Formal Document

“Influx”

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1. Overview

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to outline the requirements for the development of "Influx," a web-based Over-The-Top (OTT) entertainment platform. Influx will offer users a rich catalogue of movies and TV shows, along with a personalised recommendation system.

1.2 Scope

Influx will provide a user-friendly interface for streaming entertainment content, including movies and TV shows. The application will prioritise user engagement through a personalised recommendation system based on individual viewing preferences.

1.3 Product Perspective

Influx will operate as an independent web application, interacting with users through standard web browsers. It will connect to a backend server for content management, user authentication, and recommendation generation.

1.4 Functional Requirements

- Content Catalogue.
- User Authentication.
- Personalised Recommendations.
- Search and Filter.
- User Profile.
- Subscription Management.

1.5 Non-functional Requirements

- Performance.
- Security.
- Reliability.
- Scalability.

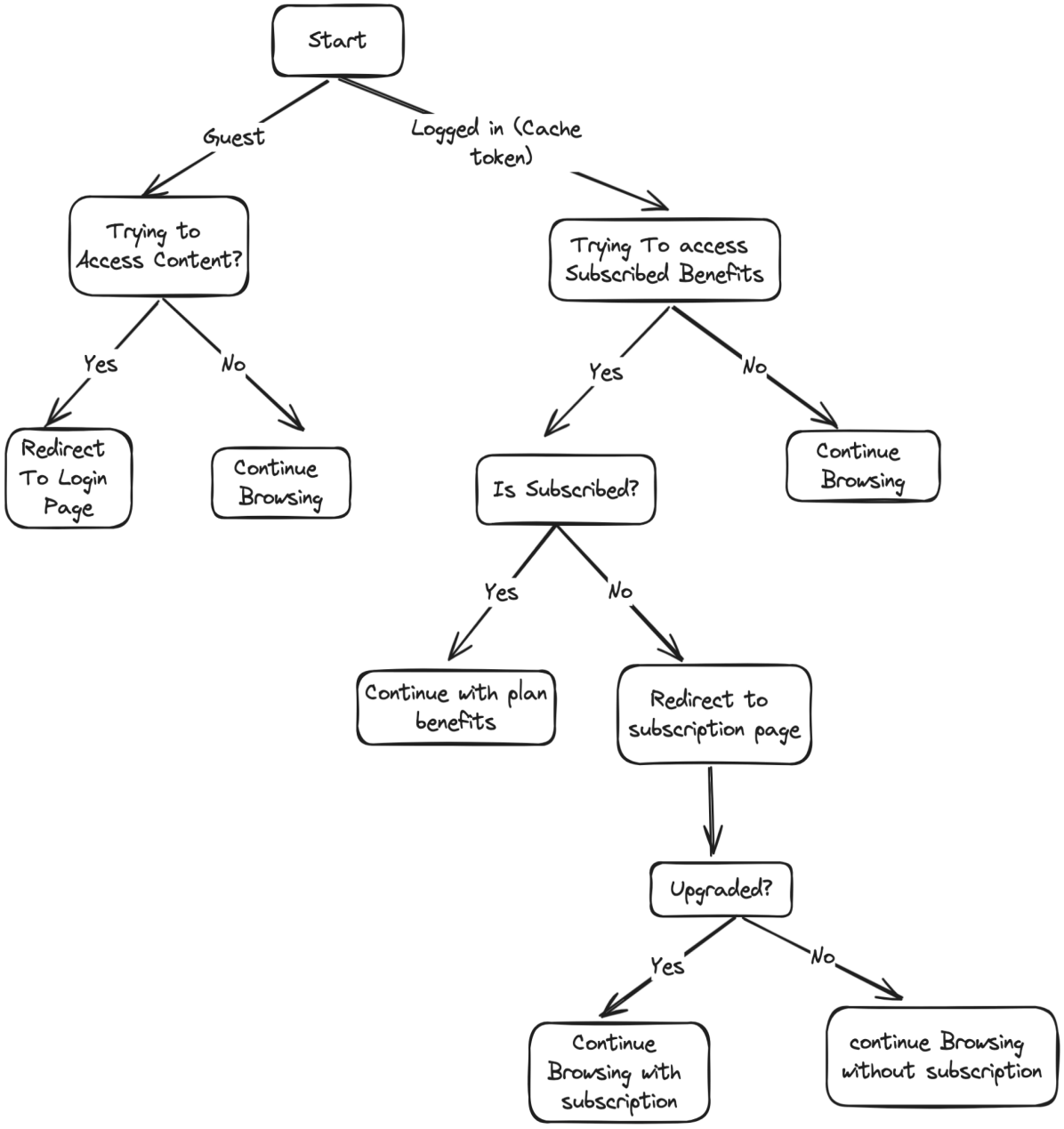
1.6 Other Constraints and External Interface Requirements

- User Interfaces.
- Hardware Interfaces.
- Software Interfaces.
- User Classes and Characteristics
    - ☐ **Guests**: Users without accounts, limited to browsing.
    - ☐ **Registered Users**: Account holders with access to personalised features.

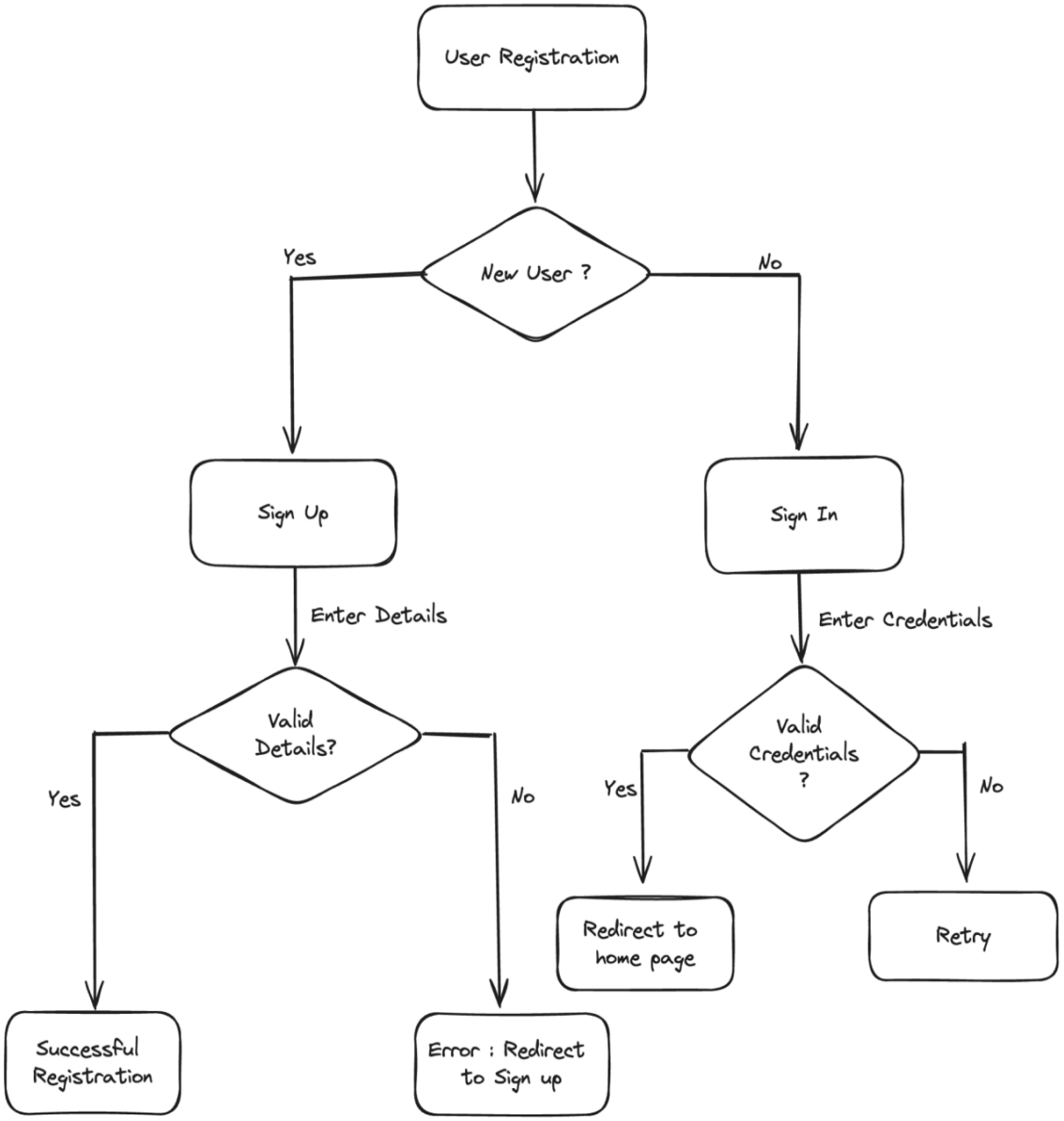
- Operating Environment.

