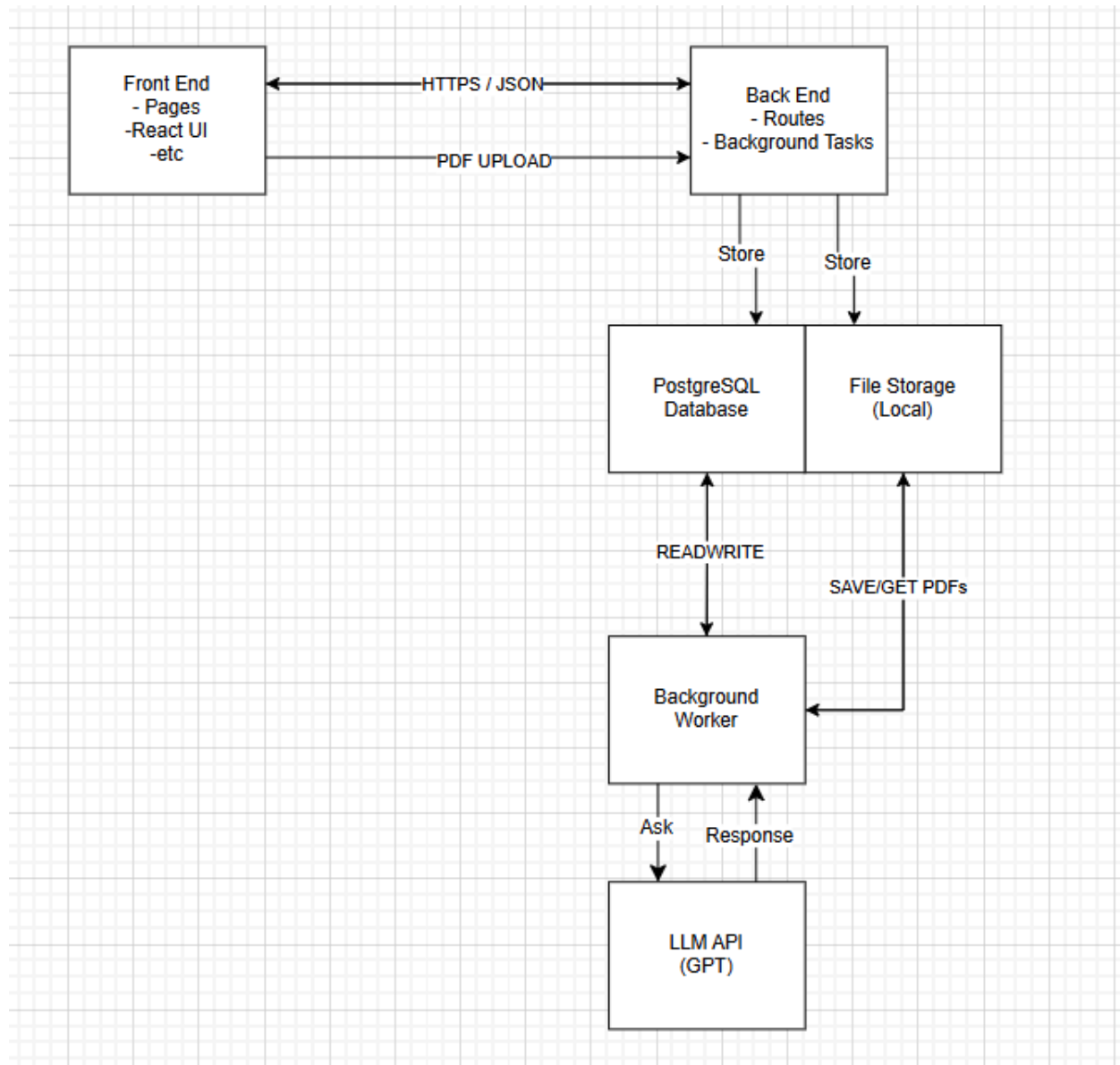
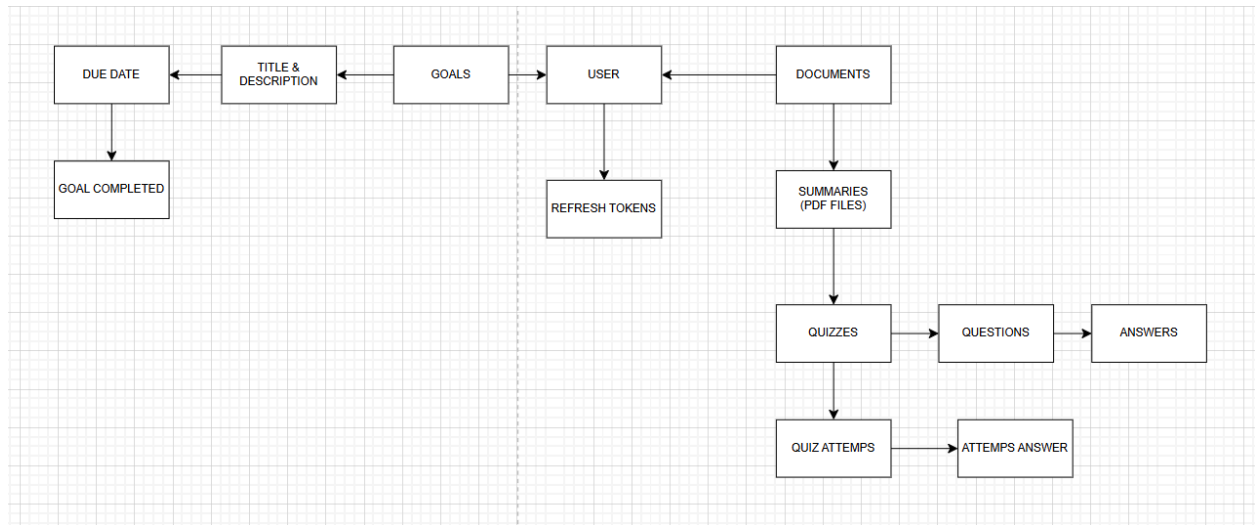


