

Procrastinate: System design

A audio and text processing tool for lazy students

Team members:

Yang Zichang

Jane Lee

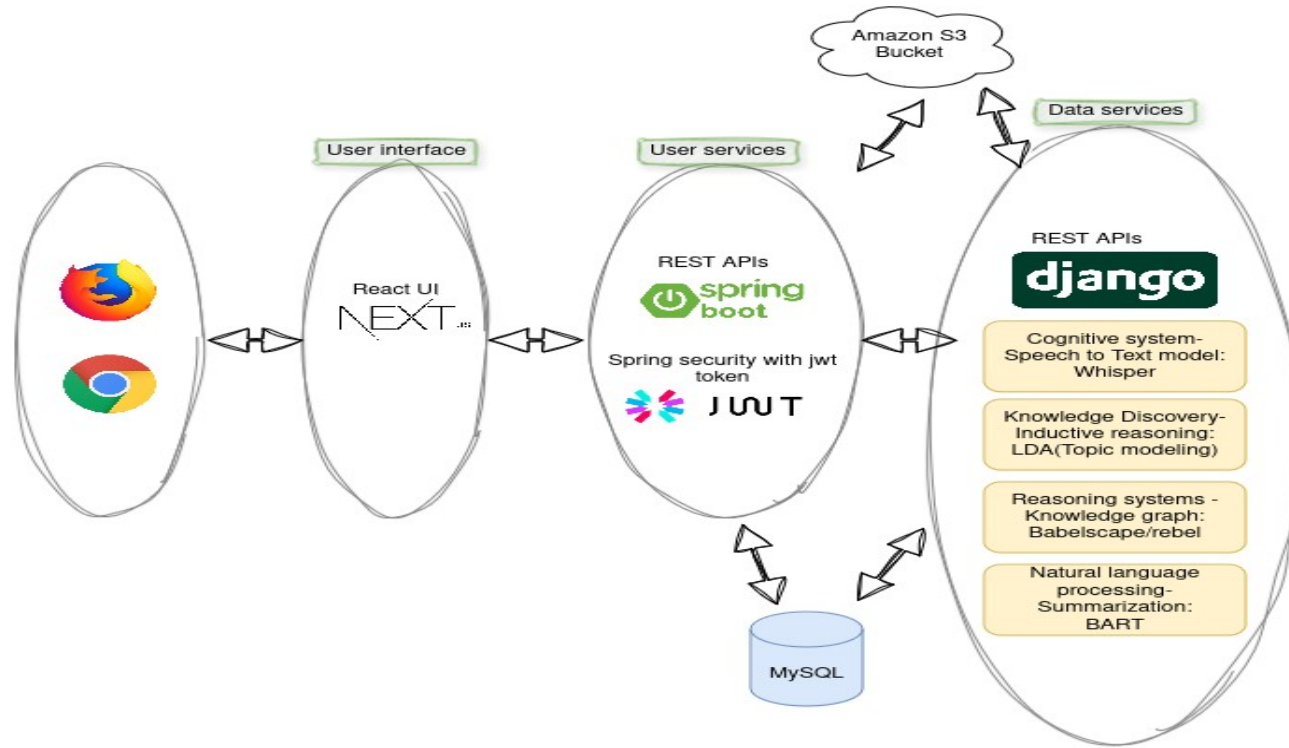
Hou Lu Chiok Weh Alejandro

01 Architecture

A microservice approach



System architecture



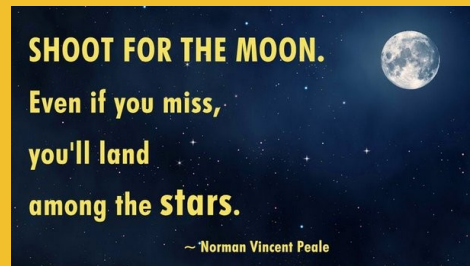
Study Smarter

Say goodbye to procrastination-induced stress and hello to academic success with Procrastinate. Start your journey today and unlock your full academic potential!

