

Testing and Code Review

1. Change History

Change Date Modified Sections Rationale
Nothing to show

2. Back-end Test Specification: APIs

2.1. Locations of Back-end Tests and Instructions to Run Them

2.1.1. Tests

Notes API

Interface	No Mocks	With Mocks	Mocked Components
POST /api/notes	src/tests/notes.normal.test.ts#L38	src/tests/notes.mocked.test.ts#L63	Notes Service, Notes DB, OpenAI API
PUT /api/notes/:id	L135	L85	Notes Service
DELETE /api/notes/:id	L197	L116	Notes Service
GET /api/notes/:id	L248	L102	Notes Service, Notes DB
GET /api/notes	L301	L130, 147	Notes Service, Workspace DB, OpenAI API
GET /api/notes/:id/workspaces	L605	L280	Notes Service
POST /api/notes/:id/share	L402	L294, 541, 623	Notes Service, Notes DB, Workspace DB
POST /api/notes/:id/copy	L510	L311, 328, 566	Notes Service, Notes DB

Workspaces API

Interface	No Mocks	With Mocks	Mocked Components
POST /api/workspaces	src/tests/workspace.normal.test.ts#L41	L44	Workspace Service
GET /api/workspaces/personal	L101	L84	Workspace Service
GET /api/workspaces/user	L183	L118	Workspace Service
GET /api/workspaces/:id	L231	L152	Workspace Service
GET /api/workspaces/:id/members	L275	L186	Workspace Service
GET /api/workspaces/:id/tags	L306	L236	Workspace Service
GET /api/workspaces/:id/membership/:userId	L441	L270	Workspace Service
POST /api/workspaces/:id/members	L524	L304	Workspace Service
POST /api/workspaces/:id/leave	L738	L374	Workspace Service
PUT /api/workspaces/:id	L836	L392	Workspace Service
PUT /api/workspaces/:id/picture	L897	L428	Workspace Service
DELETE /api/workspaces/:id/members/:userId	L955	L464	Workspace Service
DELETE /api/workspaces/:id	L1112	L498	Workspace Service
GET /api/workspaces/:id/poll	L1204	L532	Workspace Service

Authentication API

Interface	No Mocks	With Mocks	Mocked Components
POST /api/auth/signup	src/tests/auth.normal.test.ts#L123	L77	Auth Service, Workspace Service, User DB, Google OAuth
POST /api/auth/signin	L151	L290	Auth Service
POST /api/auth/dev-login	L68	L394	Auth Service

User API

Interface	No Mocks	With Mocks	Mocked Components
GET /api/users/profile	src/tests/user.normal.test.ts#L39	—	—
PUT /api/users/profile	L57	L48	User DB, Workspace DB
DELETE /api/users/profile	L166	L104	Workspace DB
POST /api/users/fcm-token	L230	L155	User DB
GET /api/users/:id	L273	L209	User DB
GET /api/users/email/:email	L318	L260	User DB

Message API

Interface	No Mocks	With Mocks	Mocked Components
GET /api/messages/workspace/:workspaceId	src/tests/message.normal.test.ts#L61	L67	Message DB
POST /api/messages/workspace/:workspaceId	L188	L91	Message DB, Workspace DB
DELETE /api/messages/:messageId	L261	L134	Message DB, Workspace DB

Media API

Interface	No Mocks	With Mocks	Mocked Components

Interface	No Mocks	With Mocks	Mocked Components
POST /api/media/upload	src/tests/media.normal.test.ts#L56 L55		Media Service, File System