## Update Project Week 3

### System Architecture



## Database Design



## Application Architecture (DATA FLOW)

### Frontend

#### 1.Upload PDF / Add Goals

POST /documents/upload

save file -> File Storage

#### 2.API

read PDF

ask LLM -> write summary -> summaries

ask LLM -> make quiz/cards -> quizzes, questions, answers,

#### 3.Get data

User opens app

GET summary/quiz/cards

#### 4.Frontend

show summary/quiz/cards

submit answers

API -> grade -> save [quiz\_attempts][attempt\_answers] -> return score

## Security Design

### JWT:

- Issues and verifies a single JWT session cookie named `sp_session`.
- Reads secret from `JWT_SECRET` (falls back to a dev default).
- `require_auth` dependency enforces auth on protected routes.

### Password hashing:

- with `bcrypt` (`passlib`).

### Verification:

- Email login/register, verification token, password reset token.
- Stores verification/reset tokens in DB via helpers.

### Google login:

- Google OAuth: builds auth URL, handles callback, creates or finds user, then sets session cookie

## External System Integration

### API 1: OpenAI

- **Base URL:** `https://api.openai.com/v1`
- **Auth:** Authorization: Bearer <OPENAI\_API\_KEY> (server only)
- **Endpoint used:**
  - POST `/chat/completions`
    - Input: JSON { model, messages, temperature }
    - Output: JSON { choices: [ { message: { content } } ] }

### API 2: Google (OAuth2)

- **Base URL:** `https://accounts.google.com/o/oauth2/v2/auth` (auth page)
- **Token URL:** `https://oauth2.googleapis.com/token`

- **User Info URL:** <https://www.googleapis.com/oauth2/v3/userinfo>
  - **Flow:**
    1. Redirect user to Google consent page (/auth)
    2. Google → sends back code
    3. Backend → exchange code at /token → get id\_token + access\_token
    4. Backend → verify id\_token → read user info (sub, email, name)
    5. Backend → create or update user in DB, issue session cookie
- 

## Security

- Validate Google ID token signature with Google public keys
- Use HTTPS only and secure cookies (HttpOnly, Secure, SameSite)

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