iMuseum

Sapienza 2020 IOT course

Github repository: https://github.com/Giulio64/IOT2020BigProject

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Visitor interaction

Upon approaching an artwork the app will provide to the users three "tiers" of information:

- **Quick overview**: basic information about the artwork;

- **Complete description**: a more detailed description of the artwork and the author;

- **Academic**: academic level information like articles and researches about the piece of art.

Curator interaction
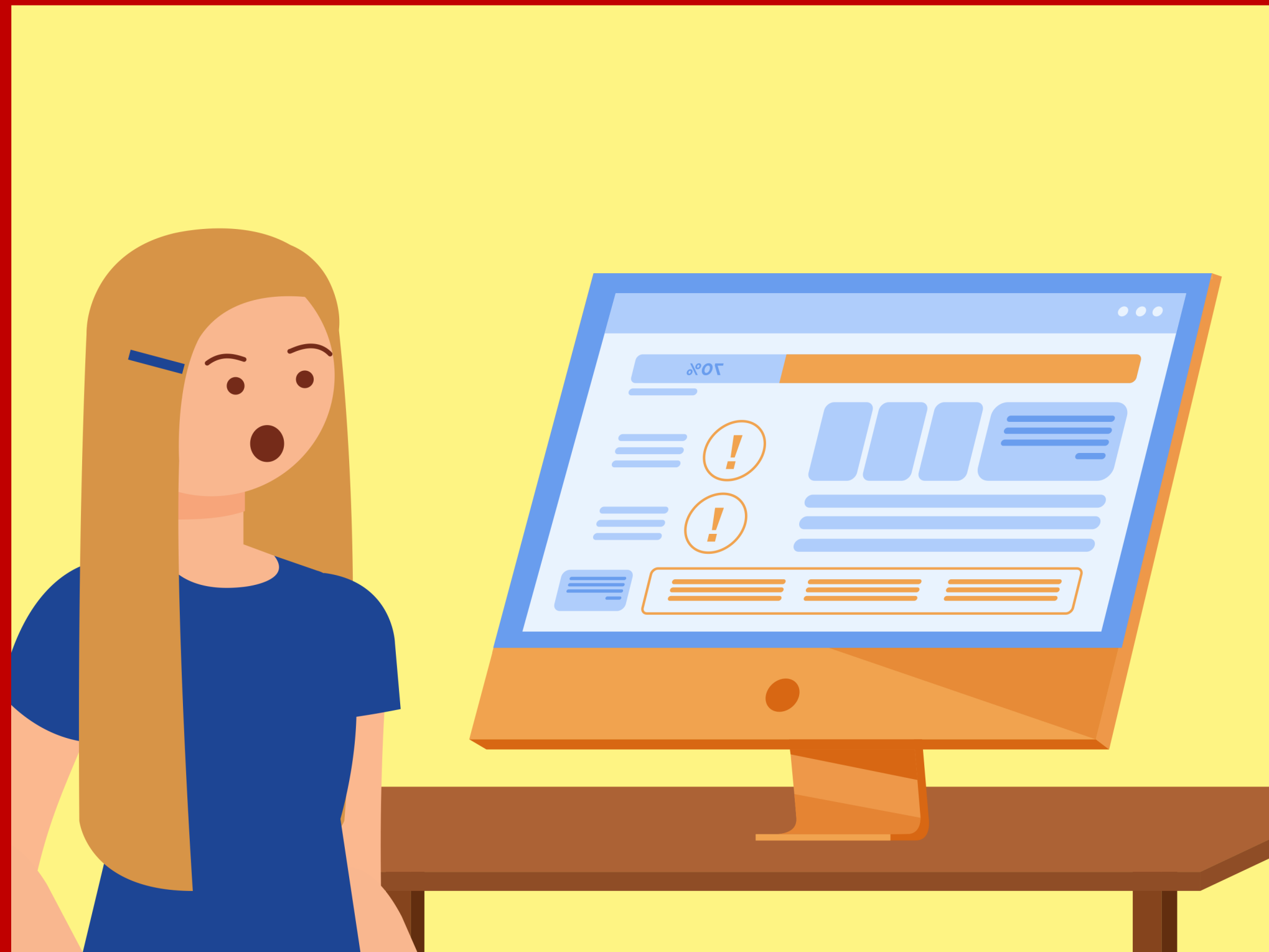
The website will give the curators access to statistics about the users' behavior, like most viewed art pieces, average time spent in front of an artwork, heat-maps of the users' positions inside the museum and favorite routes, and will inform them if any of the Bluetooth beacons it's not working properly.
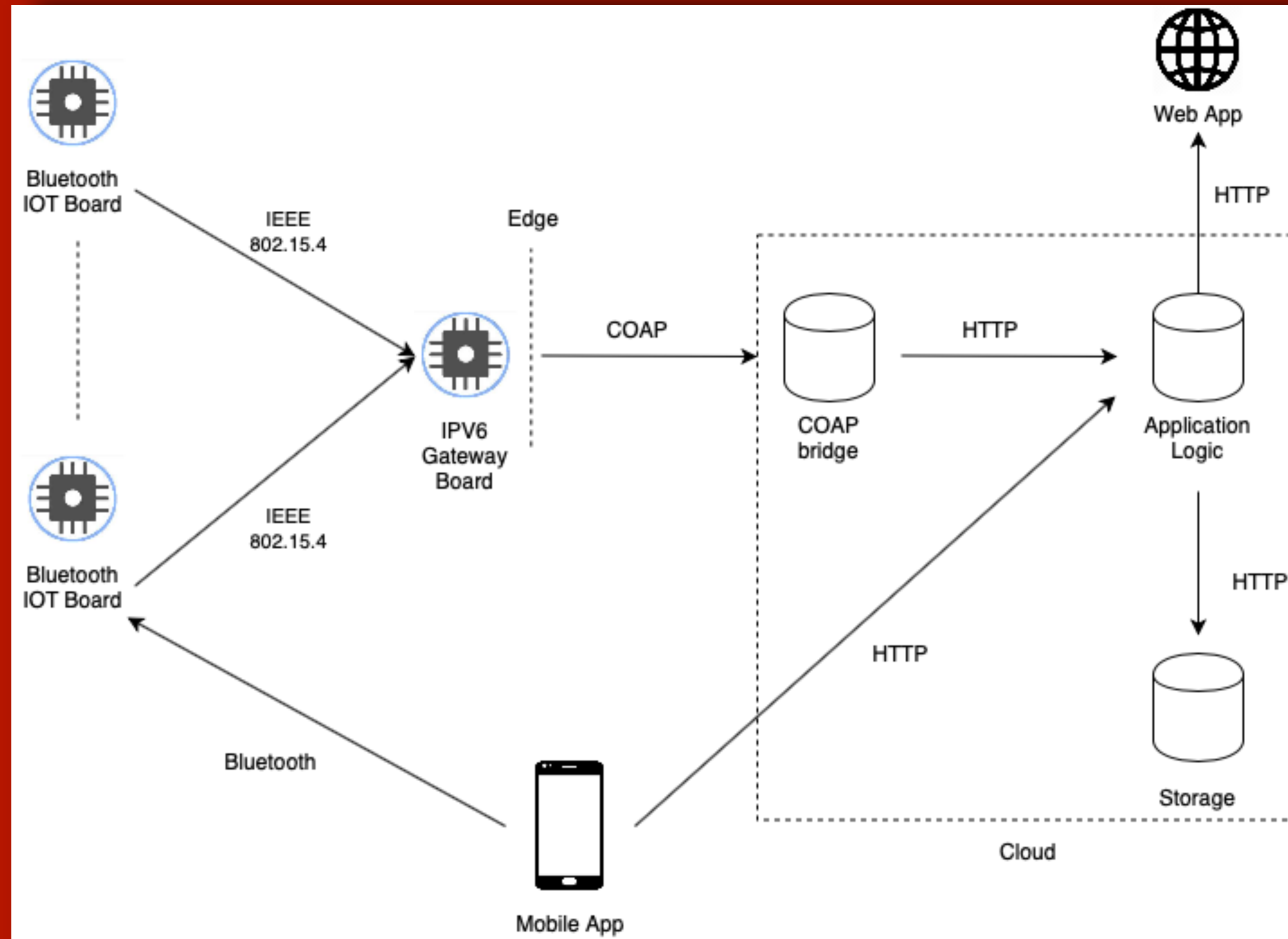
Design process