2. Decision Tree

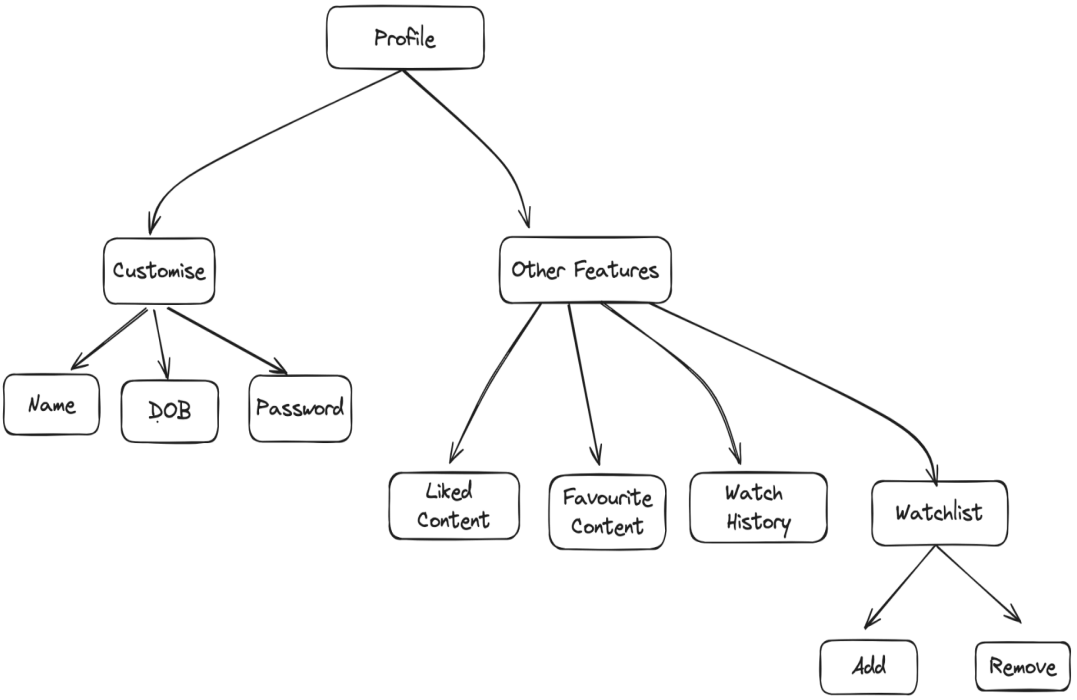
2.1 Access Controls



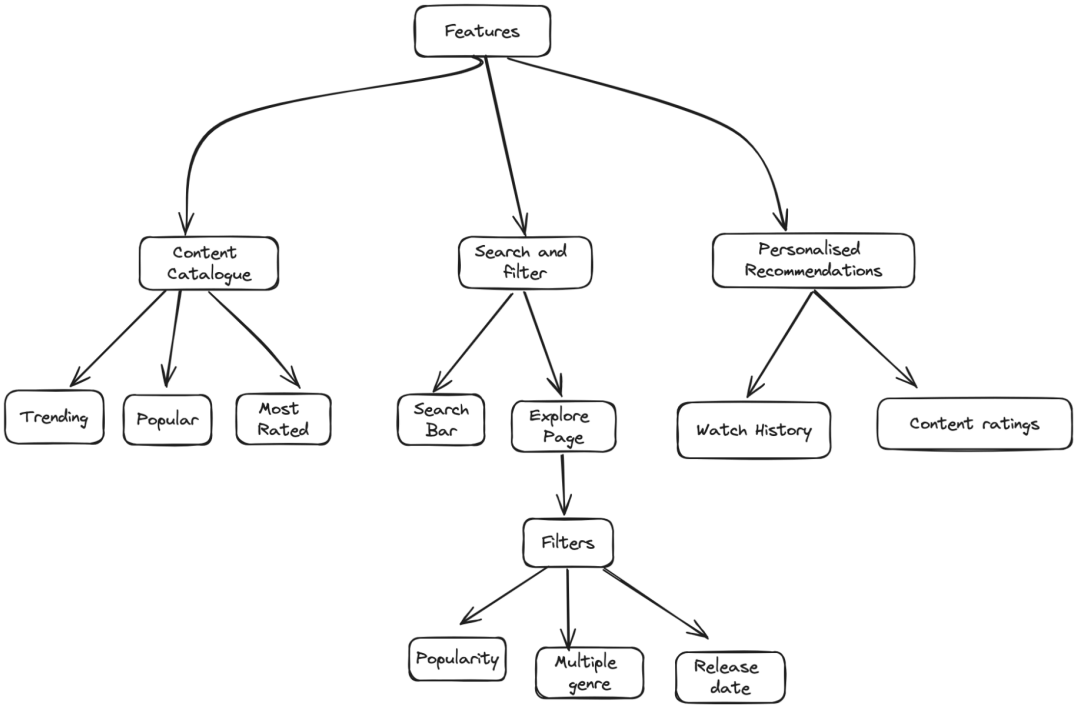
2.2 User Authentication



2.3 User Profile Management and Features



2.4 General Features



3. Decision Tables

3.1 Access Controls

Conditions					
Guest	***Yes***	***Yes***	*No*	*No*	*No*
Trying to Access Content	***Yes***	*No*	*Yes*	*Yes*	*Yes*
Is it Subscribed?	--	--	***Yes***	*No*	***Yes***
Trying to Access subscribed benefits	--	--	***Yes***	***Yes***	*No*

Actions					
Continue Browsing	--	***Yes***	***Yes***	--	***Yes***
Redirect to Login Page	***Yes***	--	--	--	--
Redirect to Subscription Page	--	--	*No*	***Yes***	***No***
Continue without plan benefits	--	--	*No*	--	--

3.2 User Authentication

Conditions	**1**	**2**	**3**	**4**
New User?	**Yes**	**Yes**	**No**	**No**
Valid Details?	Yes	No	-	-
Valid Credentials?	-	-	Yes	No

Actions	**1**	**2**	**3**	**4**
Sign Up	Execute	-	-	-
Enter Details	Execute	-	-	-
Successful Registration	*Execute*	_ - _	_ - _	_ - _
Error: Redirect to Sign up	_ - _	*Execute*	_ - _	_ - _
Sign In	_ - _	_ - _	*Execute*	_
Enter Credentials	_		_	
Redirect to home page	_		_	

Algebraic Specification

Types Section

User Related:

type AuthenticationStatus = {Success, Failure}
type Authentication = {Email,Password}
type RegisterStatus = {Success, Failure}
type Registration = {Name, DateOFBirth, Email, Password}
type ProfileInformation = [Avatar, Personal Info, Plans, Privacy Terms]
type SubscriptionStatus = {Success, Failure}
type SubscriptionPlans ={Basic, Standard, Premium}
type User = {UserId} -- UserType can be { Guest, Registered Only, or SubscribedUser}
type UserCapabilities = {Browsing only, [Browsing, Trailers, Related Clips], [Actions Under Subscription Benefit]}

Features Related:

type RecommendationList = [content list]
type SearchResult = [Content list]
type ContentCatalogue = {Popular, Top Rated, Upcoming, Treding}
type Content = [Movies, Tv Shows]
type Benefits = [Liked Content, Watch History, Favourites, Watchlist]

Exceptions Section

----

exception UserAuthenticationException - Invalid Credentials.
exception RegisterException - User with same Credentials exists.
exception SubscriptionManagementException - Trying to access subscribed content without subscription.

Signature Section

User Related:

Authentication: (Email, Password) -> Authenticate.
[where Authenticate is a function that authenticate and then returns AuthenticationStatus]
[raises UserAuthenticationException if AuthenticationStatus is False]

Registration: (Name, DateOfBirth, Email, Password) -> Register.
[where Register is a function that register and then returns RegistrationStatus]
[raises RegistrationException if RegistrationStatus is False]

UserProfile: (User) -> ProfileInformation.
UserAccessPermissions: (User) -> (UserCapabilities)

SubscriptionManagement: (User, Action) -> SubcriptionStatus

Features Related:

LikedContent: () -> LikedContentList.
WatchHistory: () -> WatchHistoryList.
Operations:
(content) -> Clear Watch History.

WatchList: () -> WatchList.
Favourites: () -> FavouritesList.

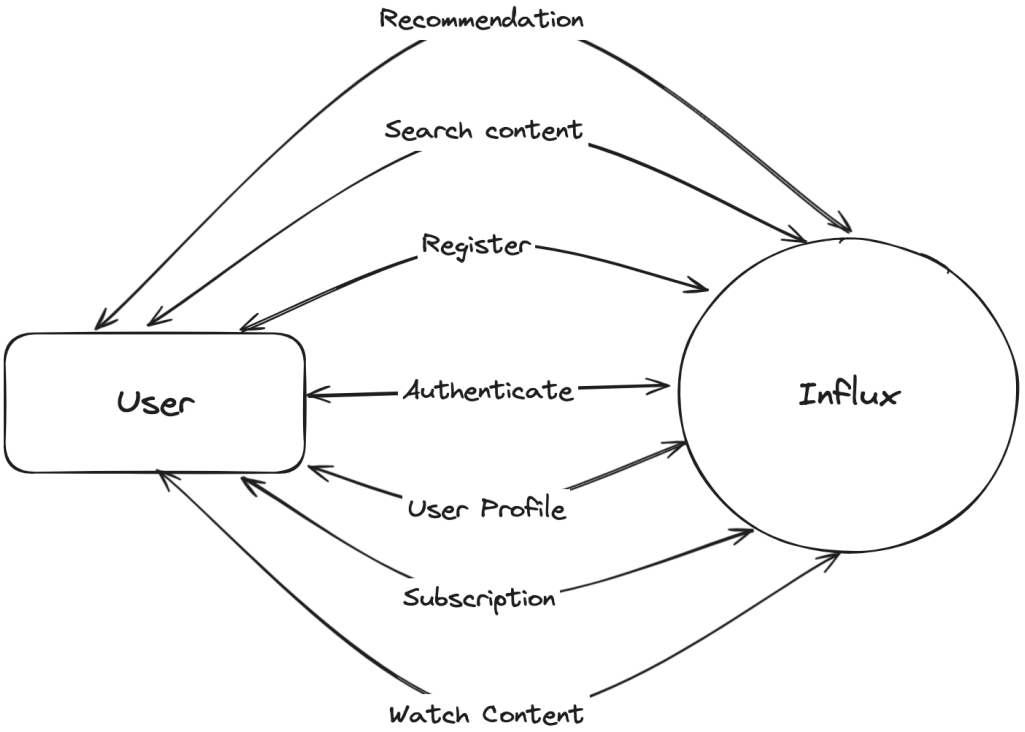
ContentCatalogue: () -> ContentCatalogue.
PersonalisedRecommendations: (User) -> RecommendationList.
SearchAndFilter: (Query, Filters) -> SearchResult.
Content: () -> content.
Operations:
(content) -> Add To LikedContentList
(content) -> Add To WatchList.
(content) -> Remove from Watchlist.
(content) -> Add To FavouritesList.