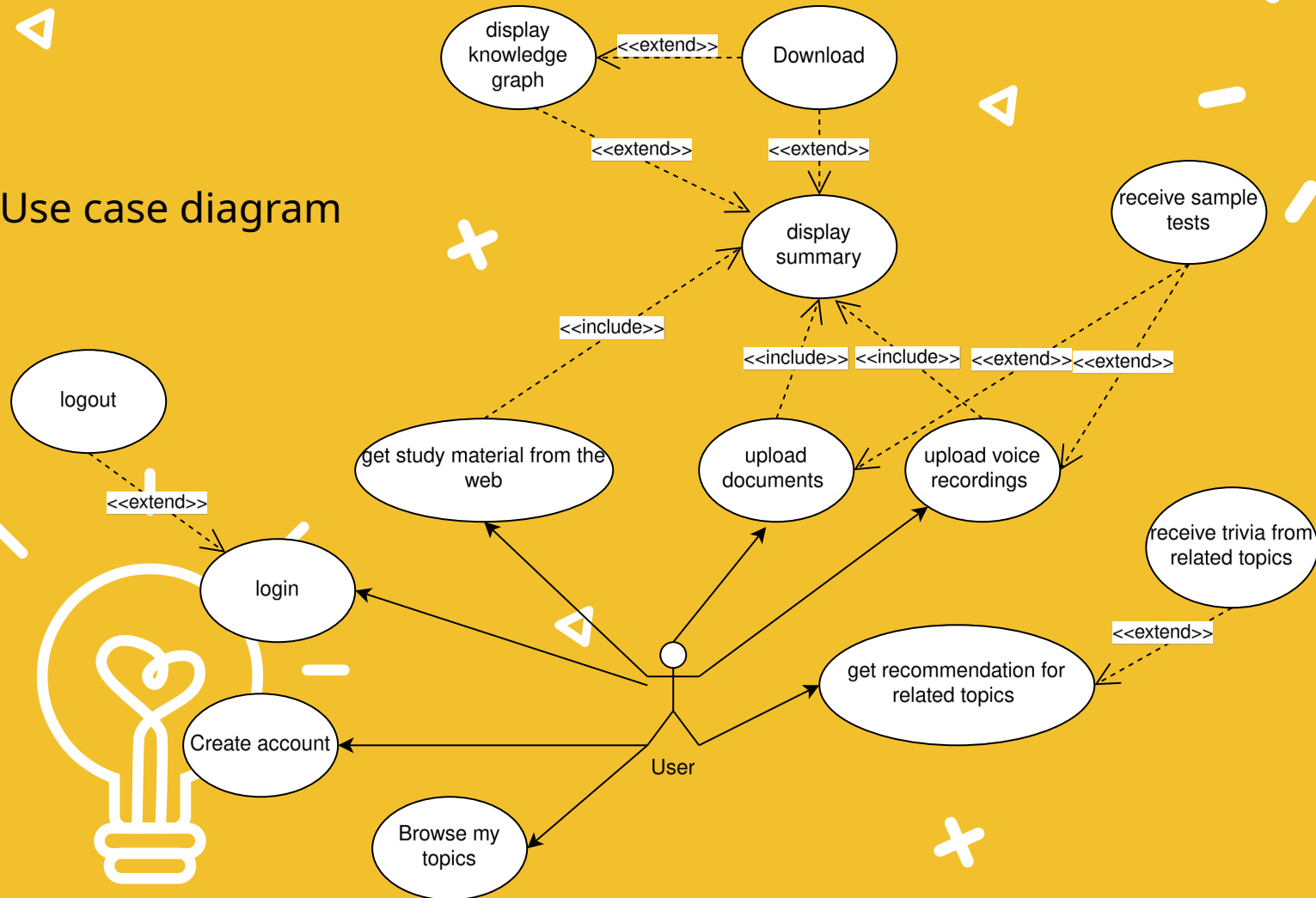
STOP PROCRASTINATING

02 Use case diagram

