Research plan

Movimingle

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# Research Topic and Objectives

This research will dive deep in to the ways to create a collaborative movie selection application through microservice architecture. The core objectives are to create a scalable and secure application with focus on functionality, rather on looks, thus will feature a functional frontend with nothing fancy done to it.

# Research Questions

Main Question:

How can the microservices architecture be strategically implemented to provide a scalable user experience in the Collaborative Movie Selection Application?

Sub-Questions:

* What architectural approaches are recommended for handling user favorites and voting features to ensure scalability and responsiveness?
* How can the deployment processes be designed to enable smooth operation and rapid scaling in response to varying user demands?
* Which security strategies are most effective for ensuring the integrity and confidentiality of user data within a microservices architecture?
* Is the use for external movie information API needed in the scope of the project?

# Research Methods

Incorporating methods from the DOT framework, the research approach includes:

Library:

Literature Study: It consists of research of the current literature for trends and best practices in microservices design, with a focus on personalized user content management.

Design Pattern Research: Investigate microservices design patterns suitable for real-time synchronization of user preferences.

## Field:

Survey: Elicit user feedback on the existing favorites feature to identify desired improvements.

## Lab:

Prototyping: Develop prototypes to test new approaches for managing user favorites within the microservices architecture.

Security Test: Perform vulnerability scans and assessments to bolster the security of user data.

## Workshop:

Co-creation: Collaborate with both users and developers to ideate on feature improvements and gather diverse perspectives.

Decomposition: Analyze the existing architecture for potential areas of enhancement or restructuring.

# Time Estimation and Deliverables

Expected outputs from the research include:

* A comprehensive architectural blueprint highlighting the integration of microservices for a robust user experience.
* A prototype reflecting the integration of a dynamic favorites feature.
* Security protocol recommendations tailored to protect user interactions within the application.

# Time Estimation (Including Implementation):

Research Planning and Initial Surveys: 20 hours

Detailed Literature Review: 30 hours

Prototype Development and Iteration: 60 hours

Co-creation Workshops and Security Assessments: 25 hours

Final Analysis, Reporting, and Documentation: 15 hours

Total Estimated Time for Research and Implementation: 150 hours