Rewrite Rules

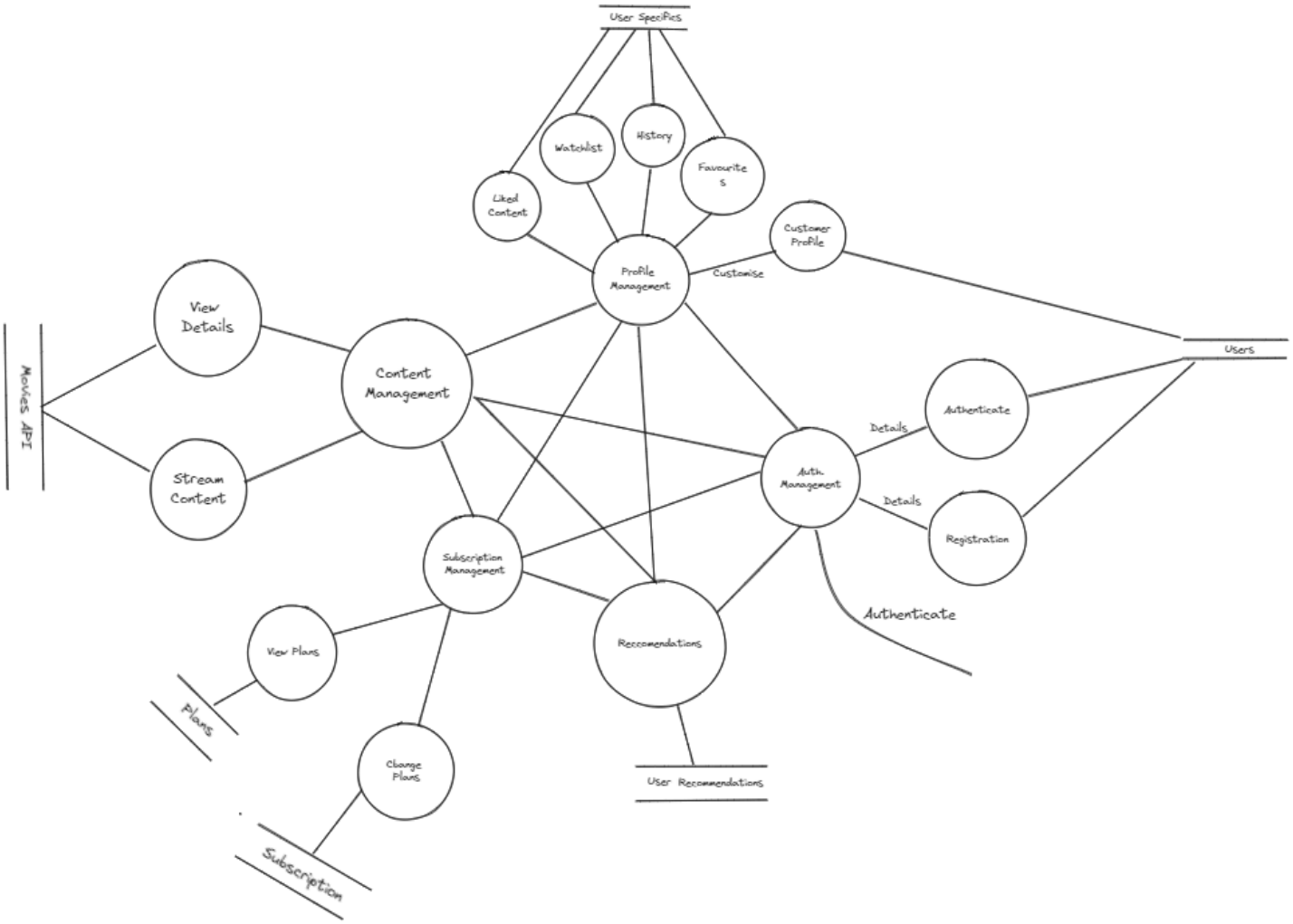
Content(!AuthenticationStatus)-> **Authenticate.**
AnyFeature(!AuthenticationStatus)-> **Authenticate.**
(AddToWatchlist | RemoveWatchlist)(Watchlist(AuthenticationStatus))-> **Watchlist.**
Clear(History(AuthenticationStatus))->**WatchHistory.**
SubscribedBenefits(userBenefit!=UserCapabilities[3])->exception
SubscriptionManagementException

4. Data Flow Diagram

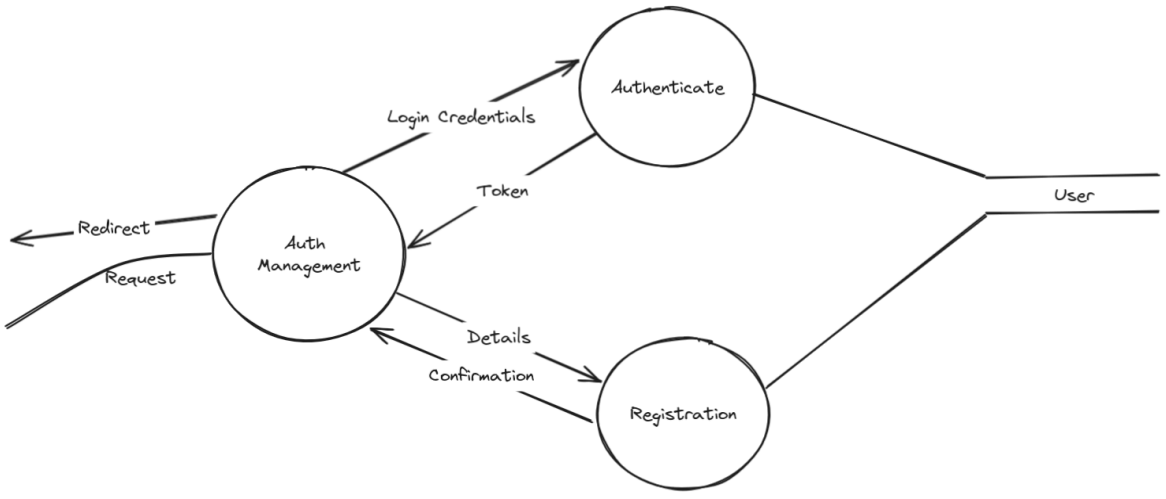
4.1 Level-0

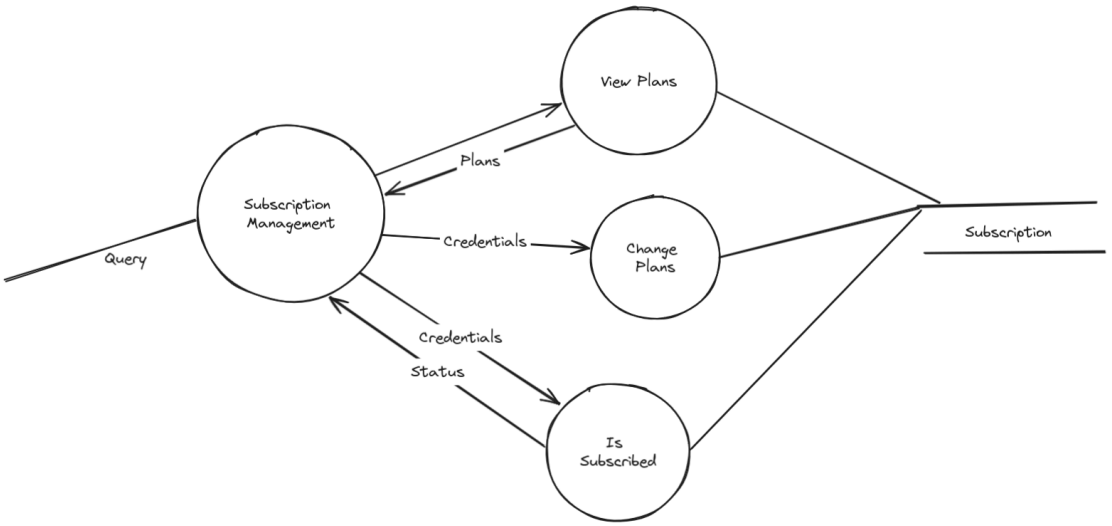

Recommendation
Search content
Register
User
Authenticate
Influx
User Profile
Subscription
Watch Content