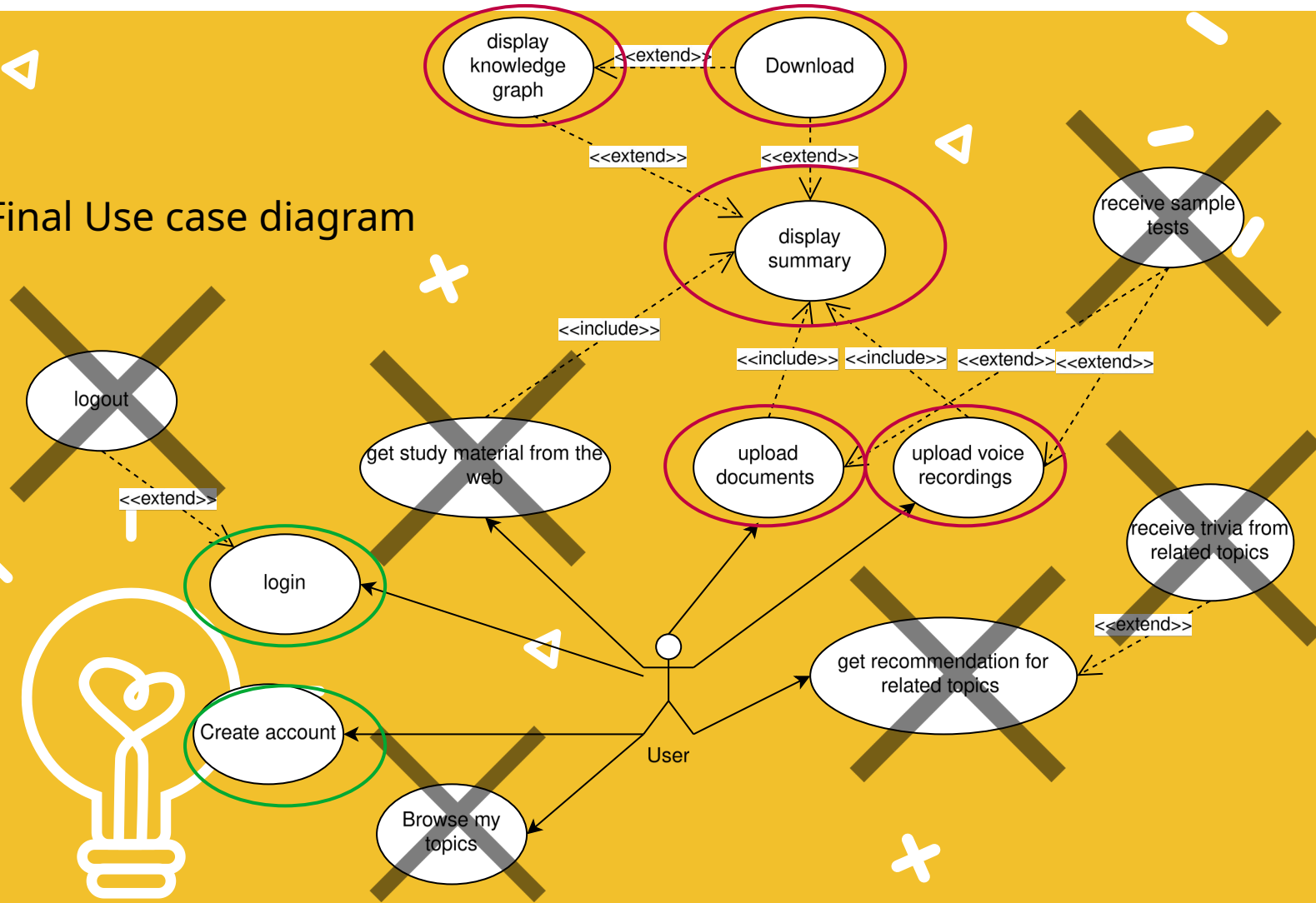
Our expectations vs reality
Spoiler: We overestimated just a little :|

