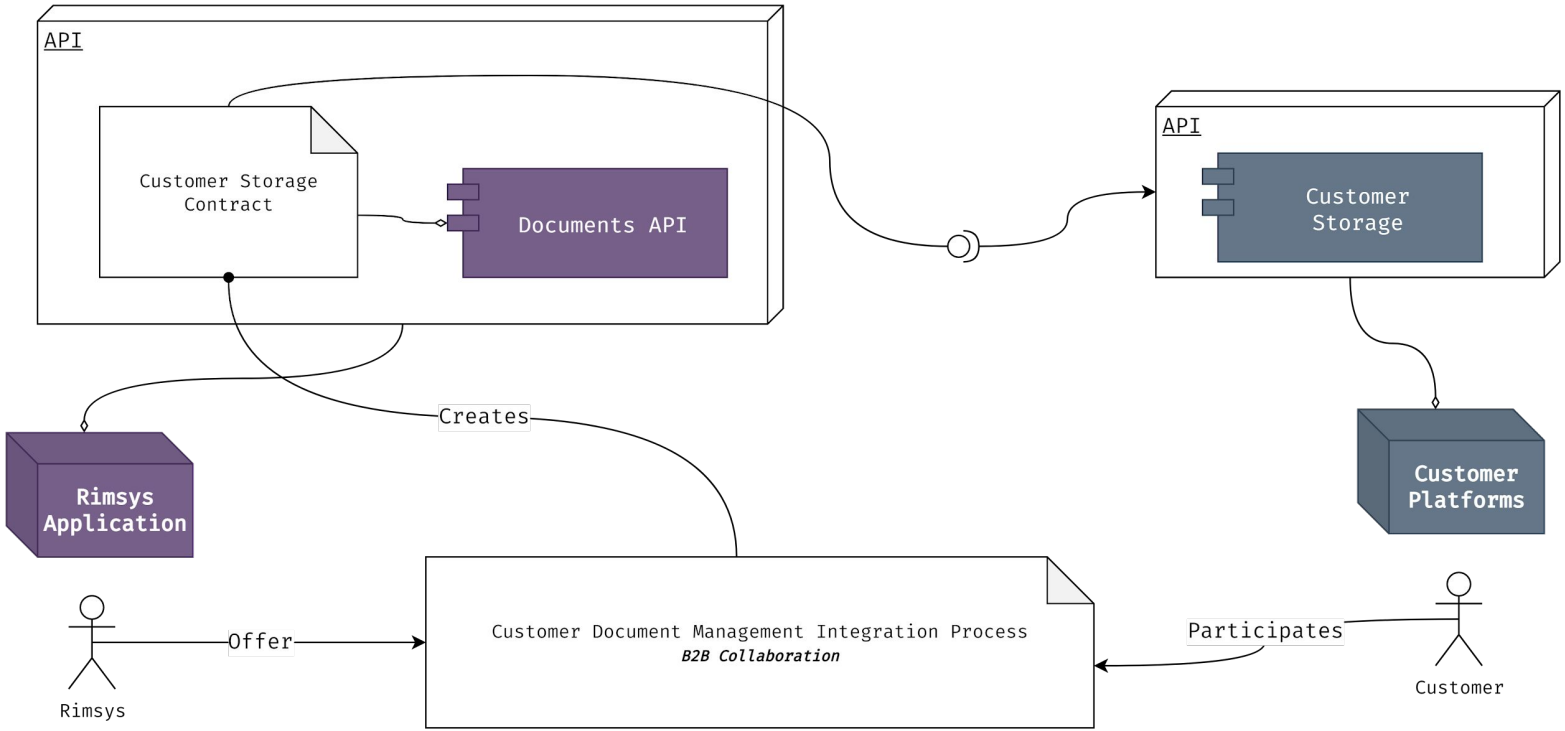


Proposed Controllers

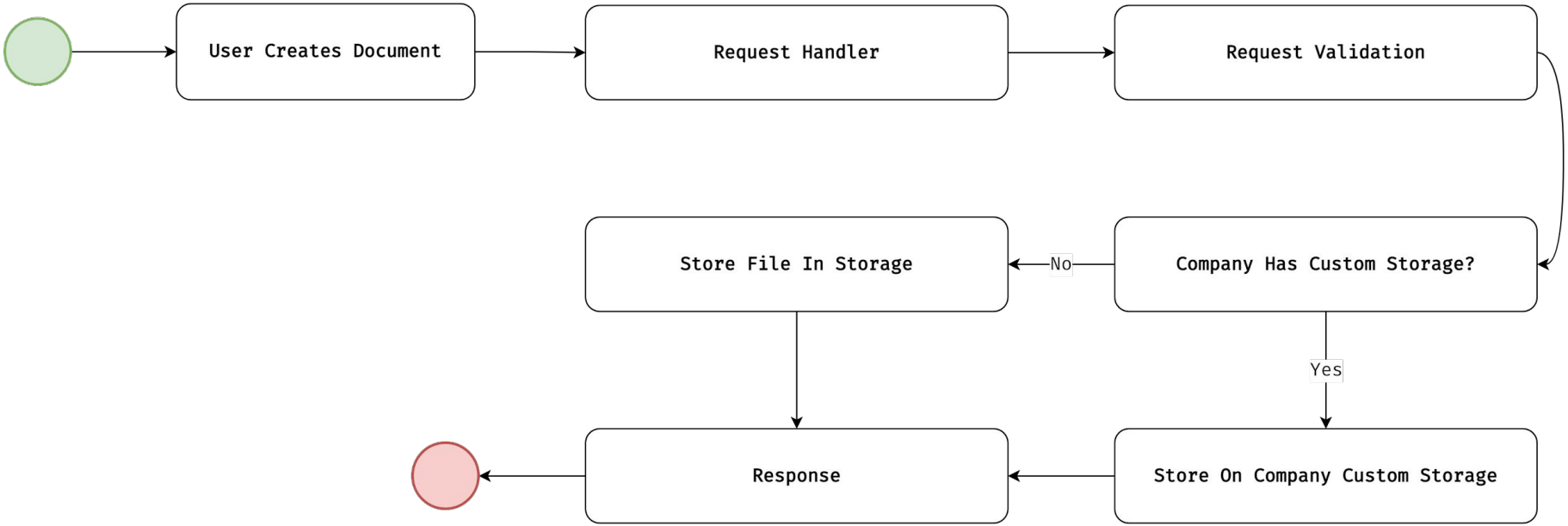


About the **Storage**

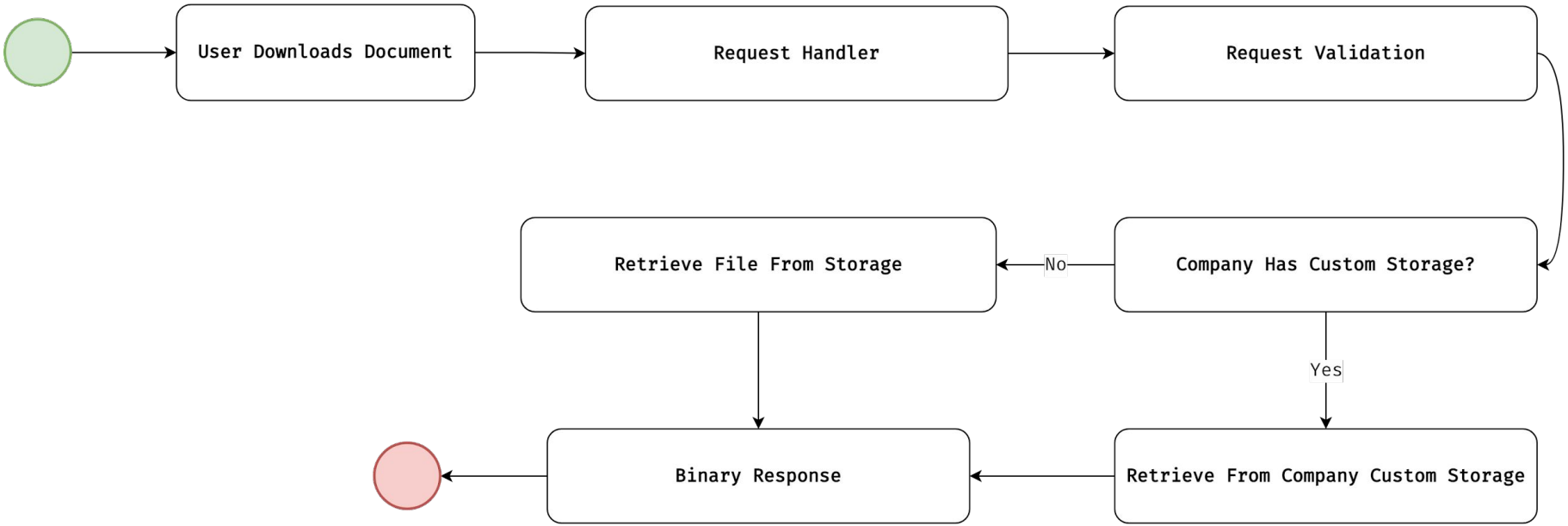
Overview


API
Customer Storage Contract
Documents API