2.1.2. Commit Hash Where Tests Run

2.1.3. How to Run the Tests

1. cd backend
2. npm install
3. npm test

2.2. GitHub Actions Configuration Location

~/.github/workflows/backend-tests.yml

2.3. Jest Coverage Report Screenshots (Without Mocking)

File	% Stmt	% Branch	% Funcs	% Lines	Uncovered Lines
All files	81.78	61.56	88.35	81.9	
asyncHandler.util.ts	100	100	100	100	
auth.controller.ts	43.18	23.07	66.66	43.18	23-38,47,53,59,-
auth.middleware.ts	98.14	100	100	98.07	68
auth.routes.ts	100	100	100	100	
auth.service.ts	43.63	11.11	50	43.63	17-40,47,53,59,-
auth.types.ts	100	100	100	100	
constants.ts	100	100	100	100	
database.ts	0	0	0	0	1-44
errorHandler.middleware.ts	100	100	100	100	
logger.util.ts	100	50	100	100	7-11
media.controller.ts	94.11	80	100	94.11	48
media.routes.ts	100	100	100	100	
media.service.ts	89.28	78.26	100	89.09	72,81,104-105,1
message.model.ts	100	100	100	100	
message.routes.ts	86.95	76.92	100	86.95	18,53-54,64,98-
message.types.ts	100	100	100	100	
note.model.ts	100	100	100	100	
notes.controller.ts	82.11	50	100	82.11	...6-27,35-36,6
notes.routes.ts	100	100	100	100	
notes.service.ts	73.45	65.9	76.47	76.69	40,146,161,221,-
notes.types.ts	100	100	100	100	
notification.service.ts	65	33.33	50	65	7,46-63
routes.ts	100	100	100	100	
sanitizeInput.util.ts	100	100	100	100	
storage.ts	94.73	66.66	100	94.73	13
user.controller.ts	65.43	12	100	65.43	15-16,33,39,49,-
user.model.ts	75.4	80	90	75.4	113-114,122-123
user.routes.ts	100	100	100	100	
user.types.ts	100	100	100	100	
validation.middleware.ts	91.66	100	100	90.9	23
workspace.controller.ts	82.95	54.44	100	82.95	...-286,321,329
workspace.model.ts	100	100	100	100	
workspace.routes.ts	100	100	100	100	
workspace.service.ts	99.46	97.91	100	99.42	50
workspace.types.ts	100	100	100	100	


```

Test Suites: 6 passed, 6 total
Tests:      218 passed, 218 total
Snapshots:  0 total
Time:       8.724 s, estimated 15 s
Ran all test suites matching /__tests__\unmocked/i.

```

image info

2.4. Jest Coverage Report Screenshots (With Mocking)

File	% Stmt	% Branch	% Funcs	% Lines	Uncovered Line
All files	71.61	57.22	69.17	71.99	
asyncHandler.util.ts	75	100	66.66	100	
auth.controller.ts	100	92.3	100	100	112
auth.middleware.ts	38.88	0	50	36.53	18-22,27-31,41-
auth.routes.ts	100	100	100	100	
auth.service.ts	92.72	88.88	100	92.72	108-109,126-127
auth.types.ts	100	100	100	100	
constants.ts	100	100	100	100	
database.ts	100	100	100	100	
errorHandler.middleware.ts	90.9	100	50	88.88	6
logger.util.ts	100	100	100	100	
media.controller.ts	88.23	60	100	88.23	16,24
media.routes.ts	100	100	100	100	
media.service.ts	80.35	65.21	80	81.81	22,34,45,96,102
message.model.ts	100	100	100	100	
message.routes.ts	81.15	23.07	100	81.15	24,31,35,41,51,
message.types.ts	100	100	100	100	
note.model.ts	100	100	100	100	
notes.controller.ts	79.67	75	100	79.67	...121,129-130,
notes.routes.ts	100	100	100	100	
notes.service.ts	67.25	56.81	64.7	66.01	58,70-107,122,1
notes.types.ts	100	100	100	100	
notification.service.ts	100	100	100	100	
routes.ts	100	100	100	100	
sanitizeInput.util.ts	88.88	0	100	83.33	7
storage.ts	94.73	66.66	100	94.73	39
user.controller.ts	75.3	88	100	75.3	19,44,70-86,120
user.model.ts	73.77	20	90	73.77	85-90,102-111,1
user.routes.ts	100	100	100	100	
user.types.ts	100	100	100	100	
validation.middleware.ts	83.33	0	66.66	81.81	13-16
workspace.controller.ts	71.59	65.55	100	71.59	...404-405,431,
workspace.model.ts	100	100	100	100	
workspace.routes.ts	100	100	100	100	
workspace.service.ts	21.5	10.41	15.78	21.96	13-38,53-118,13
workspace.types.ts	100	100	100	100	

```

Test Suites: 6 passed, 6 total
Tests:     184 passed, 184 total
Snapshots: 0 total
Time:      17.137 s, estimated 27 s
Ran all test suites matching /_tests_\mocked/i.

