



Milestone 2 Elaboration Phase



Context and State of The Art



17.4° C 

Events

15/12/2023 - 15/11/2024
Catacumbas
Exposição: 50 objetos de conhecimento 1973-2023

15/12/2023 - 15/11/2024
DETI - Anfiteatro IV
Elon Musk no porquê de utilizarmos carros elétricos

News

- › Borges, do CICECO, membro da Global Young Academy e do Seminário de Jo

In the context of digital signage, DETI is currently using VLC to iterate statically over videos.

Due to its limitations the entire system requires an overhaul.

To address this, we are creating a centralized system to manage all content with ease, schedule media display and get information from APIs. All of this with an user-friendly interface, providing our users and viewers a better experience.



Requirements gathering

Brainstorming

To ensure thorough requirement gathering, meetings within the group were organized to discuss them

Tutor meetings

Our tutors provided us with invaluable feedback to make better and deterministic choices

Client Requests

Speaking with our client helped us build visualise the intended final product, which in turn facilitated some choices

Competitors research

Another way of gathering requirements was through looking at related works and how they were approached



\$11
screen/month



\$12.50
screen/month



16 €
screen/month



Outlook





Functional requirements

Display Management

- **Granular Display Control:** Assign specific content to individual screens or predefined groups of screens.
- **Remote Management:** Configure and manage your displays remotely for added convenience.



Content Management

- **Upload, Manage, and Organize Content:** Easily upload, edit, and organize content
- **Rich Media Support:** Display images, videos, audio files, and text to create engaging presentations.
- **Content Scheduling:** Schedule content to be displayed at specific times or triggered by events.



Integration

- **Dynamic Content:** Integrate with external data sources like RSS feeds, social media platforms, and APIs to display dynamic and up-to-date content.

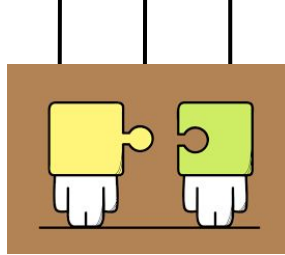


User Interface

- **Intuitive Interface:** Provide a user-friendly interface for easy content creation and management.
- **Role-Based Access Control:** Define user roles and permissions for administrators, content creators, and other users.
- **Performance Tracking:** Implement reporting and analytics features to track content performance and monitor display status.



Non-functional requirements



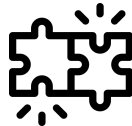
Scalability

- **Flexible Architecture:** The system should be designed to easily accommodate an increase in the number of screens or content volume.



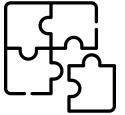
Compatibility

- **Platform Agnostic:** Ensure compatibility with commonly used operating systems and web browsers.
- **Standards Compliance:** Adhere to industry standards and protocols like HTML5 for content display and RESTful APIs for data communication.



Usability

- **Multilingual Support:** Offer the user interface in multiple languages, including Portuguese (pt) and English (en) by default (add more languages as needed).
- **Responsive Design (Optional):** Consider implementing a responsive design for the user interface to ensure optimal viewing across different devices.





Non-functional requirements

Performance

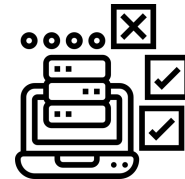
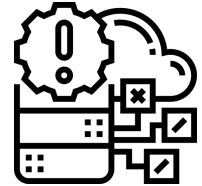


- **Responsiveness:** Ensure fast response times for uploading and updating content.
- **Smooth Playback:** Guarantee stutter-free playback of content without buffering or lag.
- **Scalability:** The system should be able to handle a growing number of screens and users without performance degradation.



Reliability

- **High Availability:** Maintain a high level of uptime to ensure displays are operational for extended periods.
- **Fault Tolerance:** The system should be able to withstand hardware failures or network issues without significant disruption.
- **Disaster Recovery:** Implement a recovery plan, including backups, to ensure quick recovery from system failures.



Personas





Actors

Director of DETI

Name: Nuno

Age: 37

Occupation: Technician



Background: Nuno has been working at the university for over 15 years. He excels in his administrative duties and is highly valued by his colleagues. However, design is not his strong suit. He also prefers simple and intuitive platforms.