API
Customer Storage
Creates
Rimsys Application
Customer Platforms
Rimsys
Offer
Customer Document Management Integration Process
B2B Collaboration
Participates
Customer

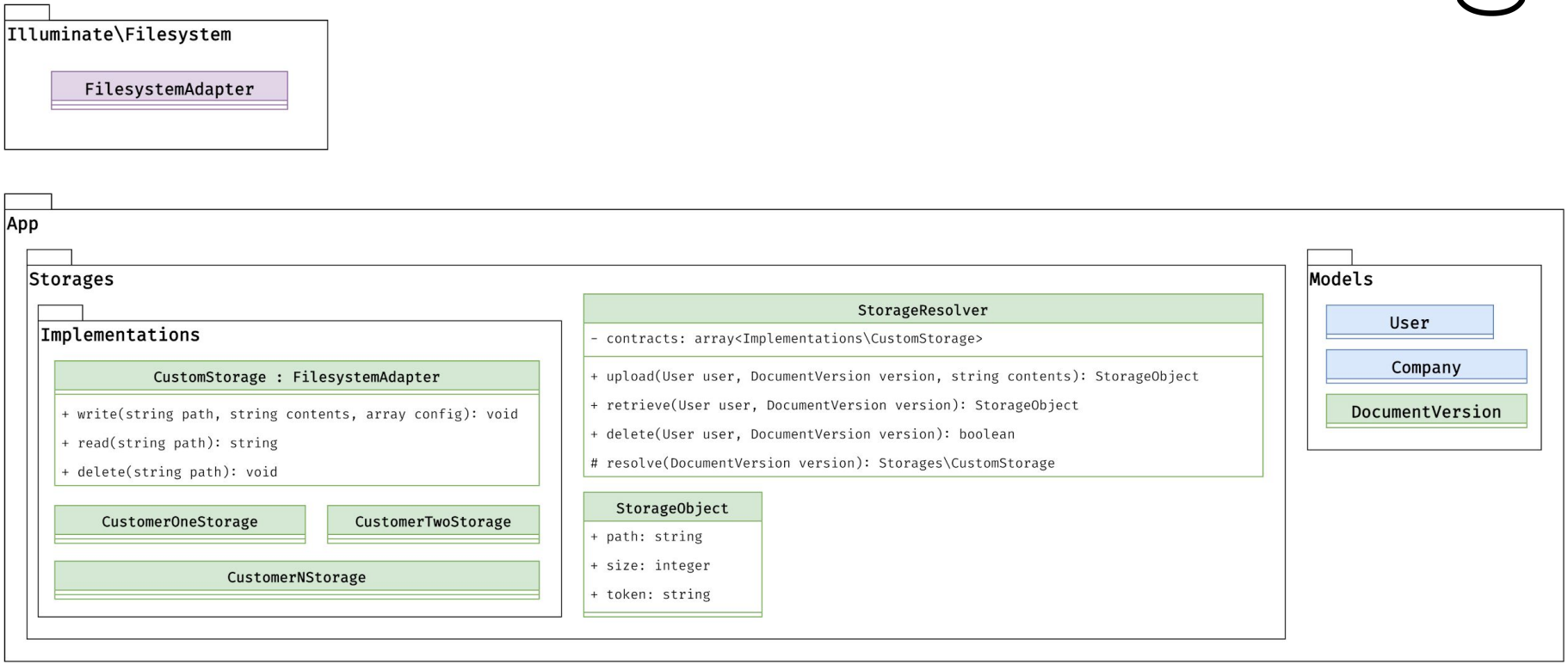
How Works?