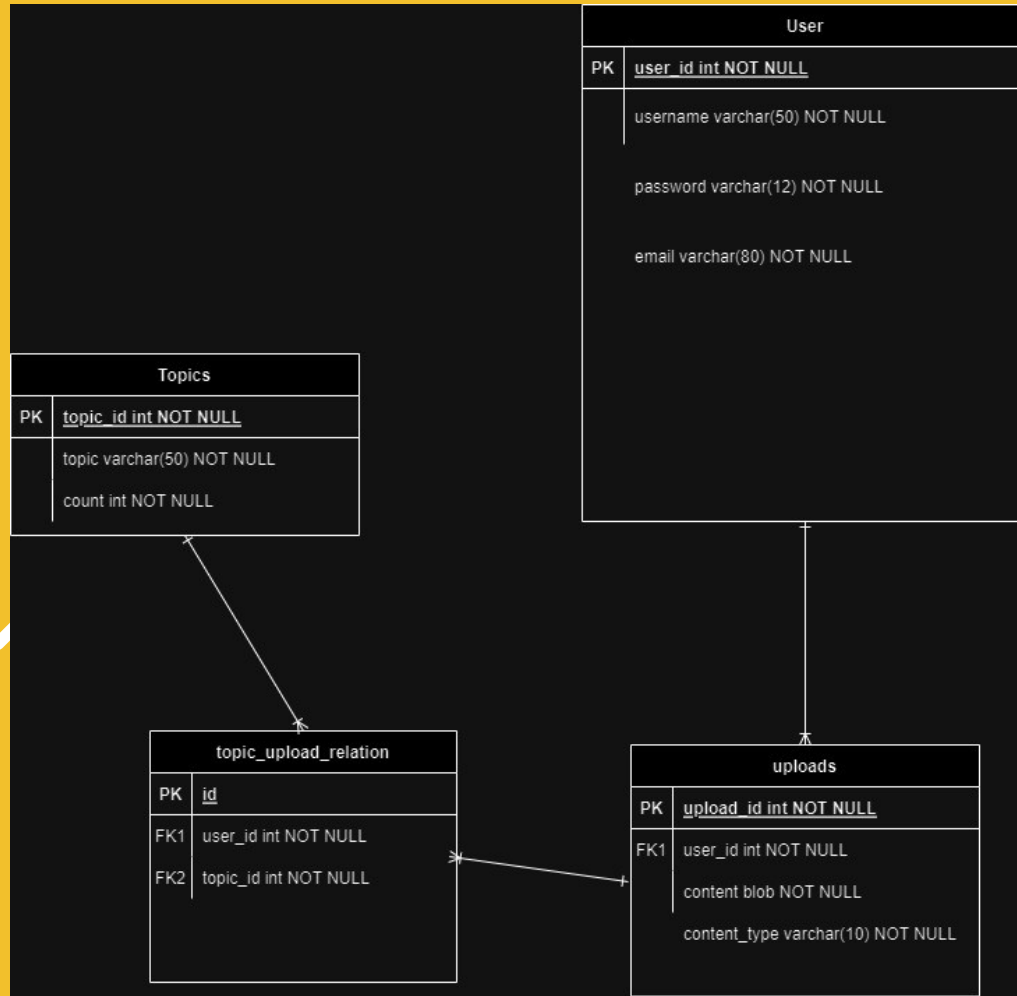


Use case diagram



Final Use case diagram



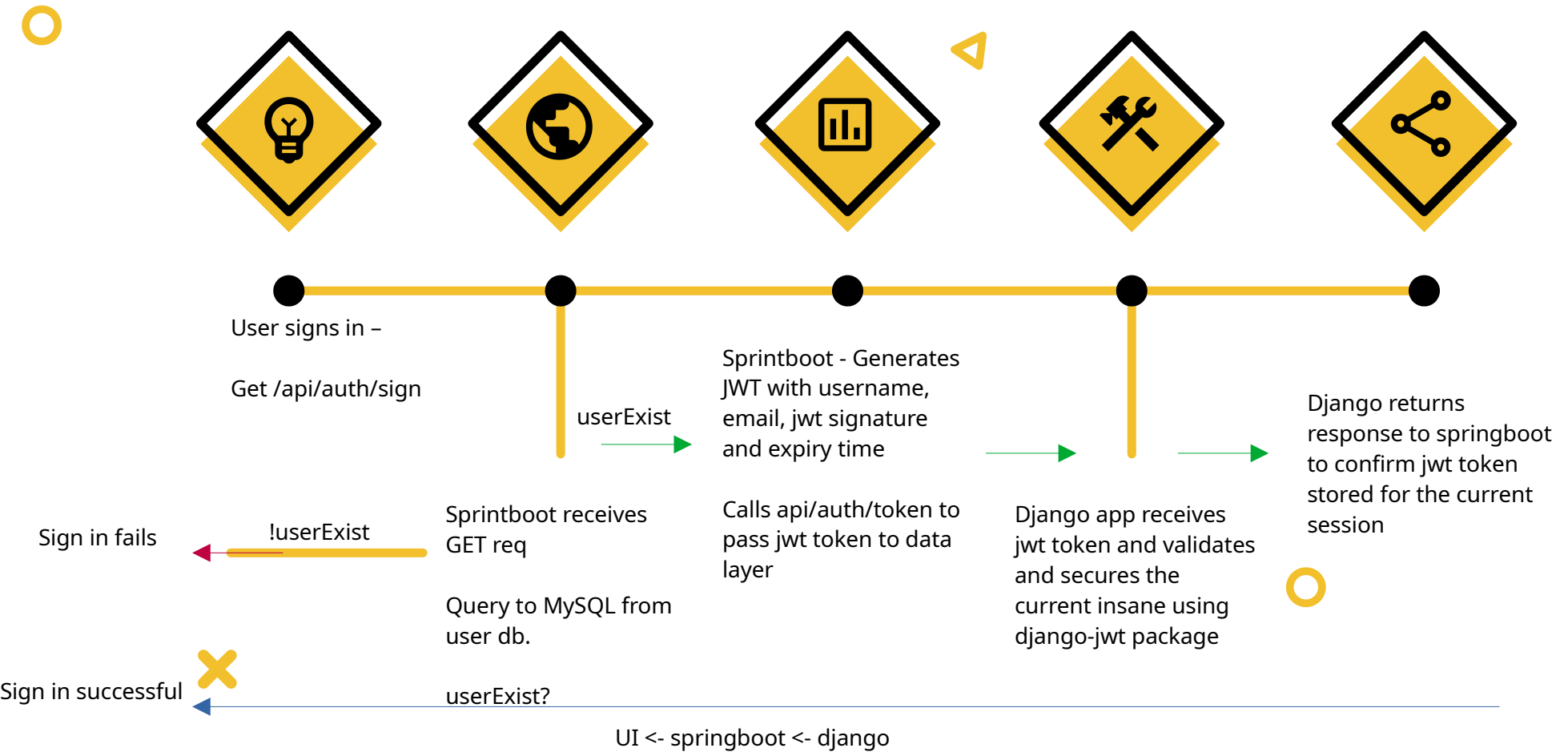


03 Workflow

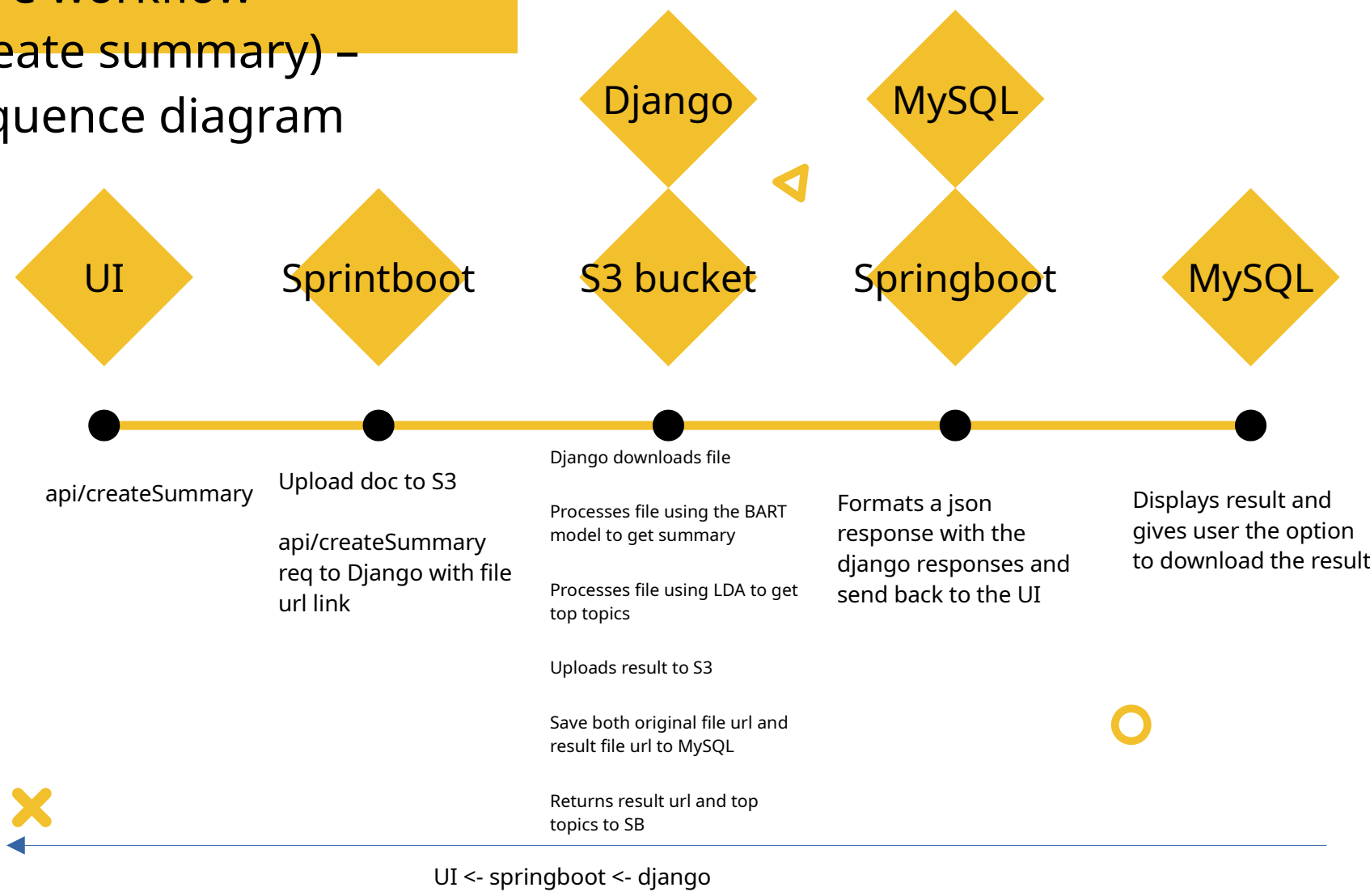
Illustrated by sequence diagrams



User services - sequence diagram



Core workflow (create summary) – sequence diagram



04 Technical walkthrough

ML models, intelligent system design etc... User level explanation



01

OPEN-AI/Whisper

Speech to text

Use case: Upload voice recordings -> display transcript



02

BART

Summarization

Use case – Get summary

03

Babelscape/rebel

Knowledge-based (knowledge graph)

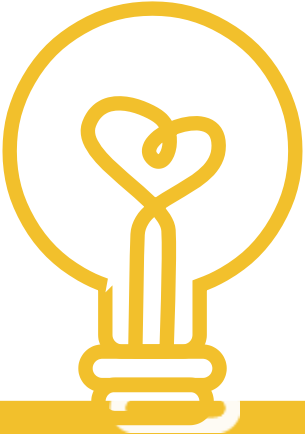
Use case – Get mindmap

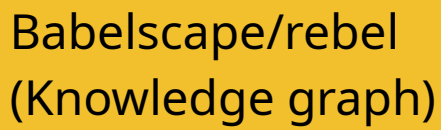
04

Gensim - LDA

Topic modelling

Use case – Get top topics





```

graph LR
    SR((Speech recognition))