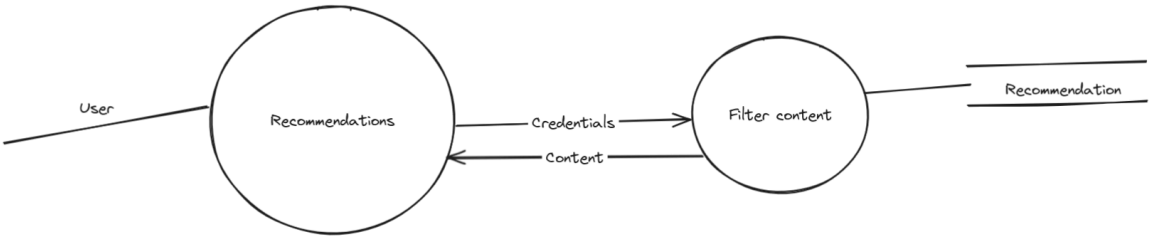
4.2 Level-1

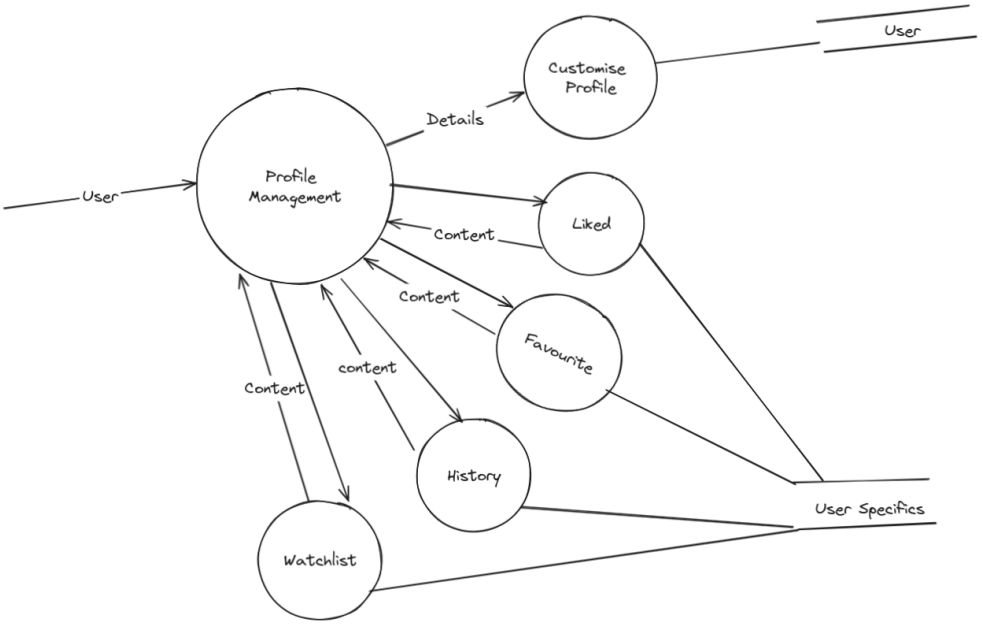

User Specifics
Watchlist
History
Favourites
Liked Content
Customer Profile
Profile Management
Customise
View Details
Content Management
Movies API
Stream Content
Users
Authenticate
Details
Auth Management
Details
Registration
Subscription Management
Authenticate
View Plans
Recommendations
Plans
Change Plans
User Recommendations
Subscription

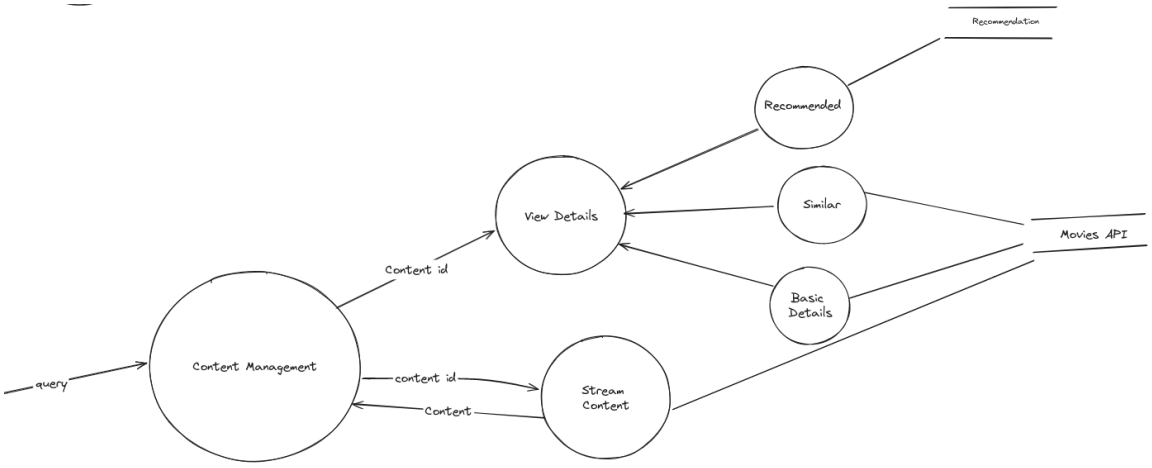
4.3 Level-2


Authenticate
Login Credentials
Token
User
Redirect
Auth Management
Request
Details
Confirmation
Registration

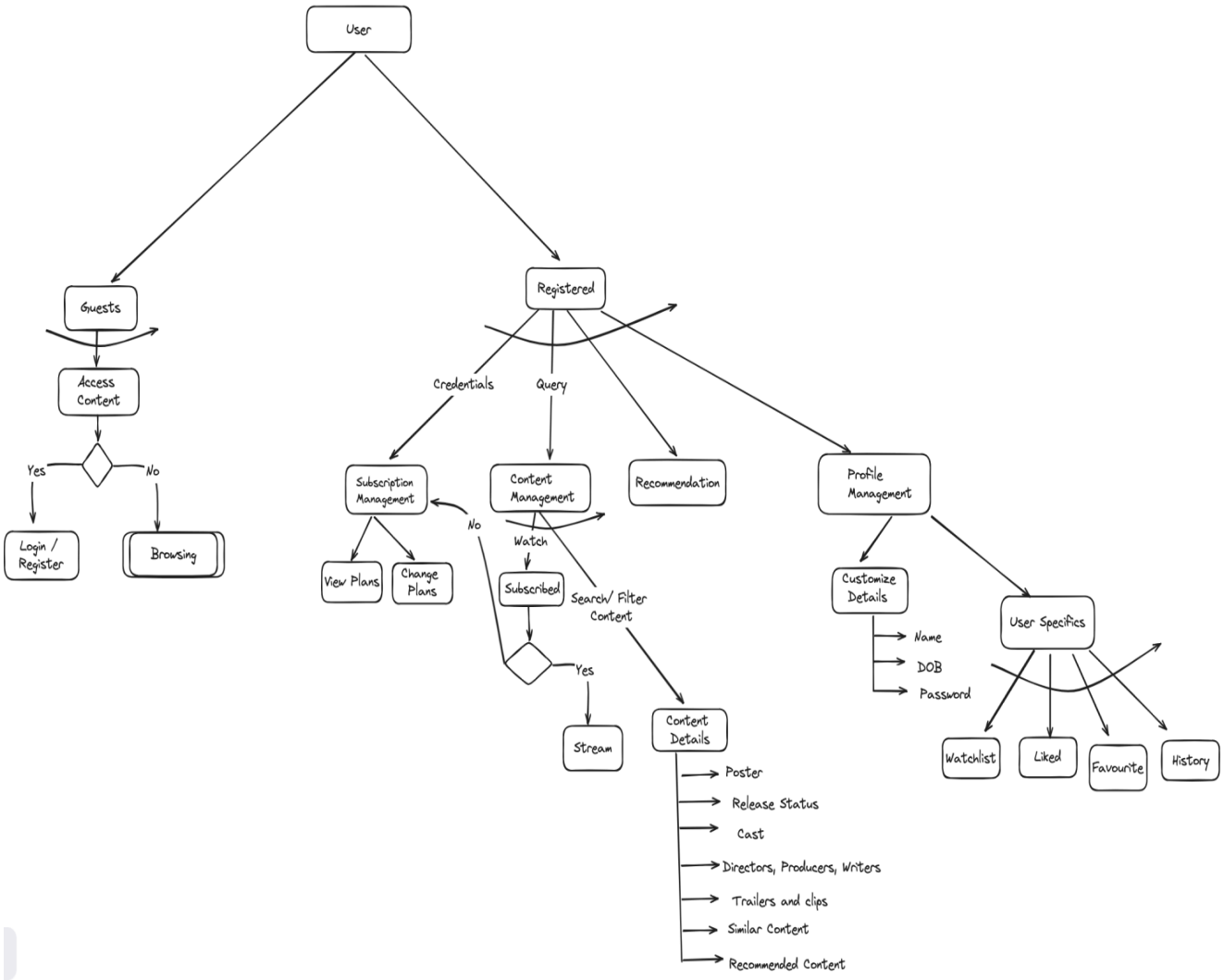

View Plans
Plans
Subscription Management
Query
Credentials
Change Plans
Subscription
Credentials
Status
Is Subscribed