User Creates Document
Request Handler
Request Validation
Company Has Custom Storage?
No
Store File In Storage
Yes
Store On Company Custom Storage
Response

What about download?



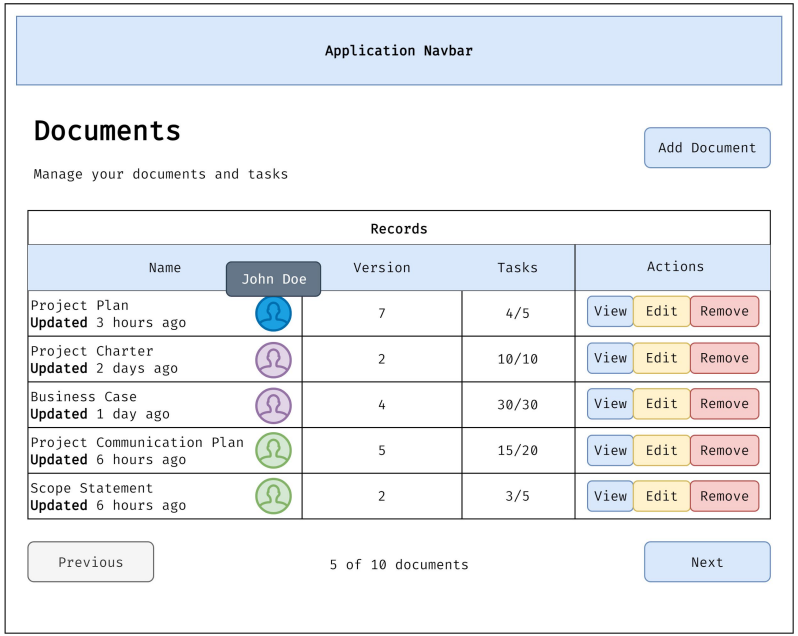
Proposed Solution



About the **Frontend**

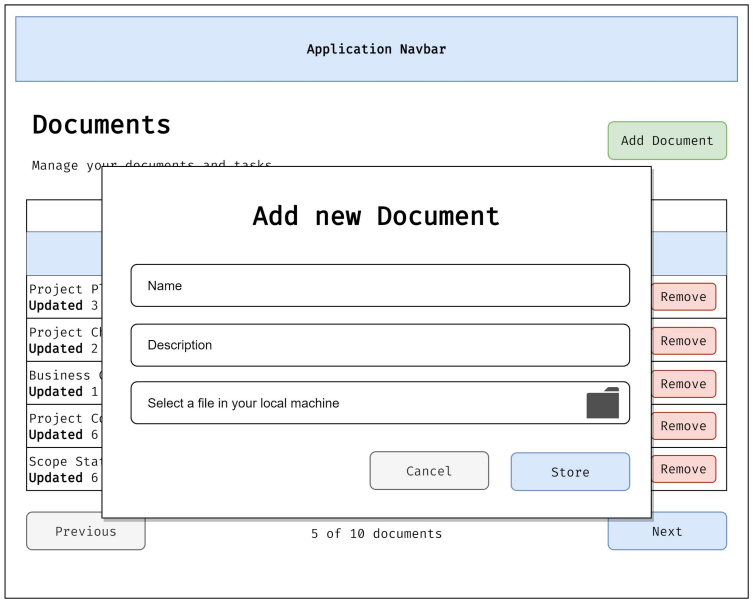
About the **Frontend**
Proposed UI : Documents

Documents List



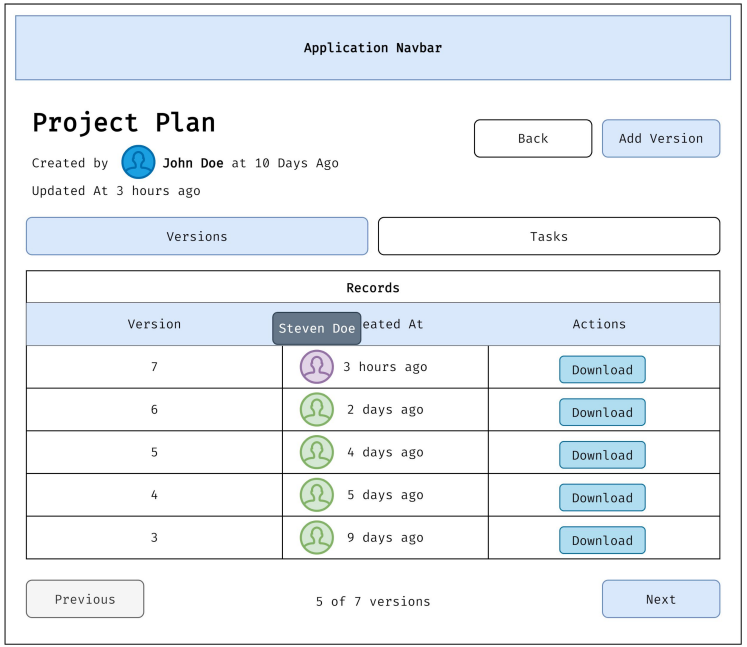
About the **Frontend**
Proposed UI : Add Documents