The design process started with interviewing potential users to understand how we can improve their experience in the museum.
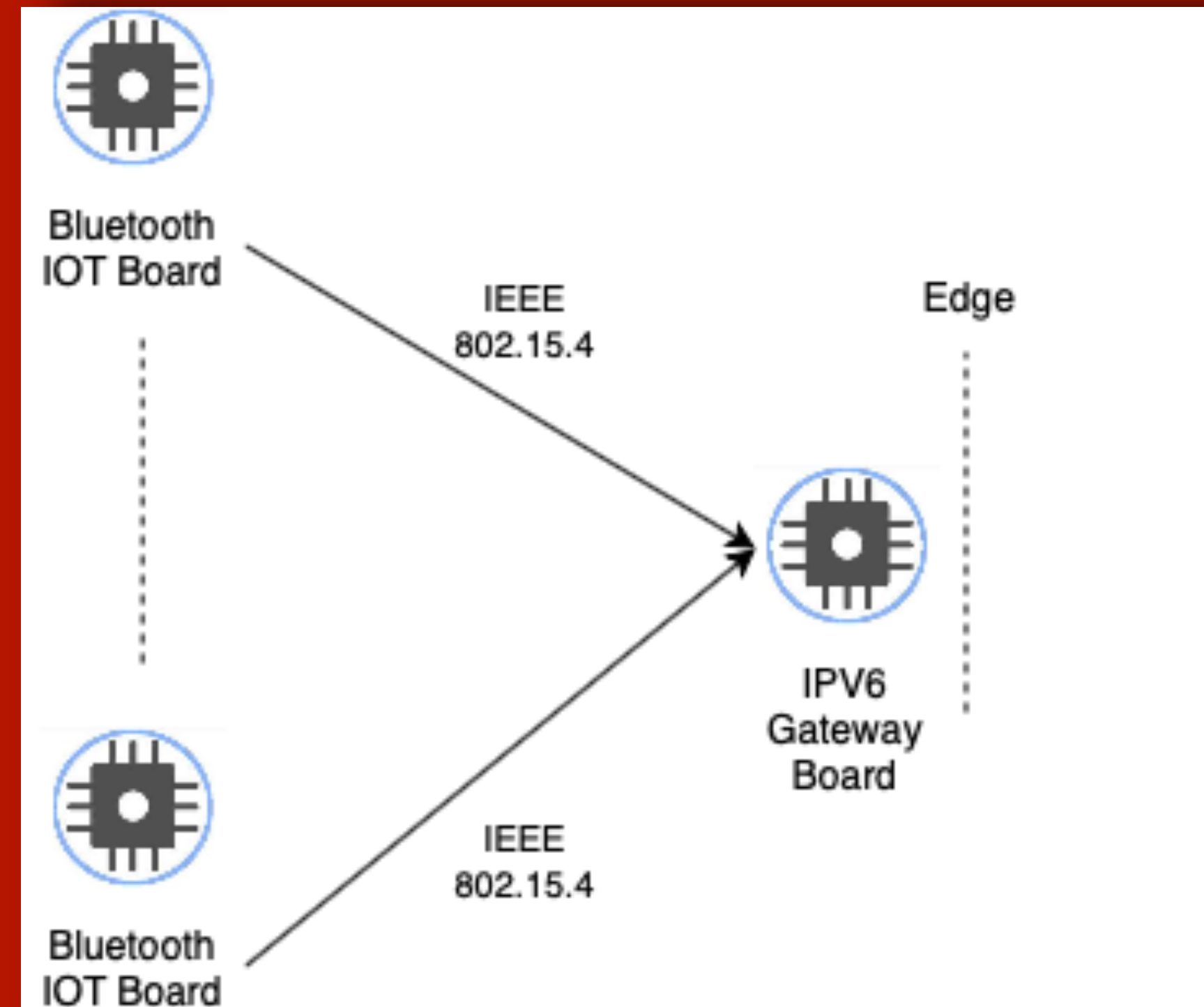
Nearly everyone agreed to two things:

- They would like to have an easy way to get information about the artworks;

- They don't like the layout of most museums because it leads to having very crowded sections where it's difficult to see the artworks.
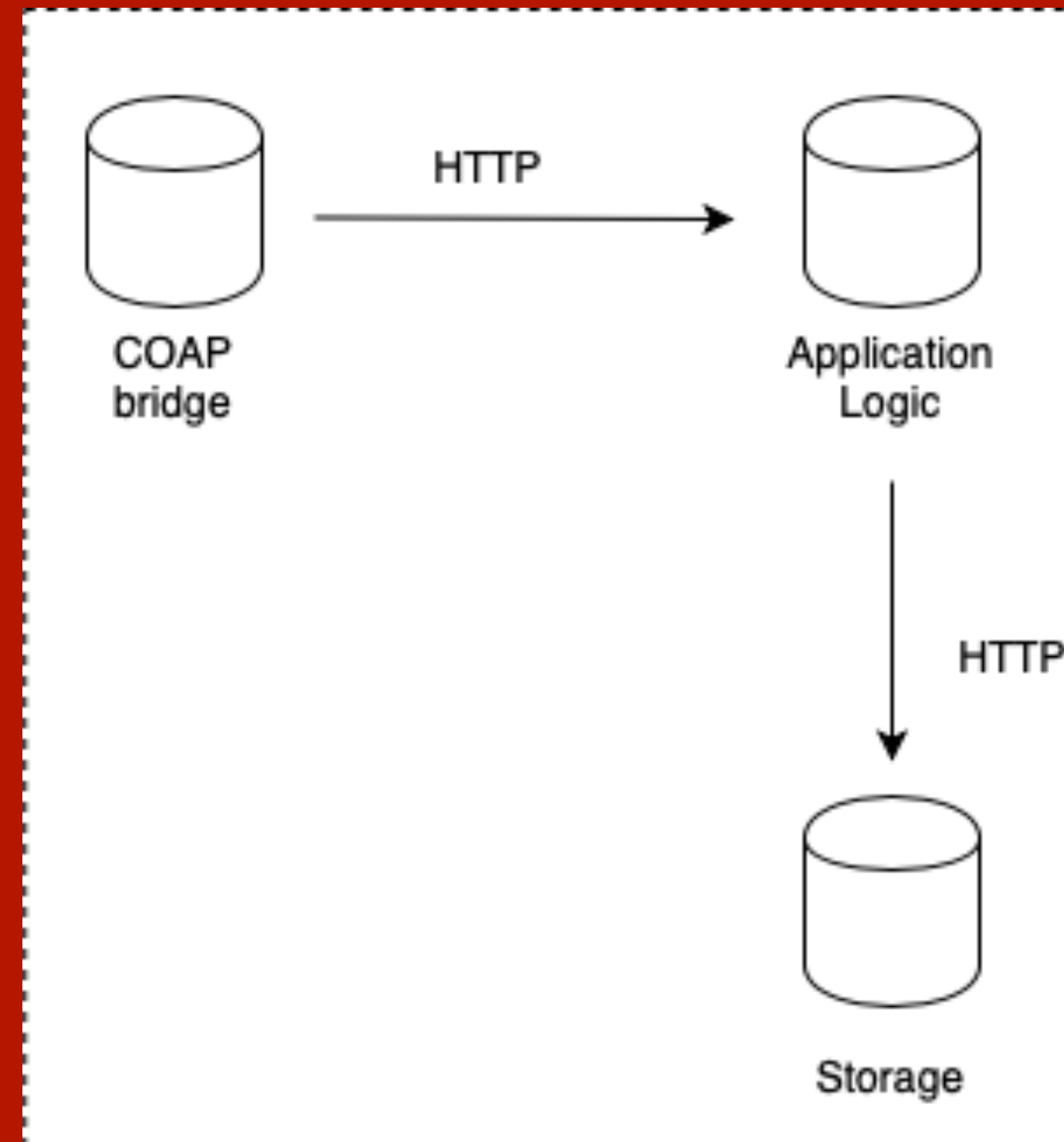
The Architecture