    W((Whispering))
    W -- instance-of --> SR
    SR -- use --> W
  
```

The diagram is a semantic network with 'Animal Farm' at the center. It includes the following nodes and relationships:

- Animal Farm** (central node)
 - position held named after → **napoleon**
 - present in work → **chawpash**
 - country of → **england**
 - located in the place → **england**
 - residence present in work characters → **england**
 - located in the administrative territorial entity → **england**
 - shares border with → **england**
 - has part of → **england**
 - author → **george orwell**
 - instance of → **novel**
 - uses → **powdermill school, seacoast**
 - instance of → **turnip**
 - instance of → **ambush**
 - work → **author**
 - part of → **england**
 - has part of published in → **england**
 - participant part of → **england**
 - subclass of → **england**
- napoleon**
 - position held named after → **Animal Farm**
- chawpash**
 - present in work → **Animal Farm**
- england**
 - country of → **Animal Farm**
 - located in the place → **Animal Farm**
 - residence present in work characters → **Animal Farm**
 - located in the administrative territorial entity → **Animal Farm**
 - shares border with → **Animal Farm**
 - has part of → **Animal Farm**
 - part of → **Animal Farm**
 - participant part of → **Animal Farm**
 - subclass of → **Animal Farm**
- george orwell**
 - author → **Animal Farm**
- novel**
 - instance of → **Animal Farm**
- powdermill school, seacoast**
 - uses → **Animal Farm**
- turnip**
 - instance of → **Animal Farm**
- ambush**
 - instance of → **Animal Farm**
- author**
 - work → **Animal Farm**