Add Documents



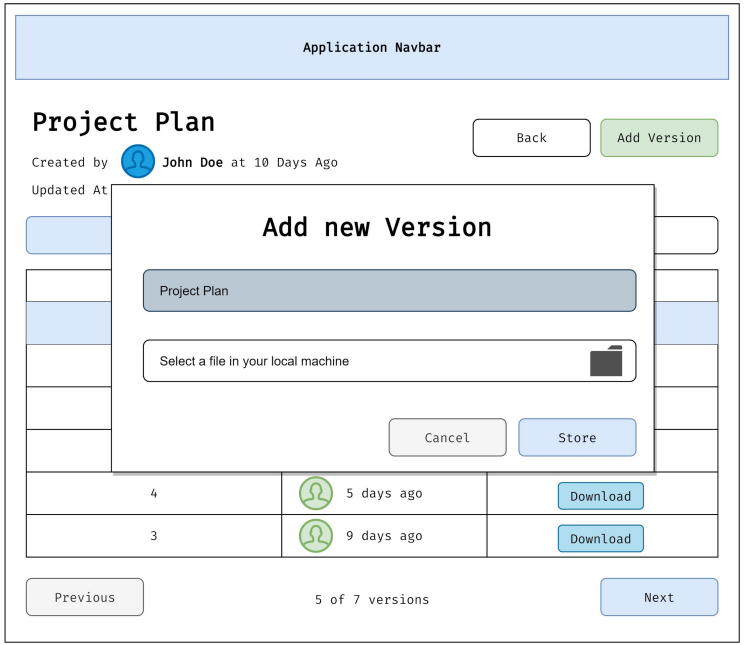
About the **Frontend**
Proposed UI : Versions

Document Versions



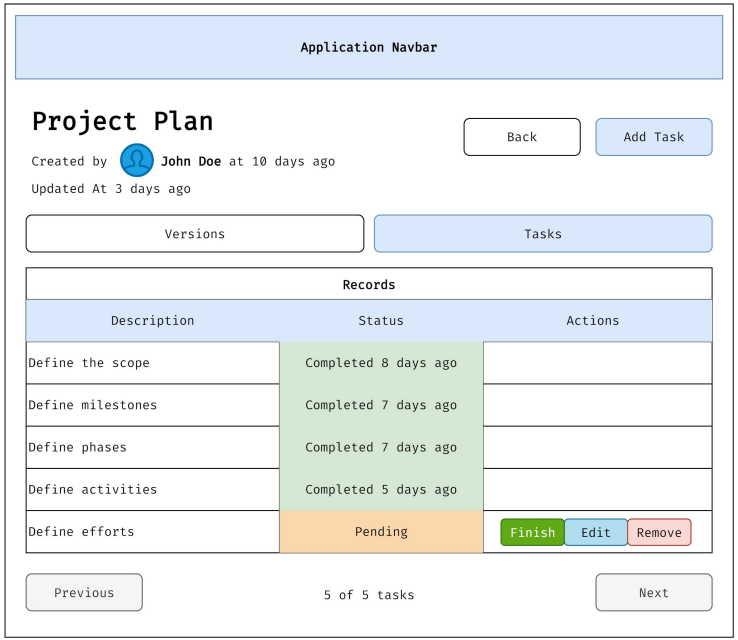
About the **Frontend**
Proposed UI : Add Versions

Add Version



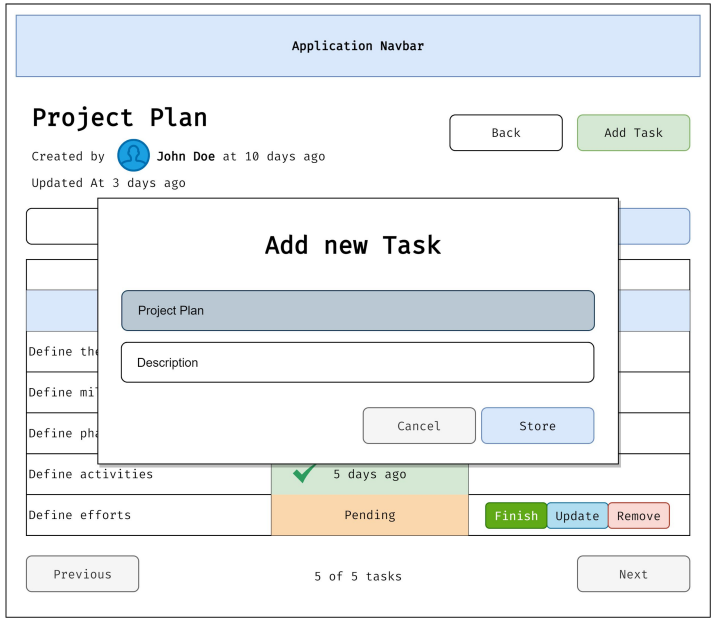
About the **Frontend**
Proposed UI : Tasks