Goal: Nuno's goal is, even though he's not very tech-savvy, to be able to share news, promotional videos, and other resources (pre-made) on the available screens (which he can add) without much effort.



Actors

Employee

Name: Sara

Occupation: Designer

Age: 30



Background: Sara prefers customizable and feature-rich software that allows her to unleash her creativity. She values efficiency and appreciates tools that streamline her workflow and enable her to produce high-quality content quickly. She enjoys experimenting with different design elements and is always eager to explore new features and capabilities.

Goals: Sara aims to create captivating content to be displayed on the screens available at DETI. Thus, utilizing her creativity, she designs her own templates that will be showcased on the selected displays.



Actors

Student at DETI

Name: Rodrigo

Age: 19

Occupation: Student

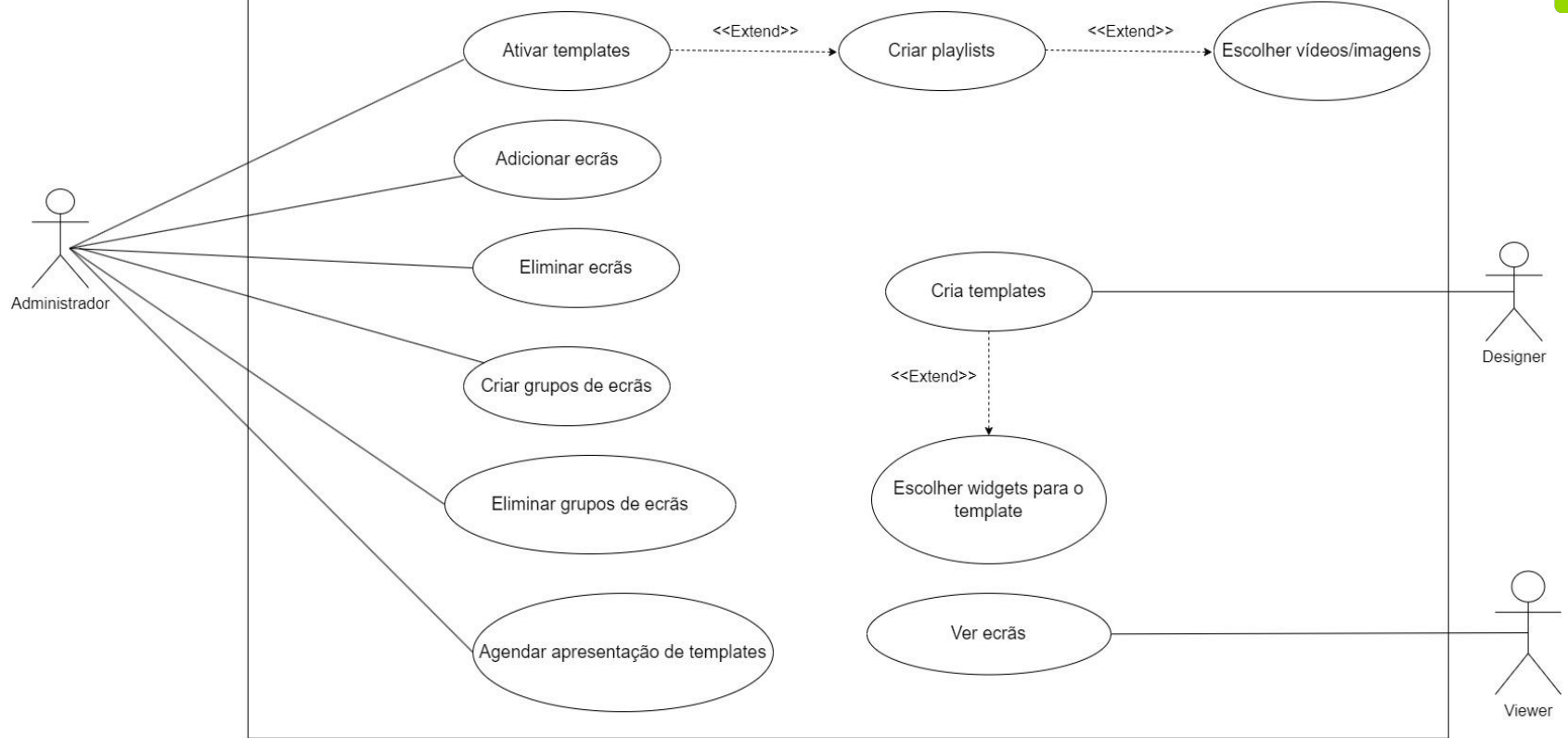


Background: Rodrigo is an enthusiastic and curious student, always seeking new experiences and knowledge. As a university student, he is constantly looking for relevant information about academic activities, cultural events, and networking opportunities.

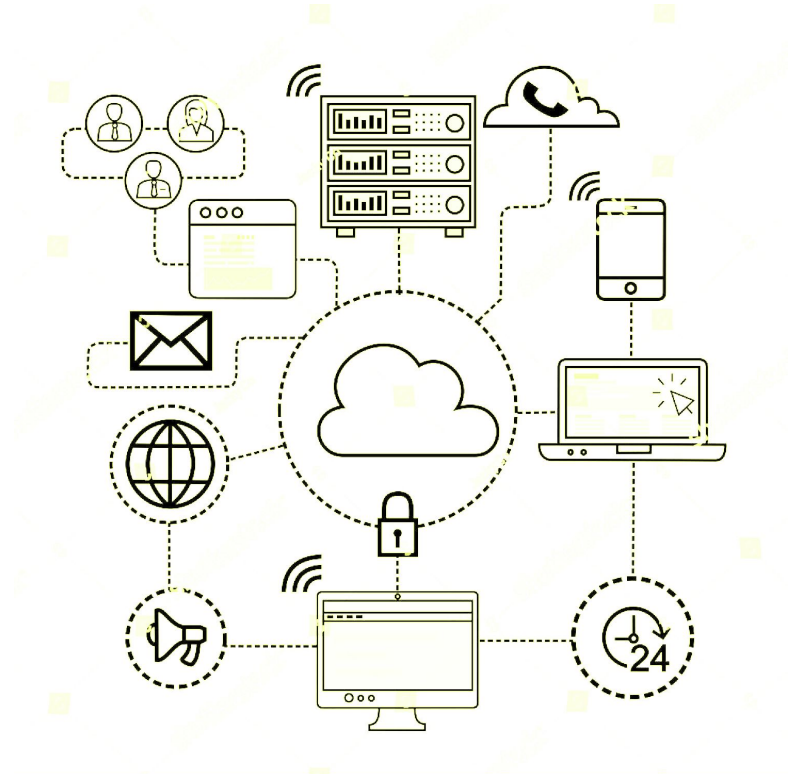
Goal: Rodrigo wishes to have quick and easy access to important information related to his course, academic events, and extracurricular activities. He expects information to be presented to him clearly and organized, allowing him to stay updated while moving around the campus.



