



| Module Number | Module | Description |
|---------------|-----------------------------------|--|
| 1 | Netflix Churn Predictor System | The overarching system designed to predict churn in a Netflix-like service. |
| 2 | User Interface | Consists of the web interface and mobile app for user interaction. |
| 3 | Data Storage | Responsible for storing user data and machine learning models. Uses Amazon DynamoDB for user data and Amazon S3 for model storage. |
| 4 | Prediction Engine (Microservices) | Contains microservices for preprocessing data, training models, and predicting churn based on user behavior. |
| 5 | External APIs | Interfaces with external systems, interacting with the prediction engine to receive predictions. |
| 6 | Authentication and Authorization | Manages user authentication and authorization, including an OAuth 2.0 provider and Role-Based Access Control (RBAC) service. |
| 7 | Real-time Notifications | Provides real-time notifications to users using Amazon Simple Notification Service (SNS). |
| 8 | Monitoring and Logging | Monitors system health using Amazon CloudWatch and logs events using Amazon CloudTrail. |
| 9 | Deployment | Handles deployment of components: microservices deployed using Amazon ECS or Kubernetes, web interface on Amazon S3 with AWS Amplify, and mobile app deployed to app stores. |