Document Tasks

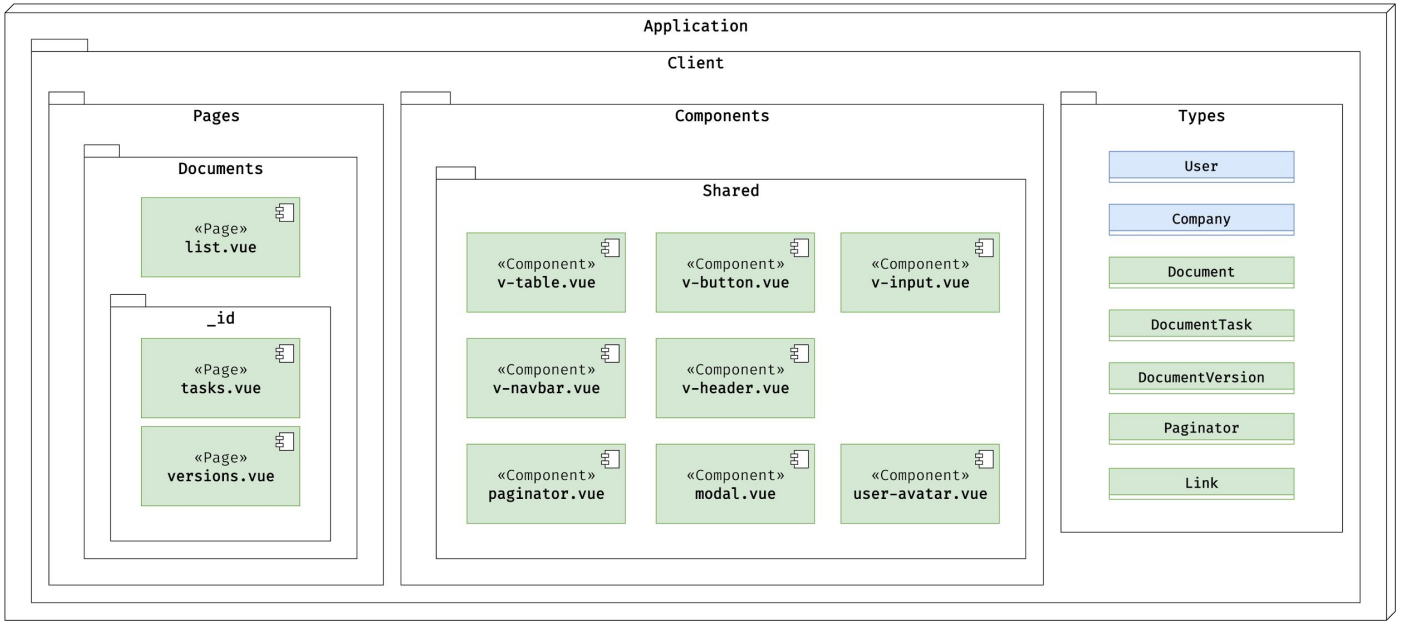


About the **Frontend**
Proposed UI : Add Task

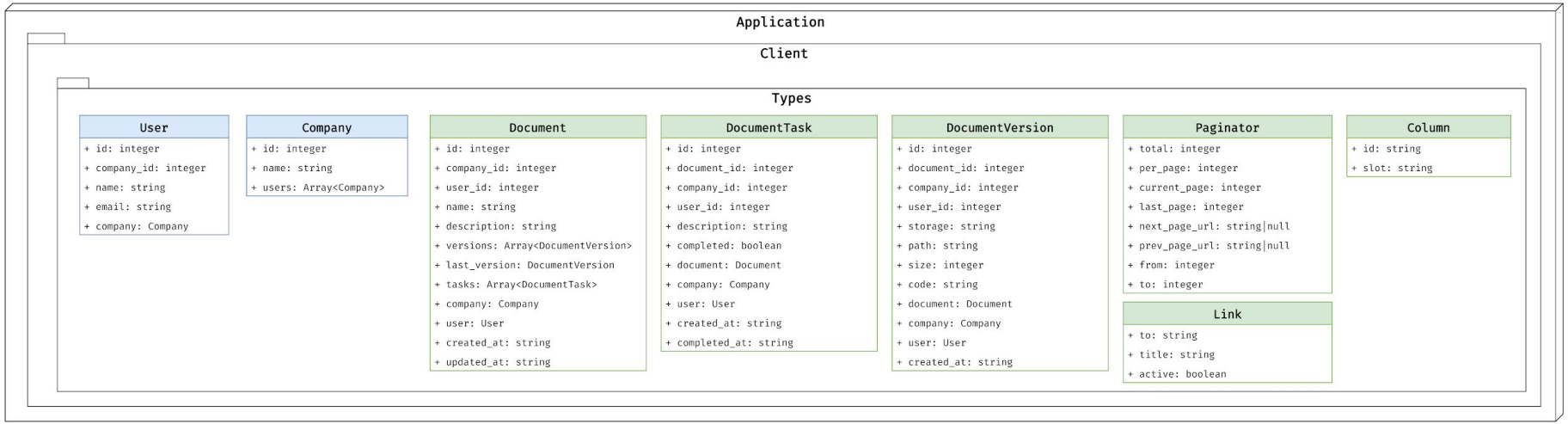
Add Task



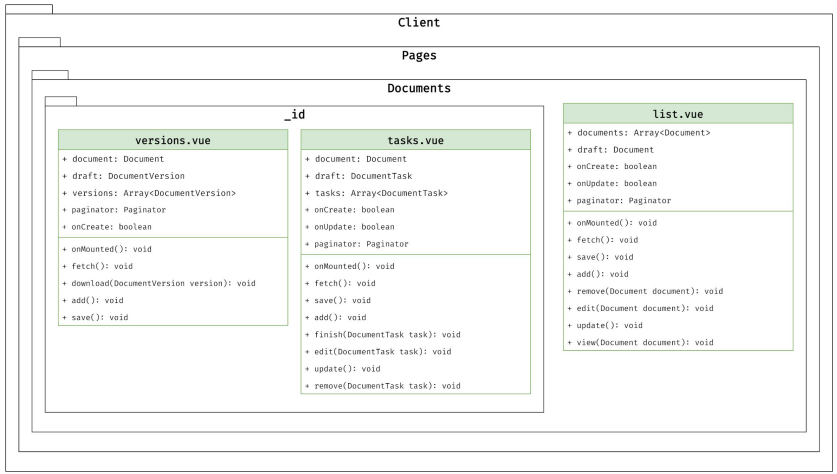
Proposed **Components**



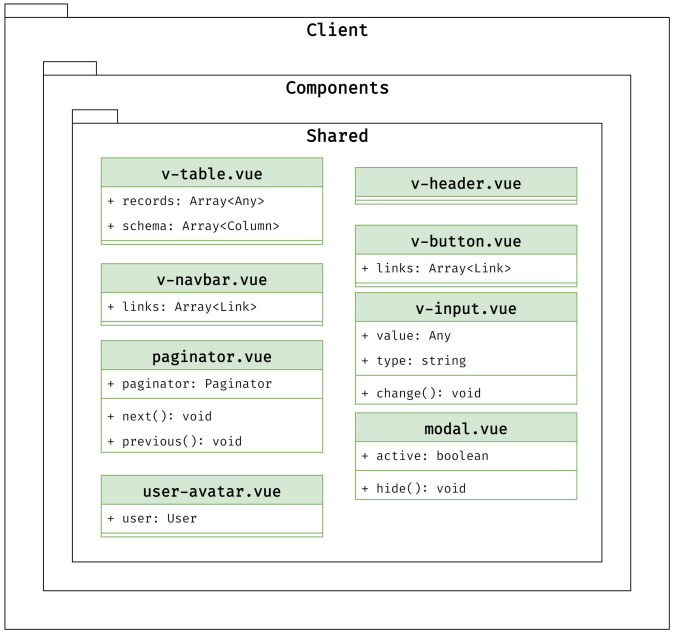
Proposed **Types**



Proposed **Pages**



Proposed **Components**



About the **Resources**

About the **Resources**
Basic premises

We have a Product Team and Development Team

Development Team knows about:

- PHP/Laravel
- Nuxt / Vue.js
- MySQL/Redis
- AWS/Kubernetes
- GitHub Actions/ArgoCD

We have UI design resources.
We don’t need define guidelines,
We need to use it.