```

image info

2.5. Combined Jest Coverage Reports (With & Without Mocking)

File	% Stmt	% Branch	% Funcs	% Lines	Unc
All files	100	100	100	100	
asyncHandler.util.ts	100	100	100	100	
auth.controller.ts	100	100	100	100	
auth.middleware.ts	100	100	100	100	
auth.routes.ts	100	100	100	100	
auth.service.ts	100	100	100	100	
auth.types.ts	100	100	100	100	
constants.ts	100	100	100	100	
database.ts	100	100	100	100	
errorHandler.middleware.ts	100	100	100	100	
logger.util.ts	100	100	100	100	
media.controller.ts	100	100	100	100	
media.routes.ts	100	100	100	100	
media.service.ts	100	100	100	100	
message.model.ts	100	100	100	100	
message.routes.ts	100	100	100	100	
message.types.ts	100	100	100	100	
note.model.ts	100	100	100	100	
notes.controller.ts	100	100	100	100	
notes.routes.ts	100	100	100	100	
notes.service.ts	100	100	100	100	
notes.types.ts	100	100	100	100	
notification.service.ts	100	100	100	100	
routes.ts	100	100	100	100	
sanitizeInput.util.ts	100	100	100	100	
storage.ts	100	100	100	100	
user.controller.ts	100	100	100	100	
user.model.ts	100	100	100	100	
user.routes.ts	100	100	100	100	
user.types.ts	100	100	100	100	
validation.middleware.ts	100	100	100	100	
workspace.controller.ts	100	100	100	100	
workspace.model.ts	100	100	100	100	
workspace.routes.ts	100	100	100	100	
workspace.service.ts	100	100	100	100	
workspace.types.ts	100	100	100	100	

Test Suites: 13 passed, 13 total
Tests: 403 passed, 403 total
Snapshots: 0 total
Time: 35.87 s
Ran all test suites.

image info

3. Back-end Non-functional Requirements

3.1. Test Locations

Non-Functional Requirement	Location in Git
Search Speed	ThingSpace.ts/backend/src/_tests_/notes.latency.test.ts

3.2. Test Verification and Logs

Performance: Search Speed

- Creates 400 notes, runs 3 queries, average ~1.1s (<5s target)
- Logs:

Chat Data Security

- Verification:
- Logs:

4. Front-end Test Specification

This includes the non-functional requirement that every note/message containing screen must be reachable from the main screen within two clicks. This non-functional requirement can only be verified via frontend tests, hence it is included here as `TestReachWith2Clicks.kt`.

4.1. Location in Git

```
./frontend/app/src/androidTest/java/com.copen321.usermanagement
```

4.2. Tests Included

Use Case	Test File
Collaborate	<code>TestCollaborate.kt</code>
Manage Notes	<code>TestNotes.kt</code>
Retrieve Notes	<code>TestRetrieveNotes.kt</code>
Reach Note Screens in ≤ 2 Clicks	<code>TestReachWith2Clicks.kt</code>

Logs:

5. Automated Code Review Results

5.1. Commit Hash Where Codacy Ran

5.2. Unfixed Issues per Codacy Category

(Placeholder)

5.3. Unfixed Issues per Codacy Code Pattern

(Placeholder)

5.4. Justifications for Unfixed Issues

- Usage of Deprecated Modules
 - Location: `src/services/chatService.js#L31`
 - Justification:
-