System Design

CSCC01 - CS GANG
Sprint 3

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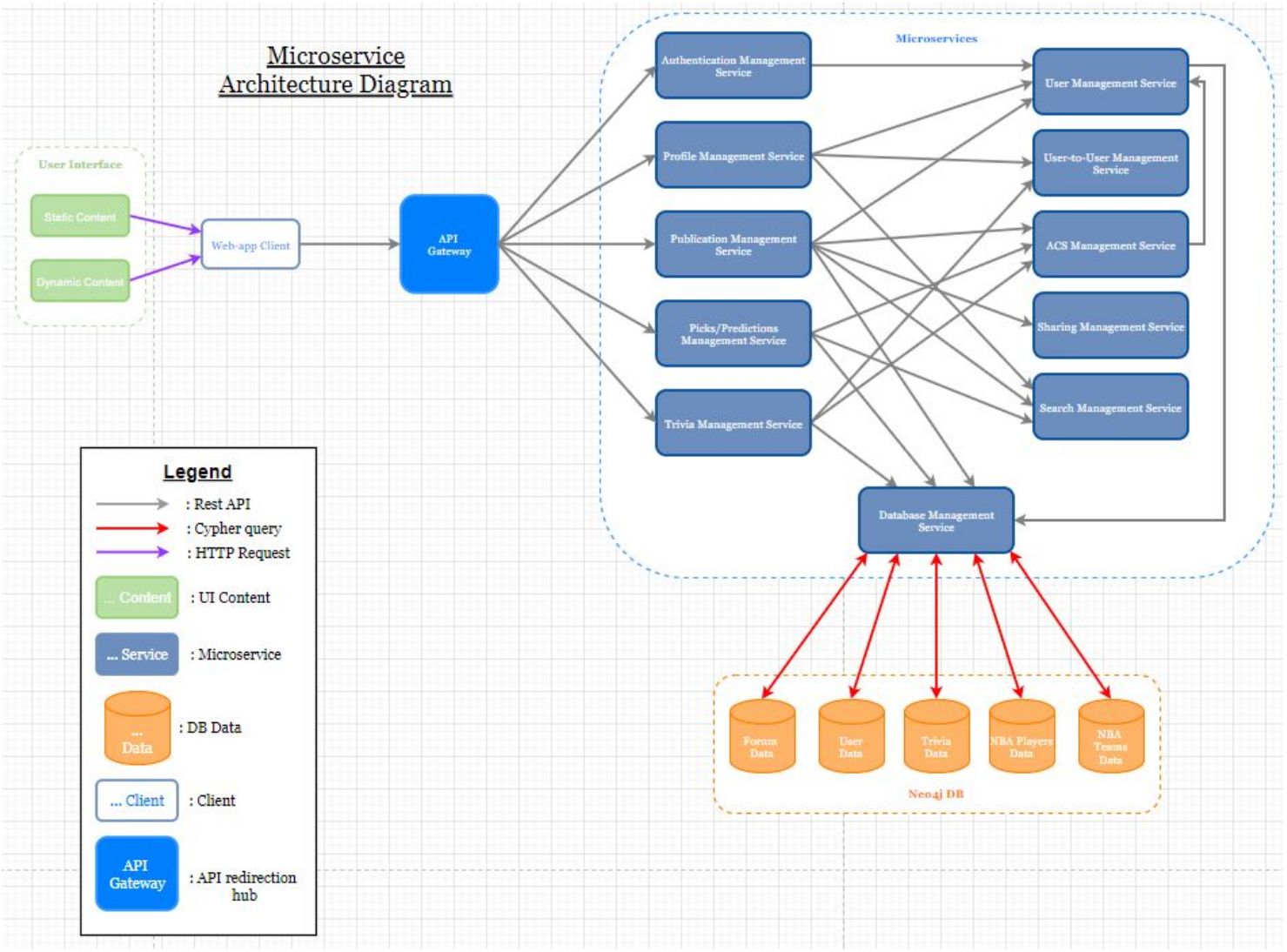
Software Architecture Diagram