About the **Planning and Estimation**

About the **Planning and Estimation** Basic premises

1. We have 1 week sprints.
2. We have almost 3 weeks.
3. We can estimate using 1 to 10 points of efforts:
    a. 1 is too easy and takes 1 hour.
    b. 3 is almost easy but takes 6 hours.
    c. 5 is not easy/hard and takes more than a day.
    d. 7 is a little bit hard and takes more than 2 days.
    e. 10 is hard so takes like 1 week.
4. We can prioritize using 1 to 10 points:
    a. 1 is a not prioritized task.
    b. 5 is a medium prioritized task.
    c. 10 is absolute relevant task and must be done ASAP.
5. We can assign the last week for bug fixes / fast tracking sprint

The **Stories**

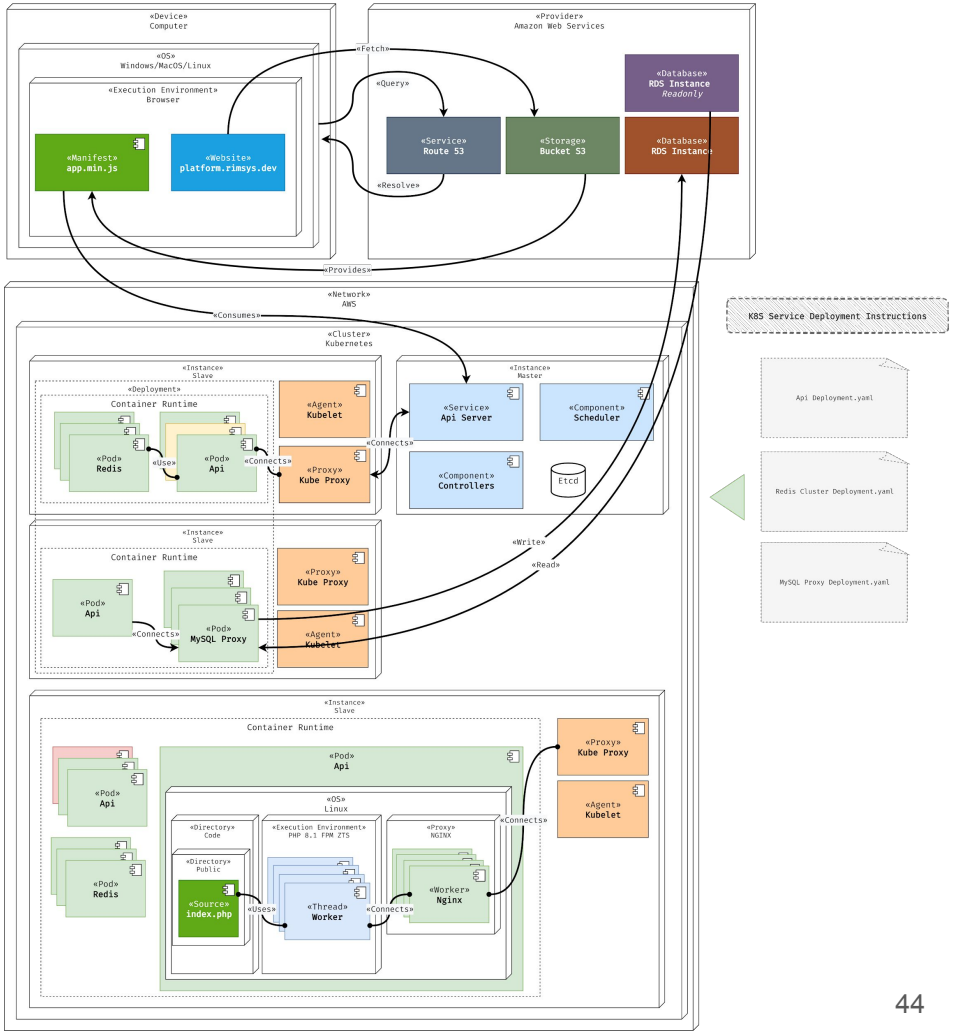
ID	Role	Goal	Benefit	Acceptance Criterias	Stories Dependencies	Tasks Dependencies
1	As a User	I want to view all the documents	So I can see the documents state	1. The documents must be listed using a paginated table. 2. The documents must be filtered by the user company and sorted by the updated at descendant. 3. The table must show: 3.1. The document name. 3.2. The document updated at. 3.3. The user who creates the document. 3.4. The last version number or code. 3.5. The number of related completed tasks and the total number. 3.6. The available actions for every document.	None	Backend Tasks 1, 2, 3, 7, 11 Frontend Tasks 12, 13, 14, 15, 16, 17, 18, 19
2	As a User	I want to add documents	So I can push local files as documents to the system	1. The documents must be created individually using a form. 2. The form must be displayed on a triggered modal view by pressing "Add document" button. 3. The form must include: 3.1. The document name field. 3.2. The document description field. 3.3. The local file field. 4. The local file must be used to create the first document version. 5. The document version code must be 1. 6. The create must be finish when the user confirms the creation by pressing "Store" button at the modal. 6.1. The documents list must be reloaded after the create. 6.2. The modal must be disappear when the list is fully loaded. 7. The create can be cancelled by pressing "Cancel" button at the modal to hide the form.	1	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 21
3	As a User	I want to update documents	So I can change the document details	1. The documents must be updated individually using a form. 2. The form must be displayed on a triggered modal view by pressing "Edit" button on the document table row. 3. The form must include: 3.1. The existing document name field. 3.2. The existing document description field. 4. The update must be finish when the user confirms the change by pressing the "Update" button at the modal. 4.1. The document updated at attribute must be change to the current timestamp. 4.2. The documents list must be reloaded after the update. 4.3. The modal must be disappear when the list is fully loaded. 5. The update can be cancelled by pressing "Cancel" button at the modal to hide the form.	1	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 24
4	As a User	I want to remove documents	So I can delete unused documents	1. The documents must be deleted individually using a form. 2. The form must be displayed on a triggered modal view by pressing "Remove" button on the document table row. 3. The form must include: 3.1. The warning message of the irreversible effect of the action. 3.2. The document name as readonly field. 4. The remove must be finish when the user confirms the delete by pressing the "Delete" button at the modal. 4.1. The documents list must be reloaded after the deletion. 4.2. The modal must be disappear when the list is fully loaded. 5. The remove can be cancelled by pressing "Cancel" button at the modal to hide the form.	1	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 27
5	As a User	I want to view the document versions	So I can see the document changes over the time	1. The versions must be appear by pressing "View" on button on the document table row. 2. The versions must be listed using a paginated table and sorted by the version code descendant. 3. The versions must be filtered by selected document and user company. 4. The table must show: 4.1. The version code. 4.2. The version created at. 4.3. The user who creates the version. 4.4. The available actions for every version.	1	Backend Tasks 1, 2, 4, 7, 11 Frontend Tasks 12, 13, 14, 15, 16, 17, 18, 19