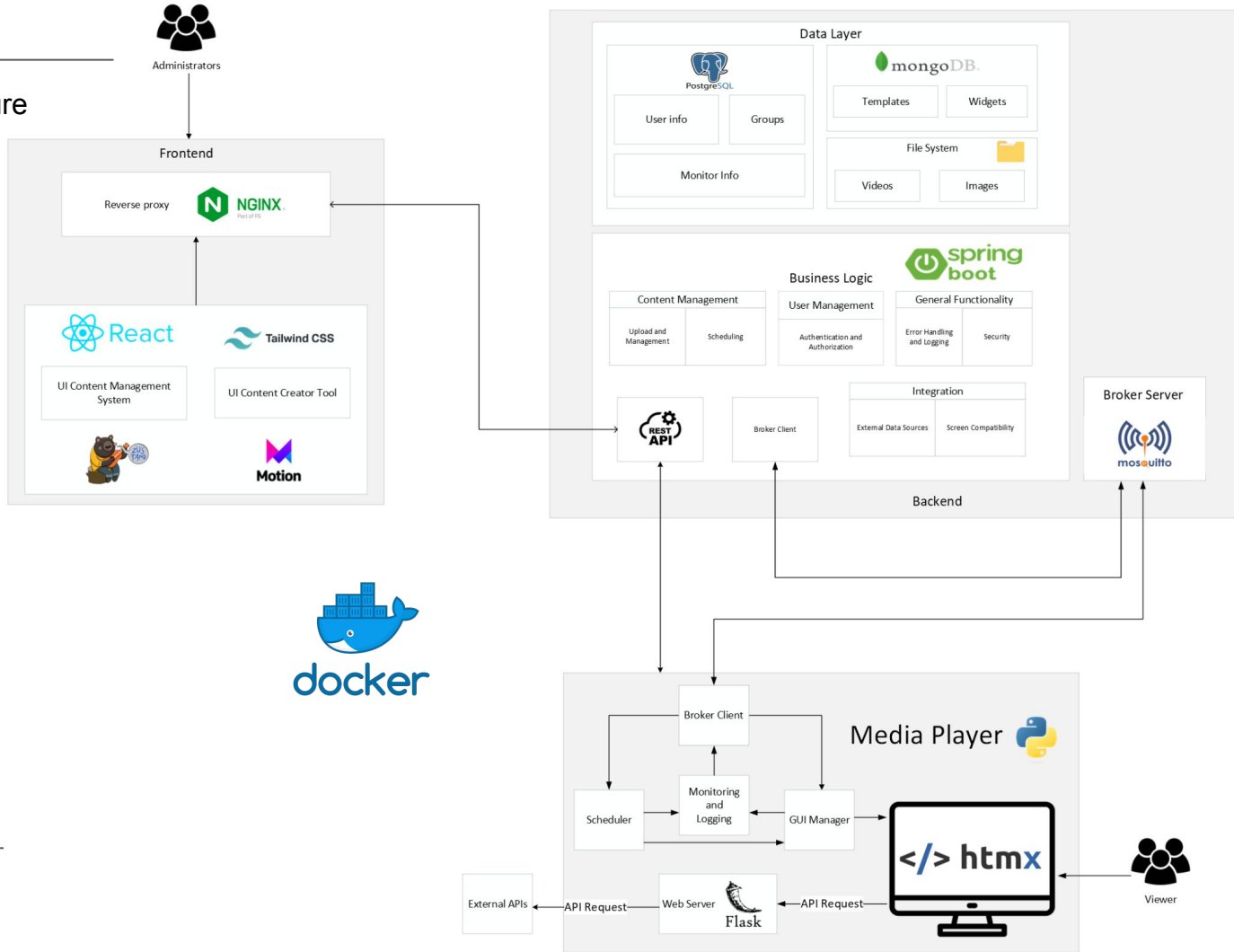
Use Cases



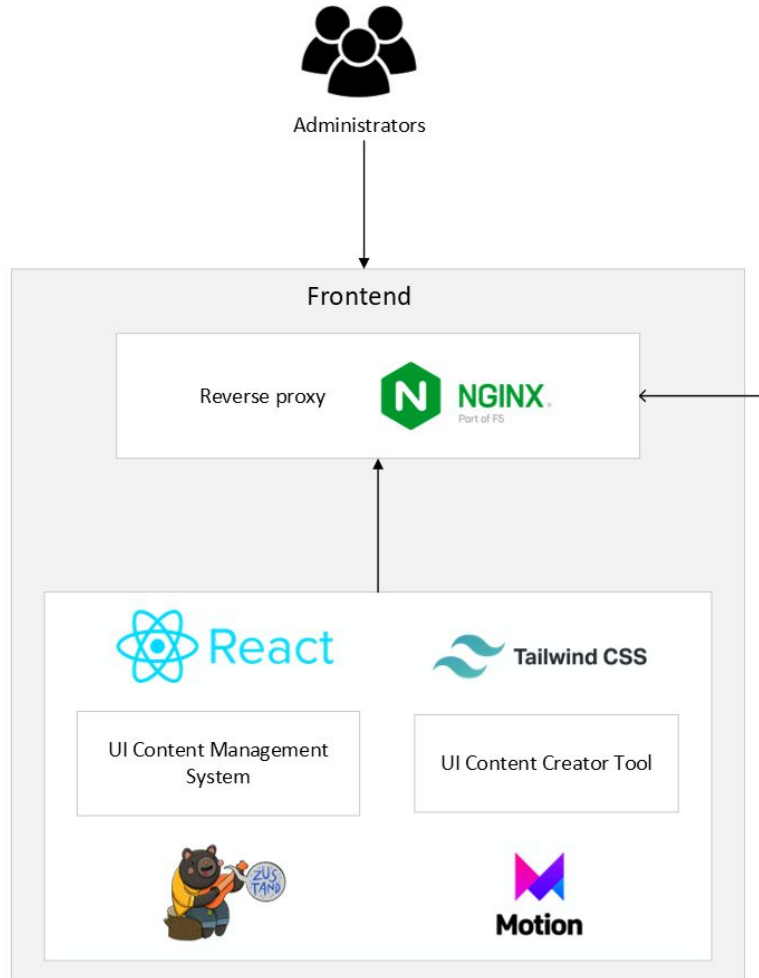