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[1] Reference

Design patterns used in System Design (cannot be shown in Microservices architecture diagram):

Behavioral design pattern:

- Iterator: There will be an iterator interface that will be implemented by the Question, ConsumeRest, and Trivia class to sequentially traverse all the questions in the db to determine which questions the user is supposed to be shown
    - Collaborators: ConsumeRest, Trivia, Main

Reference for Microservices design:
https://www.alibabacloud.com/blog/how-to-create-an-effective-technical-architectural-diagram_596100#:~:text=An%20architectural%20diagram%20is%20a,system%20and%20its%20evolution%20roadmap.

CRC Cards

Class name: Main
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Communicate with the neo4j database
- Send data to other microservices

Collaborators: Trivia, ConsumeRest, UserManagement, PicksPredictions, Publication

Class name: TriviaQuestion
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Stores question author, answer choices and correct answer

Collaborators: ConsumeRest

Class name: Trivia
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Responsible for connecting the database microservice to the front-end

Collaborators: ConsumeRest, Question

Class name: ConsumeRest
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Call database microservice to retrieve data from neo4j

Collaborators: Main, ConsumeRest, Trivia

Class name: Authentication

Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Ensure that session is correctly generated based on user's credentials
- Generate a token for user when it logs in
- Create a new user instance when new user signs up

Collaborators: Main, ConsumeRest, SignIn, User

Class name: Profile
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Handling all the related functionality with updating user information(username, password, about)

Collaborators: Main, User, Search

Class name: ChangePassword
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Responsible for communicating with the neo4j database when user updating the password

Collaborators: Main, User

Class name: ProfileTab
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Handling getting & displaying user's ACS score, uploaded posts and debate history from neo4j database

Collaborators: Main, User, ASC, Post, Debate

Class name: Publication
Parent class (if any): N/A

Classname Subclasses (if any): Debate
Responsibilities:

- Responsible for functionality in the debate section
- Regulates interaction between users

Collaborators: Main, ConsumeRest, User, ACS, Sharing, Search

Class name: PicksPredictions
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Responsible for allowing users to search for teams and players so that they can make their picks
- Also responsible for showing the results of the predictions

Collaborators: Main, ConsumeRest, Search, ACS

Class name: User
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Will upkeep anything related to the user
- This will be used as an object that can be easily loaded/unloaded

Collaborators: Main, ConsumeRest, ACS, Profile, Publication, Trivia

Class name: ACS
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Main responsibility is to handle all relevant regulations and calculations concerning the ACS score
- Connect with different microservices (primarily the ACS microservice) to update user ACS

Collaborators: User, Publication, PicksPredictions, Trivia

Class name: Sharing
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Responsible for sharing content from the app with third party apps
- Responsible for sharing SportsCred content to other third party apps

Collaborators: Publication

Class name: Search
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Handles all related functionality regarding searching teams, players, and other users

Collaborators: Profile, Publication, PicksPredictions

Class name: UploadPost
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Responsible to communicate with neo4j database when user uploading new posts

Collaborators: Main, User, Post

Class name: Feed
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Create a feed of posts for an end user to consume
- Collect all posts by author, by time of publication etc.

Collaborators: User, Post, Main, Publication

Class name: Post
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Store data of post (author, content, time of posting, likes, dislikes)

Collaborators: User

Class name: SignUp
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Validate if user email already exists in db
- Create user account with user info (firstname, lastname, email, phone, password, birthday)

Collaborators: Main

Class name: SignUpScript
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- Ensure that when a new user is added they are given the 52 trivia questions to do

Collaborators: Main, Trivia

Class name: ApiCalls
Parent class (if any): N/A
Classname Subclasses (if any): N/A
Responsibilities:

- This class connects with the backend and regulates the authentication token for login and sign up

Collaborators: Main, SignUp, Login

Class name: Leaderboards
Parent class (if any): N/A
Classname Subclasses (if any): N/A

Responsibilities:

- This class connects with the backend to the front end and allows users to view leaderboards within the app

Collaborators: Main, User