6	As a User	I want to add document versions	So I can update documents to the system using local files	1. The versions can be created when the user is looking the document versions. 1. The versions must be created individually using a form. 2. The form must be displayed on a triggered modal view by pressing "Add version" button. 3. The form must include: 3.1. The document name field as readonly field. 3.2. The local file field. 5. The version code must be the document last version plus one. 6. The create must be finish when the user confirms the creation by pressing "Store" button at the modal. 6.1. The versions list must be reloaded after the create. 6.2. The modal must be disappear when the list is fully loaded. 7. The create can be cancelled by pressing "Cancel" button at the modal to hide the form.	1, 5	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 22
7	As a User	I want to download document versions	So I can retrieve documents from the system storage	1. The versions can be download when the user is looking the document versions. 2. The version download must be triggered by pressing "Download" button on the version available actions.	1, 5	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 20
8	As a User	I want to view the document tasks	So I can see the pending and completed work	1. The tasks must be appear by pressing "Tasks" at the navigation when the user is looking the document versions. 2. The tasks must be listed using a paginated table. 3. The tasks must be filtered by the user company and sorted by the completed_at ascendent and the updated_at descendant showing the not completed first. 4. The table must show: 4.1. The task description. 4.2. The task status and it is completed must include the updated_at timestamp if not then must include the created_at timestamp. 4.3. The available actions for every task.	1, 5	Backend Tasks 1, 2, 5, 7, 11 Frontend Tasks 12, 13, 14, 15, 16, 17, 18, 19
9	As a User	I want to add document tasks	So I can define pending work to be done on the document	1. The tasks can be created when the user is looking the document tasks. 2. The tasks must be created individually using a form. 3. The form must be displayed on a triggered modal view by pressing "Add task" button. 4. The form must include: 4.1. The document name field as readonly field. 4.2. The task description field. 5. The create must be finish when the user confirms the creation by pressing "Store" button at the modal. 5.1. The tasks list must be reloaded after the create. 5.2. The modal must be disappear when the list is fully loaded. 6. The create can be cancelled by pressing "Cancel" button at the modal to hide the form.	1, 5, 8	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 23
10	As a User	I want to update document tasks	So I can change the task description	1. The tasks can be updated when the user is looking the document tasks. 1. The tasks must be updated individually using a form. 2. The form must be displayed on a triggered modal view by pressing "Edit" button on the task available actions. 3. The form must include: 3.1. The existing document name as readonly field. 3.2. The existing task description field. 4. The update must be finish when the user confirms the change by pressing the "Update" button at the modal. 4.2. The tasks list must be reloaded after the update. 4.3. The modal must be disappear when the list is fully loaded. 5. The update can be cancelled by pressing "Cancel" button at the modal to hide the form.	1, 5, 8	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 25
11	As a User	I want to remove document tasks	So I can delete non-required tasks	1. The tasks must be deleted individually using a form. 2. The form must be displayed on a triggered modal view by pressing "Remove" button on the task available actions. 3. The form must include: 3.1. The warning message of the irreversible effect of the action. 3.2. The document name as readonly field. 3.2. The task description as readonly field. 4. The remove must be finish when the user confirms the delete by pressing the "Delete" button at the modal. 4.1. The tasks list must be reloaded after the deletion. 4.2. The modal must be disappear when the list is fully loaded. 5. The remove can be cancelled by pressing "Cancel" button at the modal to hide the form.	1, 5, 8	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 28
12	As a User	I want to finish document tasks	So I can marks pending task as completed	1. The tasks can be finished when the user is looking the document tasks. 2. The tasks finish must be triggered by pressing "Finish" button on the version available actions.	1, 5, 8	Backend Tasks 1, 2, 3, 6, 7, 11 Frontend Tasks 13, 15, 17, 18, 19, 26
13	As a User	I want to have custom document management integration	So I can implement the system with my existing systems	1. The documents versions files must be stored on the customer existing document systems when are created.	None	Backend Tasks 1, 2, 3, 4, 6, 8, 9, 10