Architecture



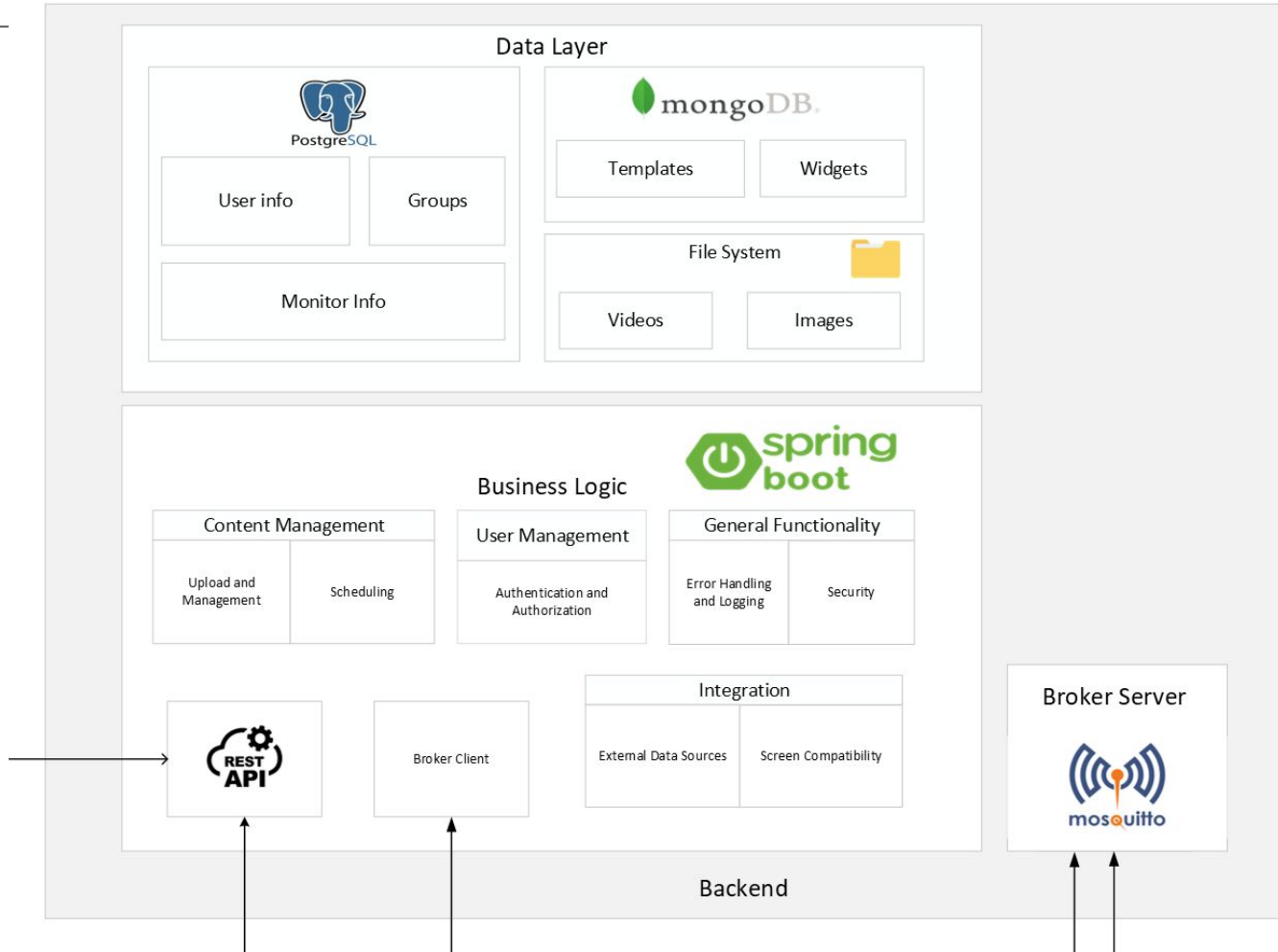
System architecture



