

OTT SERVICES AGGREGATION PLATFORM

Paulo Sérgio Martins da Silva

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in MOG Technologies

1. Motivation

The video content consumption paradigm has changed substantially in recent times. This new reality has introduced a multitude of new platforms and devices to users, imposing large investments in content distribution and application development.[1] For content distributors, the adoption of OTT services is the key to success. Building a VOD application that supports this type of service is a time consuming and complicated process.[2] It is necessary to take into account how to create a suitable content bookstore and distribution strategy of the application in different devices. Developing a platform technology, which meets all the necessary requirements, service implementation and associated costs.[3]

2. Goals

This project's objective is to create a Video on Demand product aimed at any type of target user. More importantly, divide this product in its constituent components, facilitating the the addition and development of new functionalities, maintenance and reformulation of existing ones to easily meet the needs of every customer. Finally, to develop an architecture allowing this type of scalability and flexibility.

3. Problem Description

This chapter presents a framework that allows the design and prototyping of an VOD platform capable of integrating different modules (services), meeting the needs of each client. The Framework needs to be extensible and configurable, demonstrating the integration of various sets of components, according to the solution that the customer needs. This Framework is built by adding different modules that allow a workflow and functionalities easily interconnected. Facilitates the integration of new features, whenever required.

3.1. Technologies

The programming languages and technologies used for the development of the project are the following:

- **HTML5:** language for structuring and presenting content
- **PHP:** server scripting language and a tool for creating dynamic and interactive web pages

- **CodeIgniter:** lightweight PHP framework, built for developers who need a set of simple and elegant tools for creating Web applications
- **JavaScript:** client-side programming language, multi-paradigm and high-level, dynamic and succinct

3.2. Architecture

A diagram of the system is presented, containing the essential components for the basic services and some optional ones (extra functionalities), which can be added according to the needs of the customer.

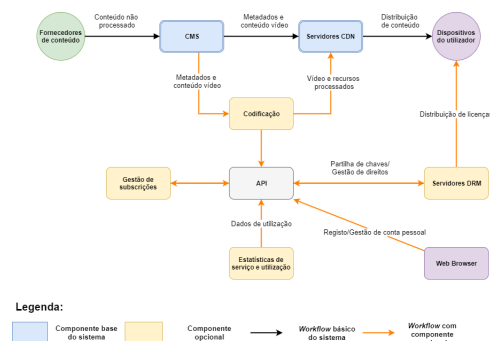


Fig. 1 – Service architecture and components

3.3. Prototype

The developed prototype was divided into two main components:

- A modular video-on-demand application, with the basic video streaming services and some optional modules.
- Application for deploying a version of the VOD application, in which the modules and services present in it are configurable

3.3.1. Video-on-demand Application

The application is based on a Client-Server structure, in which users need to download the program to access the video content. The system uses a Browser/Server structure (based on the Client-Server structure of the application). The client only needs a browser to open the application and play video.[4]

In addition to the web application user interface, the basic video content streaming and distribution service, the application has five optional modules that can be easily added to the application depending on the needs of the end customer:

- **User Management**
- **Video Encoding**
- **Ad Placement**
- **Payments**
- **Premium Content/Services**

3.3.2. Custom VOD application deployment

The VOD application has been developed so that its resources and services are separated according to the component to which they belong. Thus, it is possible to create application versions with different features. An application has been created for deployment of the VOD application in which the user can select the components present in it. There are, however, some restrictions concerning the choice of modules for the final application.

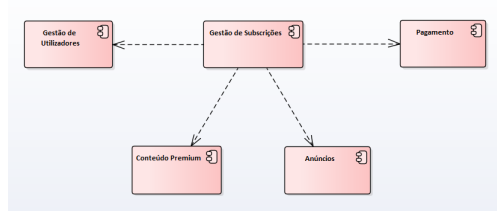


Fig. 2 – Module dependencies

The subscriptions management module requires the user management module to know which user corresponds to a given subscription. The subscriptions module depends on the payment module so that a user can change their subscription type via payment. Finally, content restricted to certain types of subscriptions (or the ability to remove ads) is required for the subscription management module to be useful. Given this set of rules, you can create versions with any combination of features. Content streaming and distribution services are the building blocks for the application operation.

4. Conclusion

Considering the current reality of a large variety of content offers and consequent need to realize the right options (quality of service, cost containment, functionality).[5] This project aims to facilitate the task of the consumer/customer and the respective service provider. There is also the possibility of constant updating of this application. Thus, the developed project demonstrates an architecture that allows the construction of a modular, scalable and configurable video-on-demand application in terms of its functionalities and services. The different modules of this solution are easily integrable with each other, facilitating the addition of new functionalities. Customers who adopt this type of application will be able to adapt it as the requirements of their service change, and at the same time allow the replacement of components individually, with less effort, since each component is abstracted from the rest and the application's basic services.

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