The Local Network

BT Board: nRF52840DK (https://www.nordicsemi.com/Software-and-Tools/Development-Kits/nRF52840-DK**)**

IPv6 Gateway Board: STM32 Nucleo (https://www.st.com/en/evaluation-tools/stm32-nucleo-boards.html?querycriteria=productId=LN1847**)**
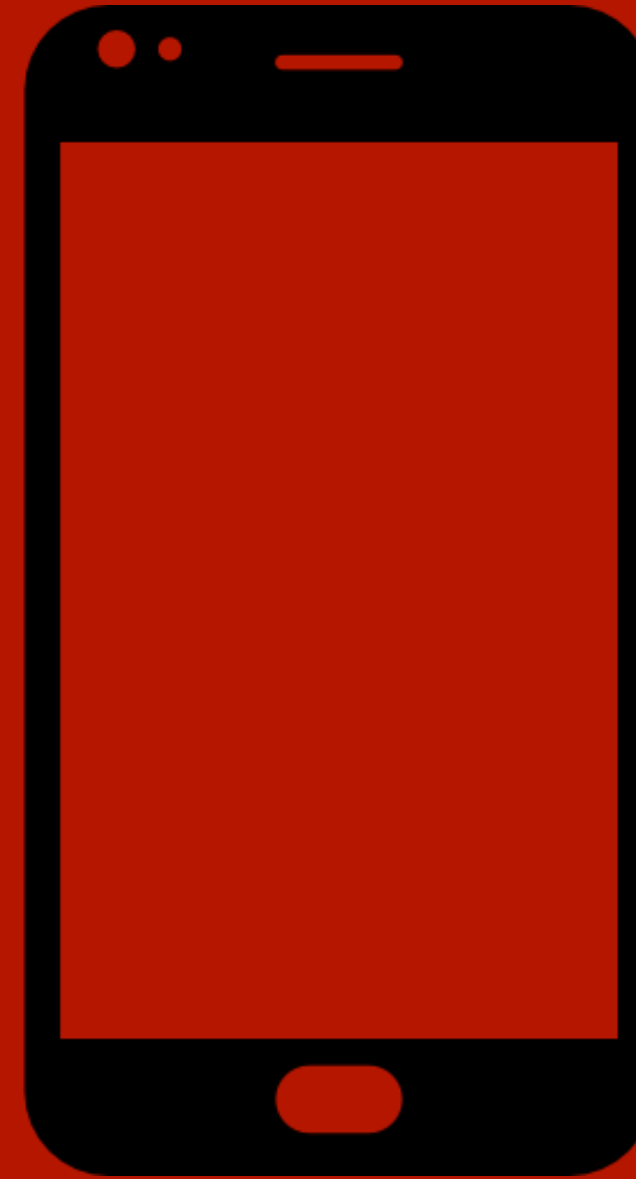
The Cloud Infrastructure

COAP bridge: **PONTE** (https://www.eclipse.org/ponte/)

Application Logic and Storage : Firebase (**https://firebase.google.com**)

End-user Components

WEB APP   **MOBILE APPLICATION**

Web App: REACT (https://it.reactjs.org)

MOBILE APP: XAMARIN (https://docs.microsoft.com/it-it/xamarin/xamarin-forms/)