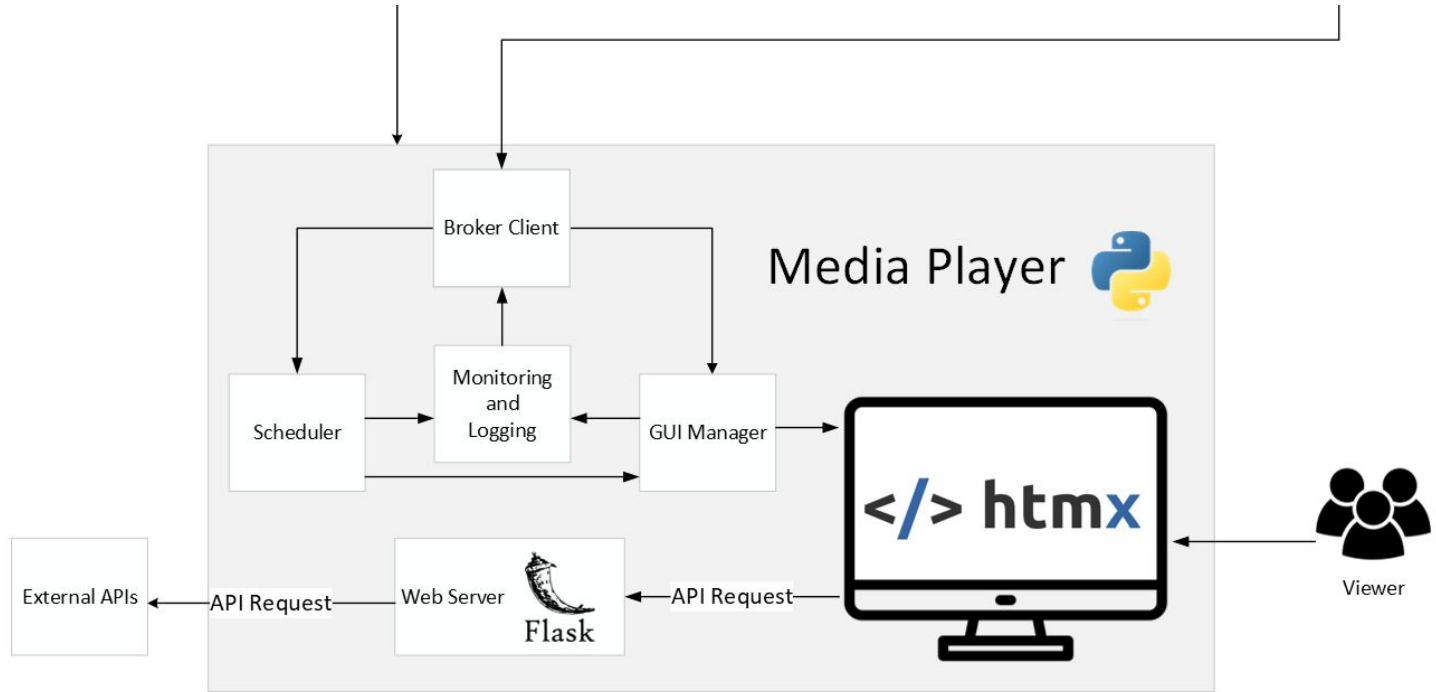
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