The **Tasks**

ID	Requirements	Type	Scope	Estimation	Priority	Dependencies
1	Implement Models and Database Migrations	Technical	Backend	3	10	
2	Create Controllers, Policies, Requests and Observers	Technical	Backend	1	10	1
3	Implement DocumentsController and his related Requests	Technical	Backend	5	9	2
4	Implement DocumentVersionsController and his related Requests	Technical	Backend	2	8	2
5	Implement DocumentTasksController and his related Requests	Technical	Backend	2	8	2
6	Implement DocumentObserver created method to create the related document version one	Technical	Backend	2	6	2
7	Implement Policies methods and use on Controllers	Technical	Backend	2	4	3, 4, 5
8	Create StorageObject, StorageResolver and CustomStorage classes with empty methods	Technical	Backend	1	9	1
9	Implement StorageResolver methods using user company storage and token properties	Technical	Backend	3	8	8
10	Implement StorageResolver on addVersion and store methods of DocumentsController when user company storage isn't empty	Technical	Backend	2	8	8
11	Implement Routes for Controllers	Technical	Backend	1	6	2
ID	Requirements	Type	Scope	Estimation	Priority	Dependencies
12	Implement Paginator, Column and Link Types	Technical	Frontend	1	10	
13	Implement Document, DocumentTask and DocumentVersion Types	Technical	Frontend	2	10	
14	Implement VTable component using VSlots and VSlotProps to render table headers and rows	Technical	Frontend	5	9	12
15	Implement VNavbar, VHeader, VButton and VInput components	Technical	Frontend	3	9	12
16	Implement Paginator component	Technical	Frontend	3	9	12, 13
17	Implement Modal, Paginator and User Avatar components	Technical	Frontend	3	9	12, 13
18	Create List.vue, Versions.vue and Tasks.vue including properties and empty methods	Technical	Frontend	5	9	1, 2
19	Implement List.vue, Versions.vue and Tasks.vue fetch methods using VTable, Column, Paginator and invoke in onMounted	Technical	Frontend	5	8	15
20	Implement Versions.vue download method to retrieve a binary response	Technical	Frontend	1	8	15
21	Implement List.vue create form template in a modal, add and save methods	Technical	Frontend	2	8	11, 15
22	Implement Versions.vue create form template in a modal, add and save methods	Technical	Frontend	2	8	11, 15
23	Implement Tasks.vue create form template in a modal, add and save methods	Technical	Frontend	2	8	11, 15
24	Implement List.vue update form template in a modal, edit and update methods	Technical	Frontend	2	8	11, 15
25	Implement Tasks.vue update form template in a modal, edit and update methods	Technical	Frontend	2	8	11, 15
26	Implement Tasks.vue finish method and button calling the finish task route	Technical	Frontend	2	8	11, 15
27	Implement List.vue remove method and button calling the destroy document route	Technical	Frontend	2	8	11, 15
28	Implement Tasks.vue remove method and button calling the destroy task route	Technical	Frontend	2	8	11, 15
ID	Requirements	Type	Scope	Estimation	Priority	Dependencies
29	Define user stories	Documentation	Product Management			
30	Define acceptance criterias	Documentation	Product Management			
31	Define fast tracking feature corrective plan	Product	Product Management			
31	Implement user test cases	Testing	Quality Assurance			
31	Implement integration test cases	Testing	Quality Assurance			
32	Automate test cases	Automation	Quality Assurance			
ID	Requirements	Type	Scope	Estimation	Priority	Dependencies
33	Design a customer document management integration process and procedures using BPMN	Business				
34	Design a customer document management integration plan (CDMI)	Business				
35	Define risk management concerns and include articles to the CDMI	Business				
36	Define technical requirements to include as articles to the CDMI	Technical/Business				
37	Offer the document management integration to customers	Business				

About the **Deployment**

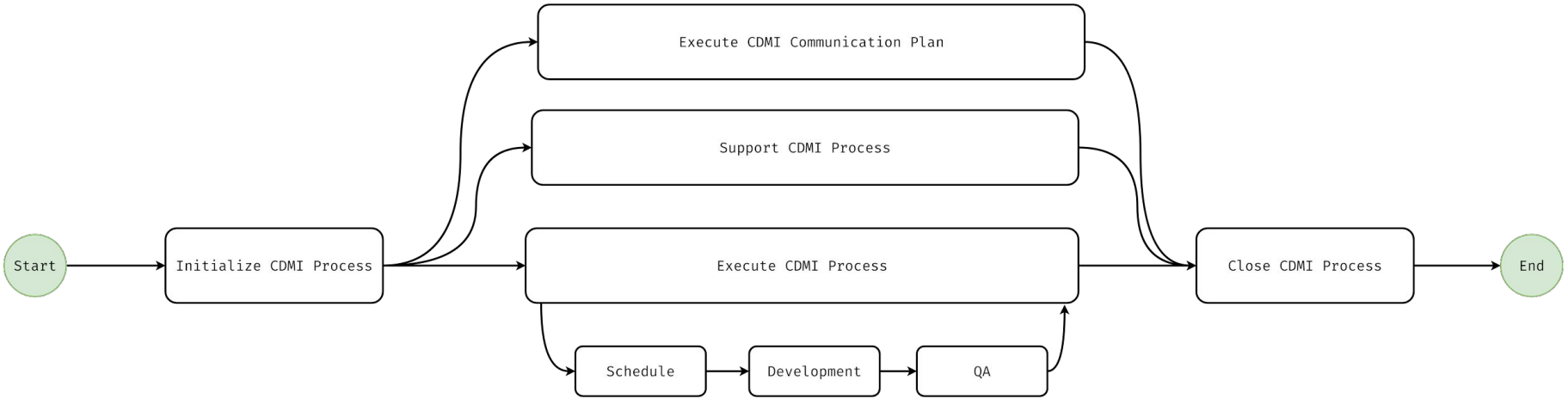
About the **Deployment** Diagram



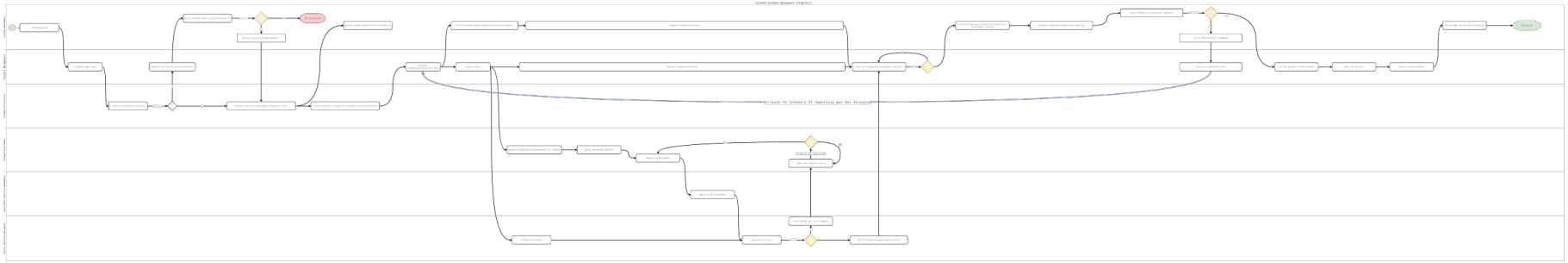
About the **Integrations**

The **Simplified Process**

Customer Document Management Integration (CDMI)



The **Process**



About the **Conclusions**

About the **Conclusions**

With the previous results we can:

- Solution implements the features described on slide 2.
- Offer technical resources as diagrams and user stories to the development team in order to reduce the development risks and optimize the time on feature implementations.
- Offer a scaffolding to define a customer document management integration process.
- Offer a well-organized user stories and tasks backlog to make sprint plannings with less difficult as possible.