User
Recommendations
Credentials
Content
Filter content
Recommendation

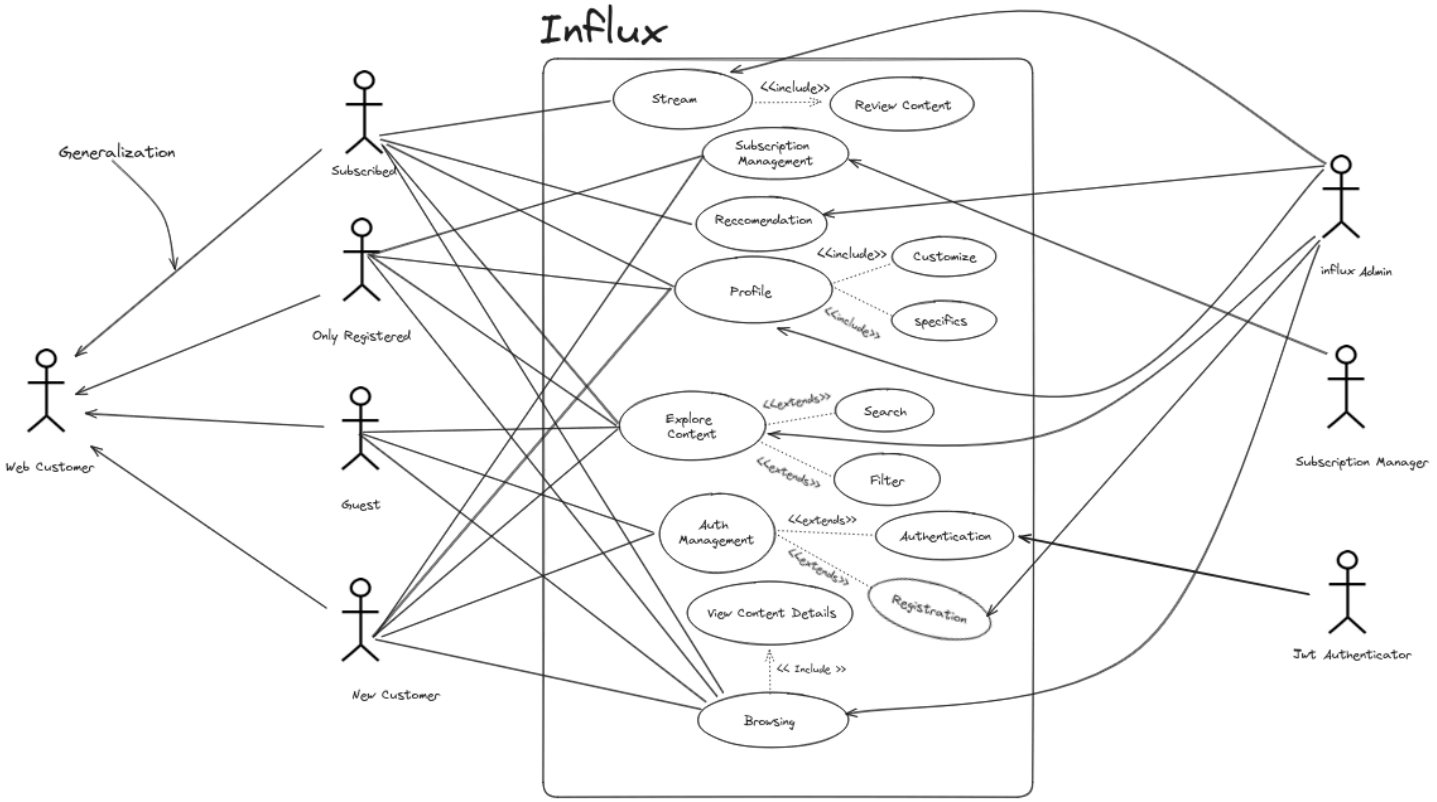

Customise Profile
User
Details
Profile Management
User
Liked
Content
Content
Favourite
Content
content
History
User Specifics
Watchlist