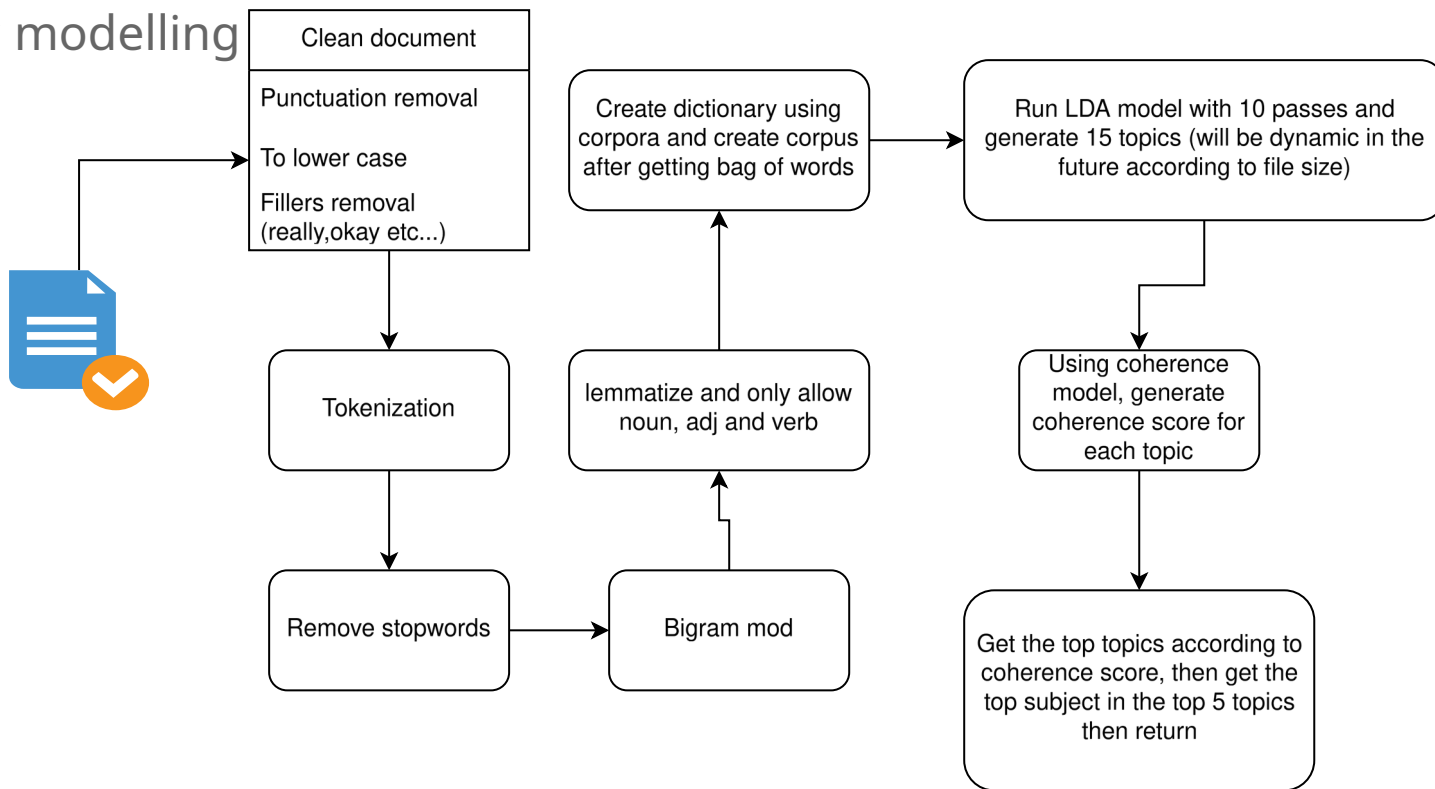
Generate a network(knowledge graph) using the network library using our newly generated knowledge base and save a html version of to be interacted with by the user (zoom in, zoom out and move items)



Gensim - LDA



Topic modelling





Lessons learned and future development





THANK YOU