5. Structure Chart

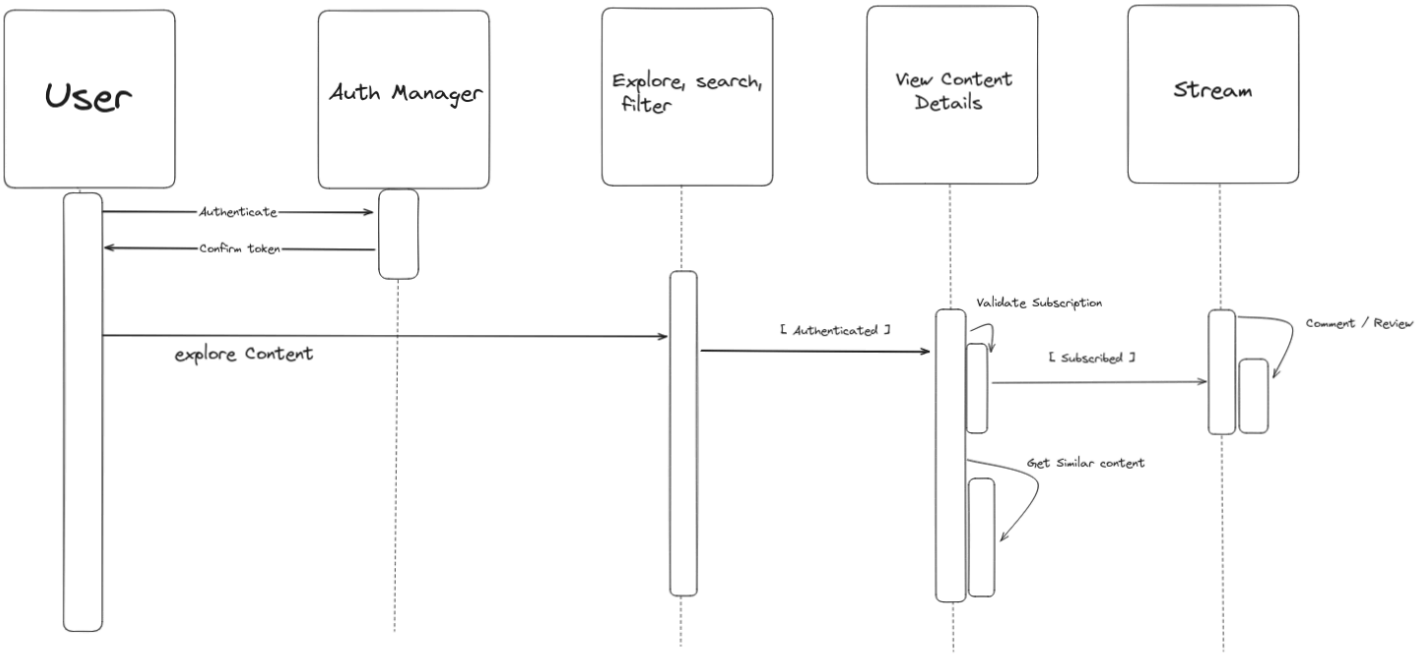


6 . Use case diagram

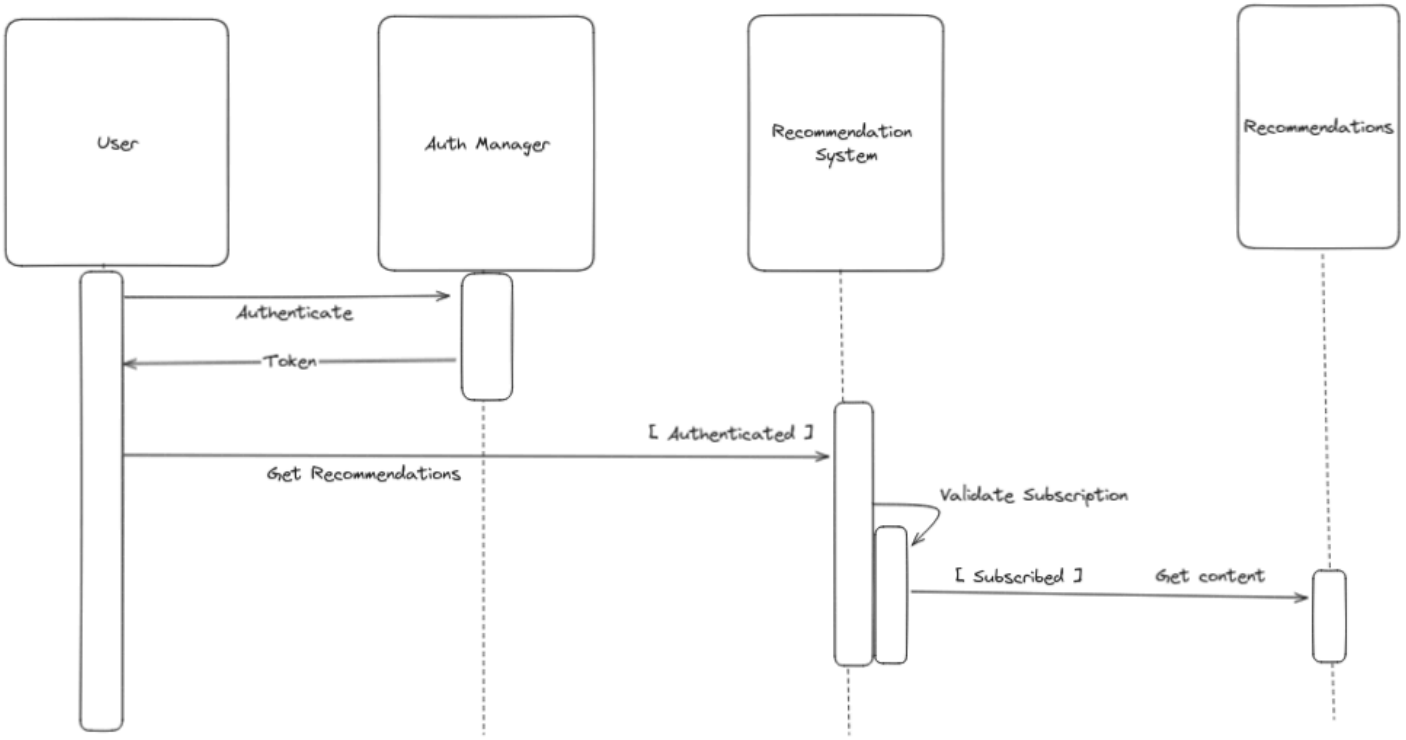


7. Sequence diagram

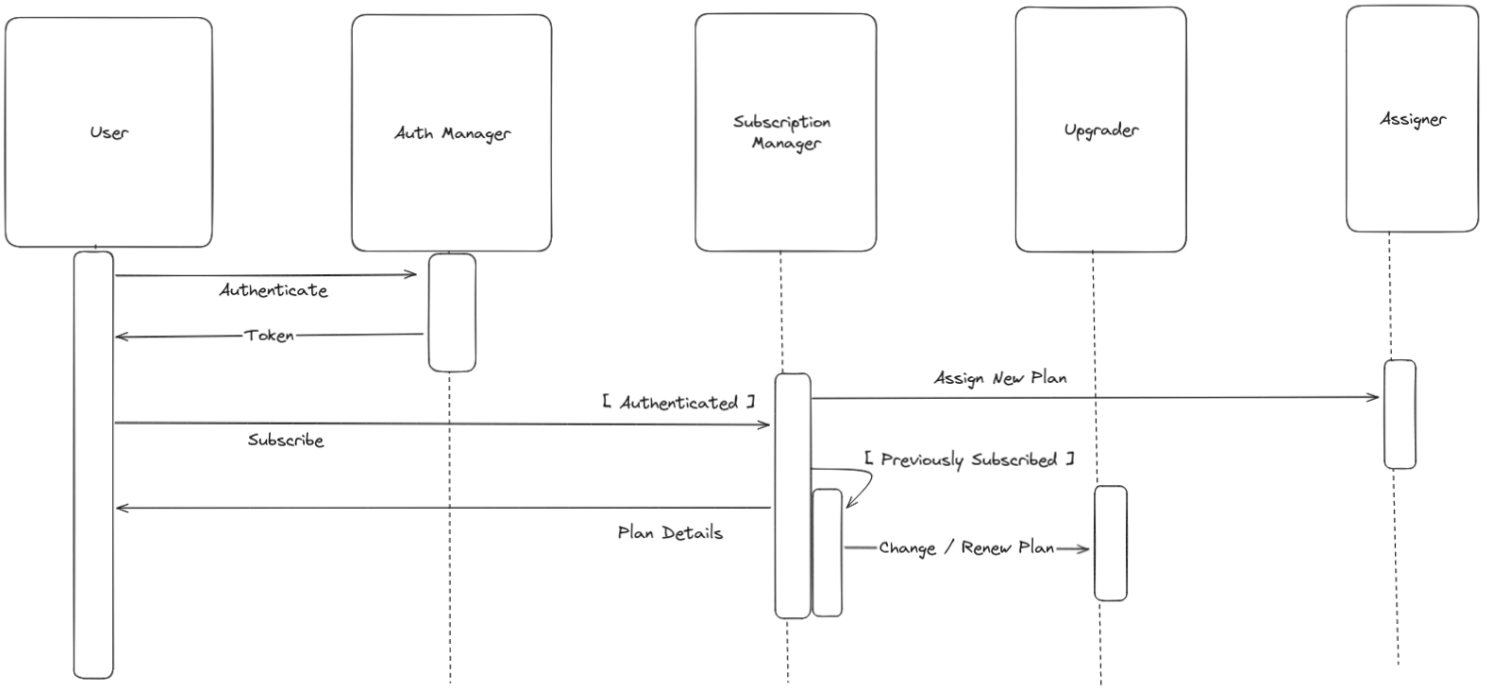
7.1 Content Management



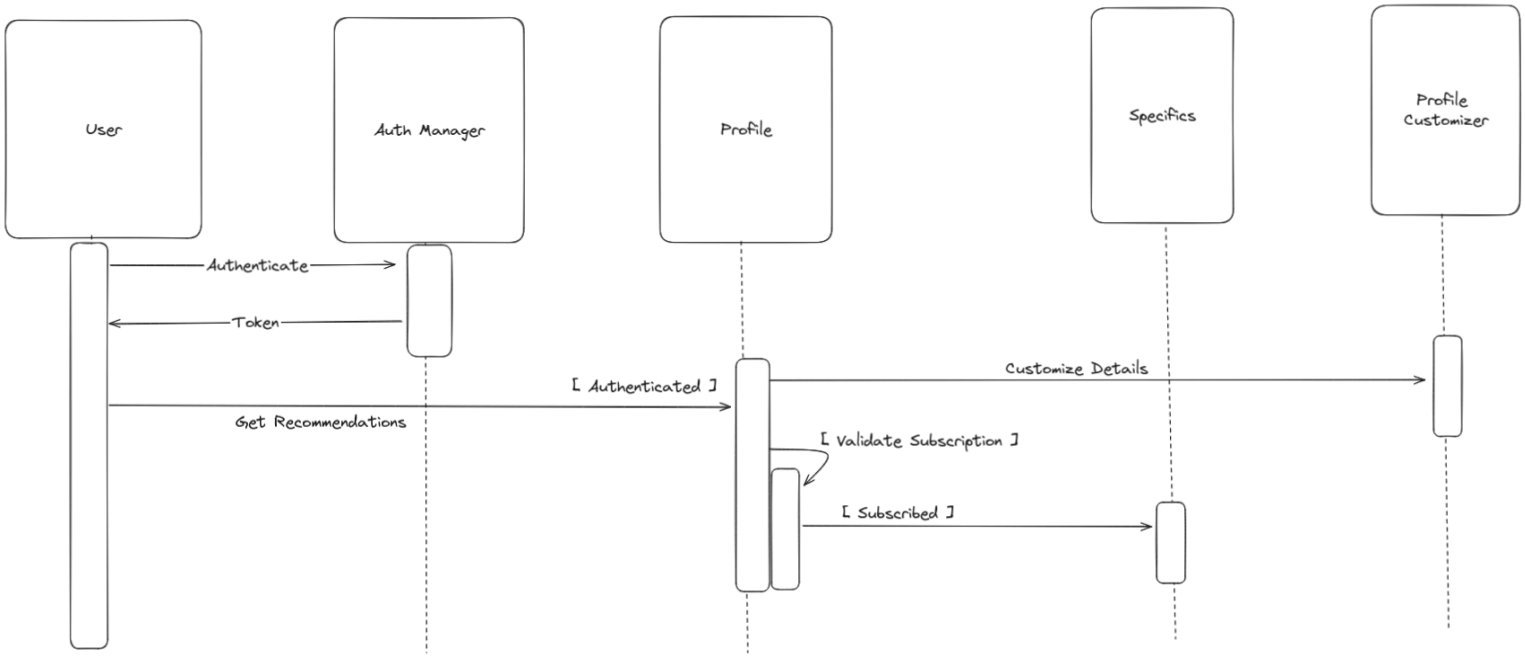
7.2 Recommendations



7.3 Subscription Management

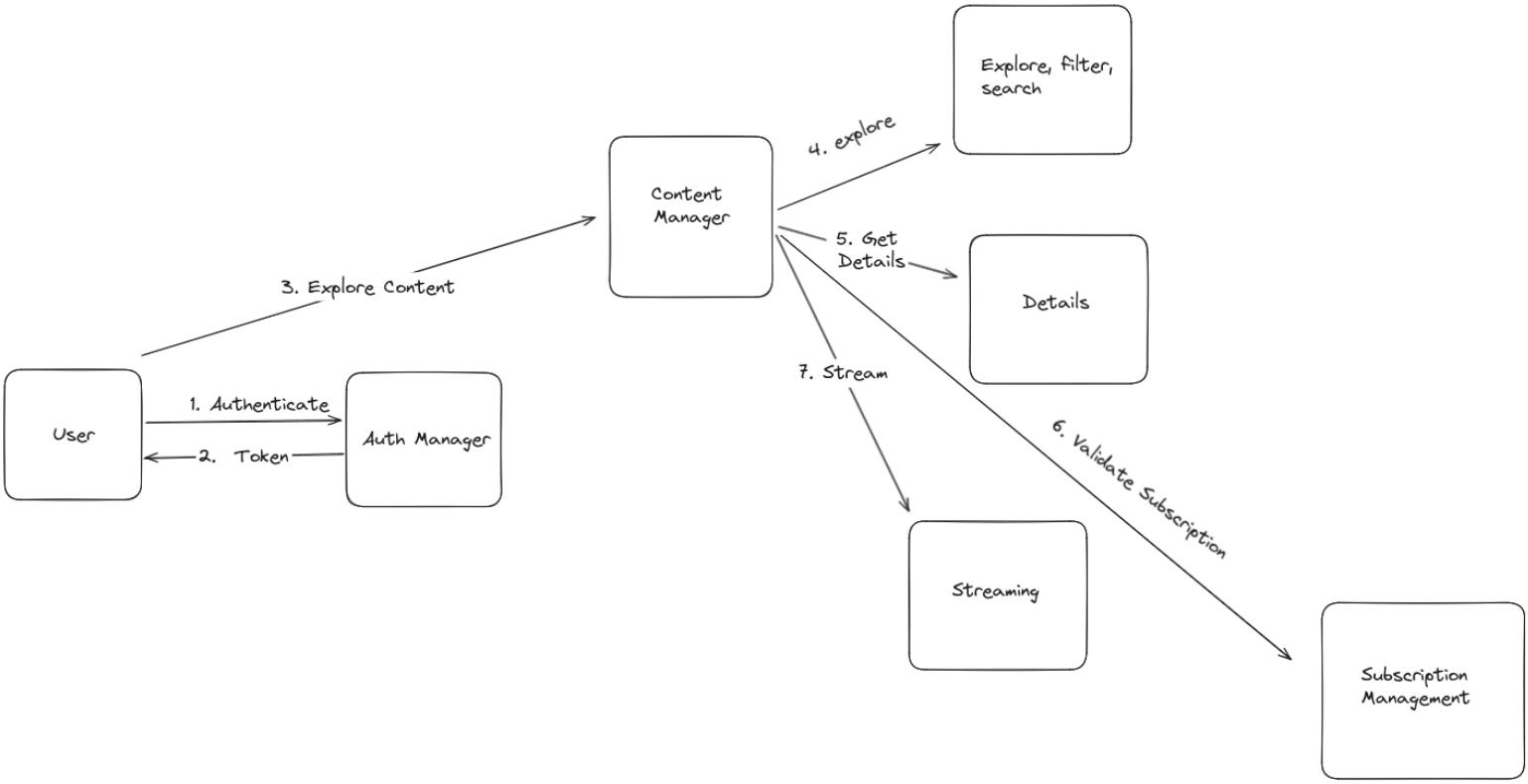


7.4 Profile Management

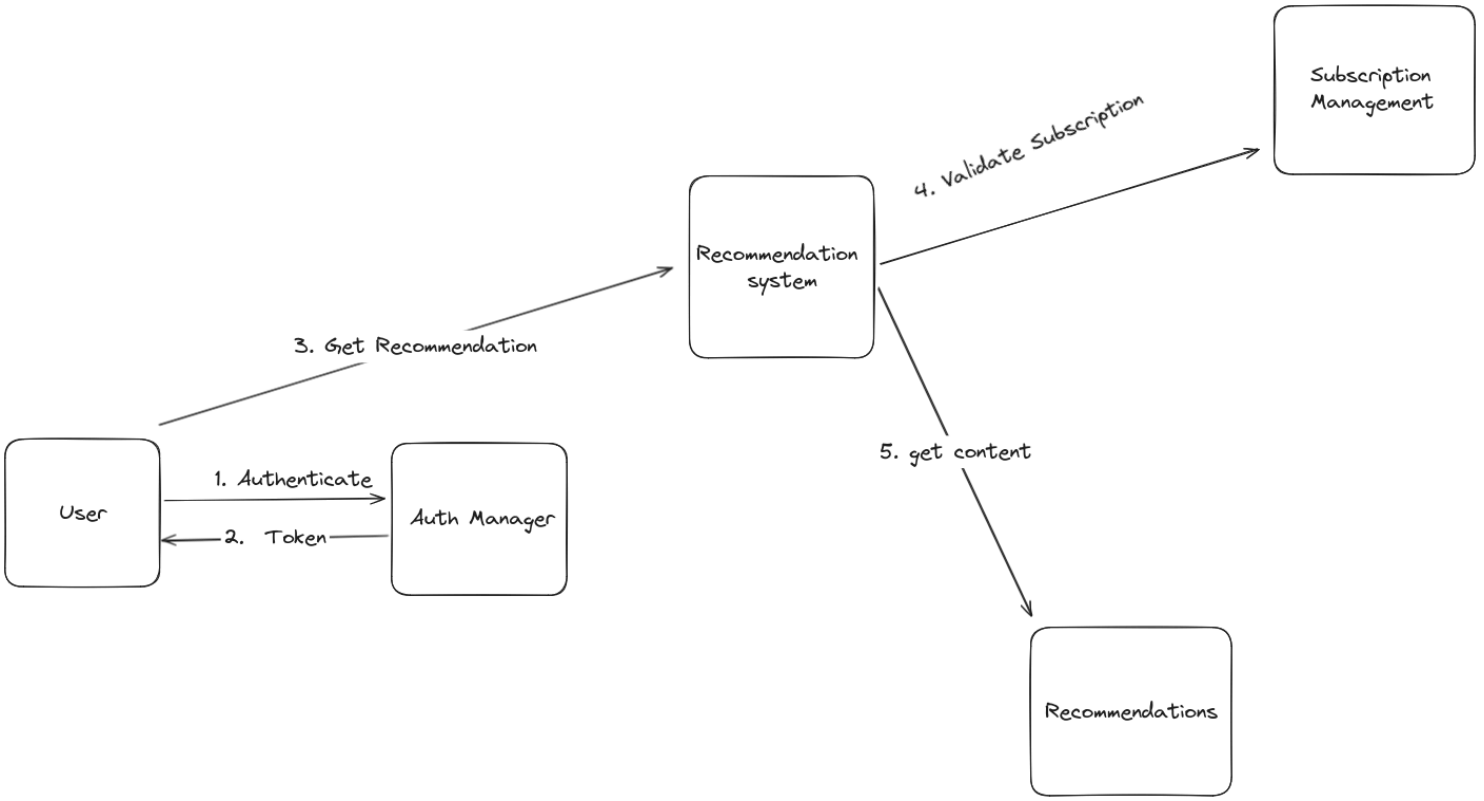


8. Collaboration Diagram

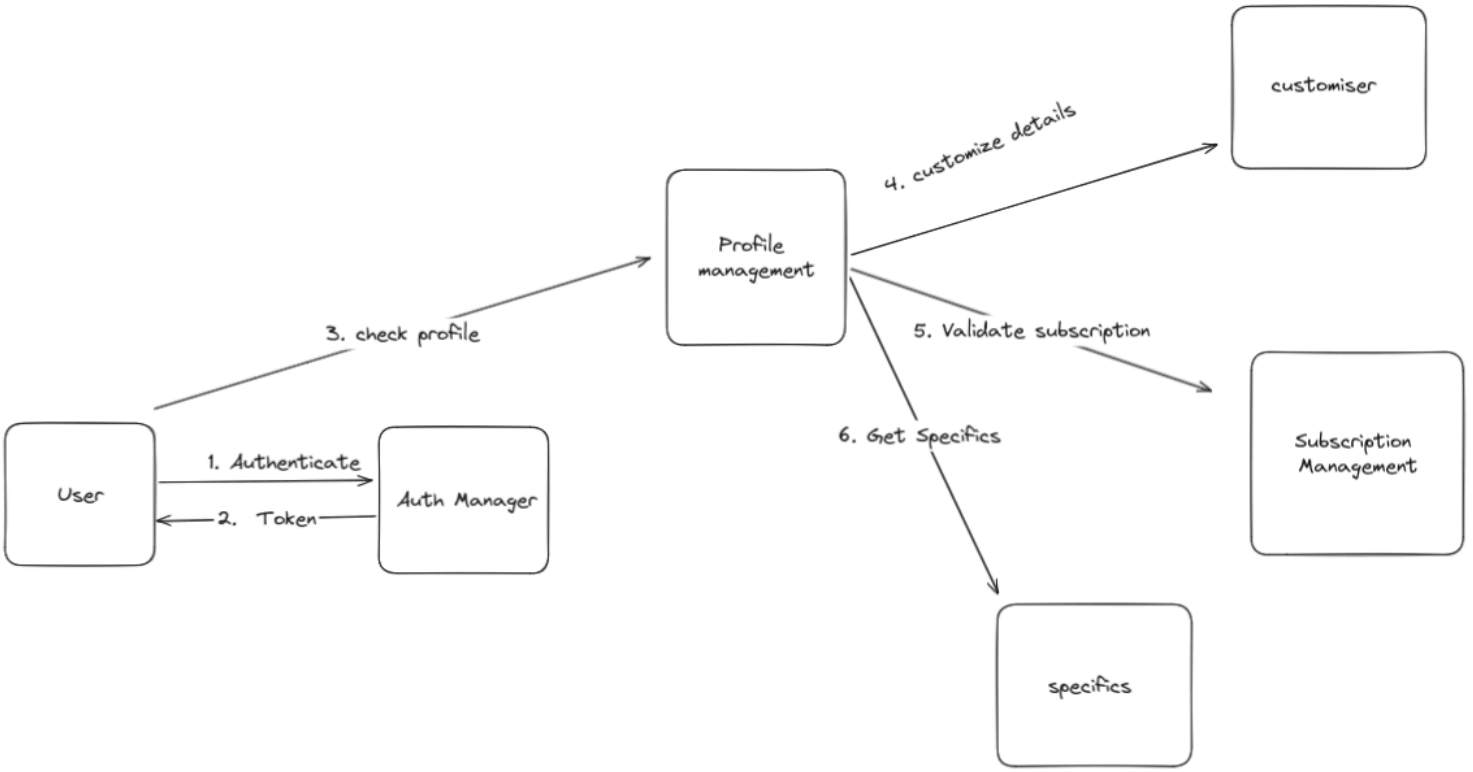
8.1 Content Management



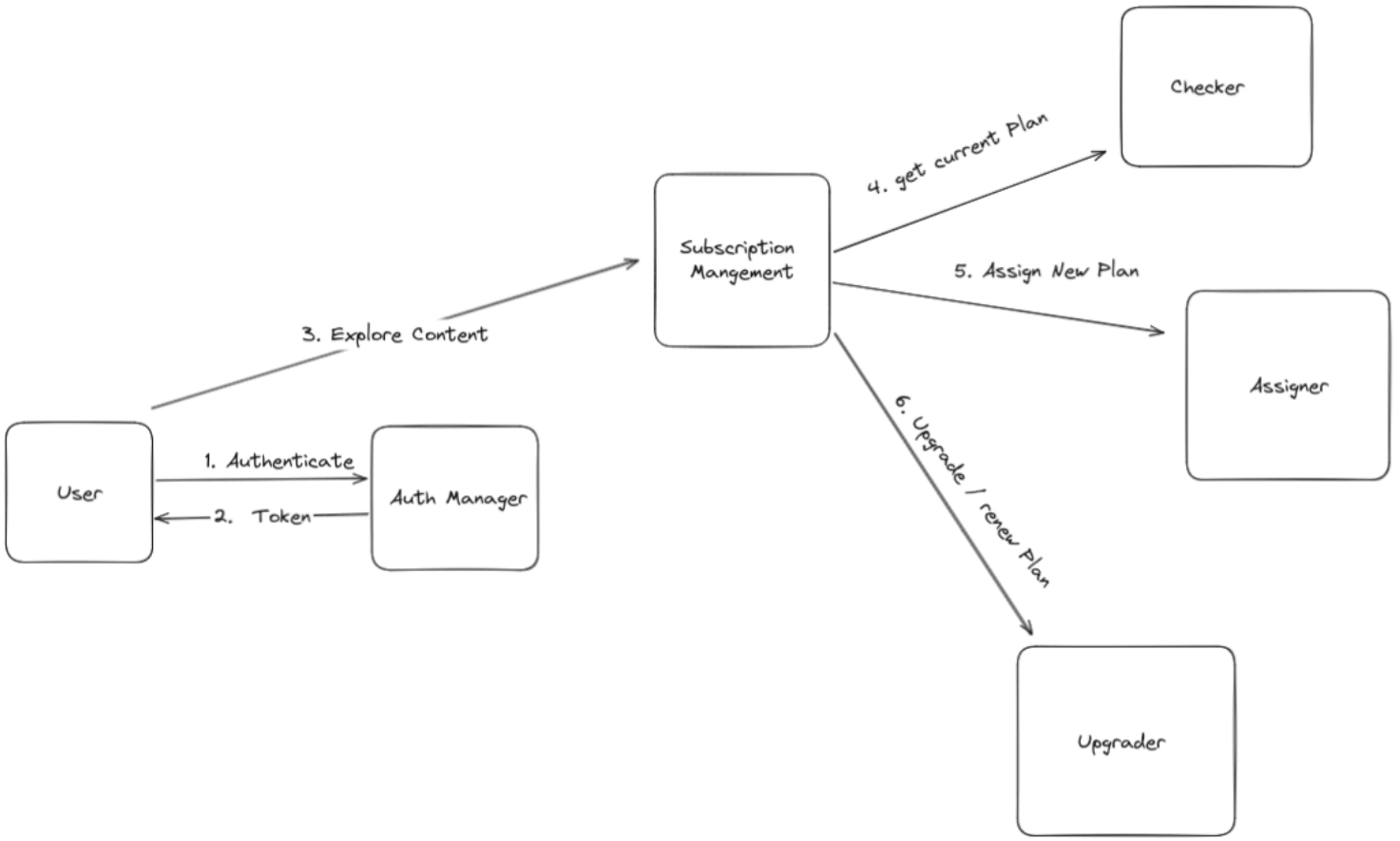
8.2 Recommendation System



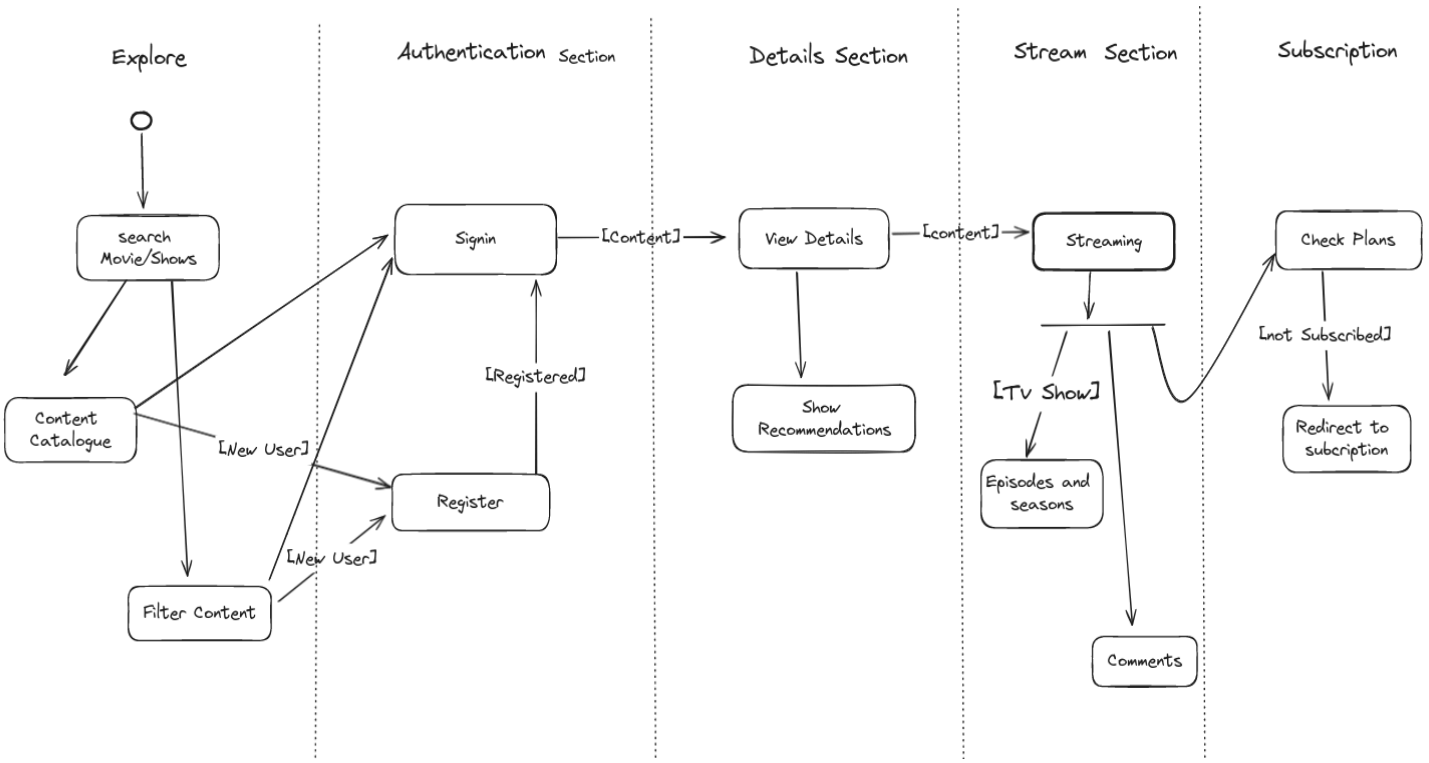
8.3 Profile Management



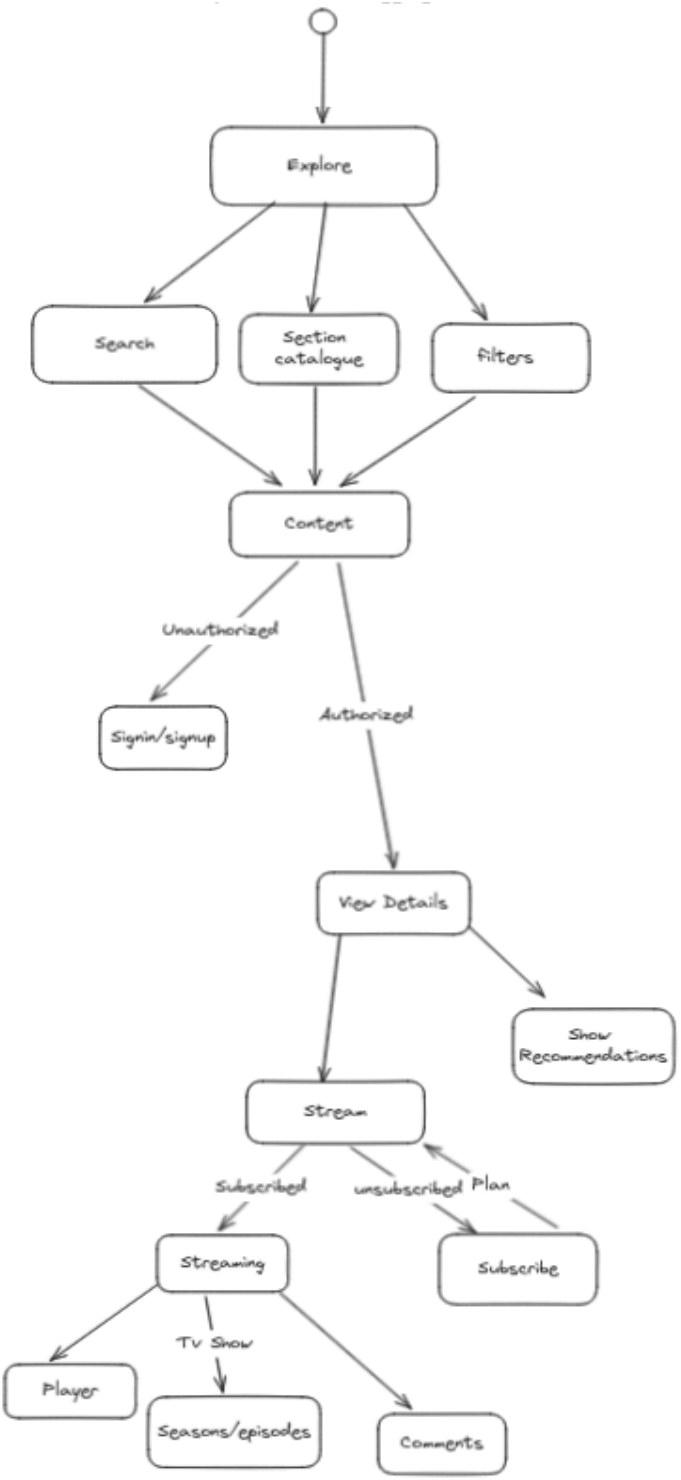
8.4 Subscription Management



9. Activity Diagram



10. State Chart Diagram



Conclusion

This Software Requirements Specification outlines the features, interfaces, and requirements for the development of "Influx," ensuring the successful implementation of a robust and user-friendly OTT platform.

End of Document.