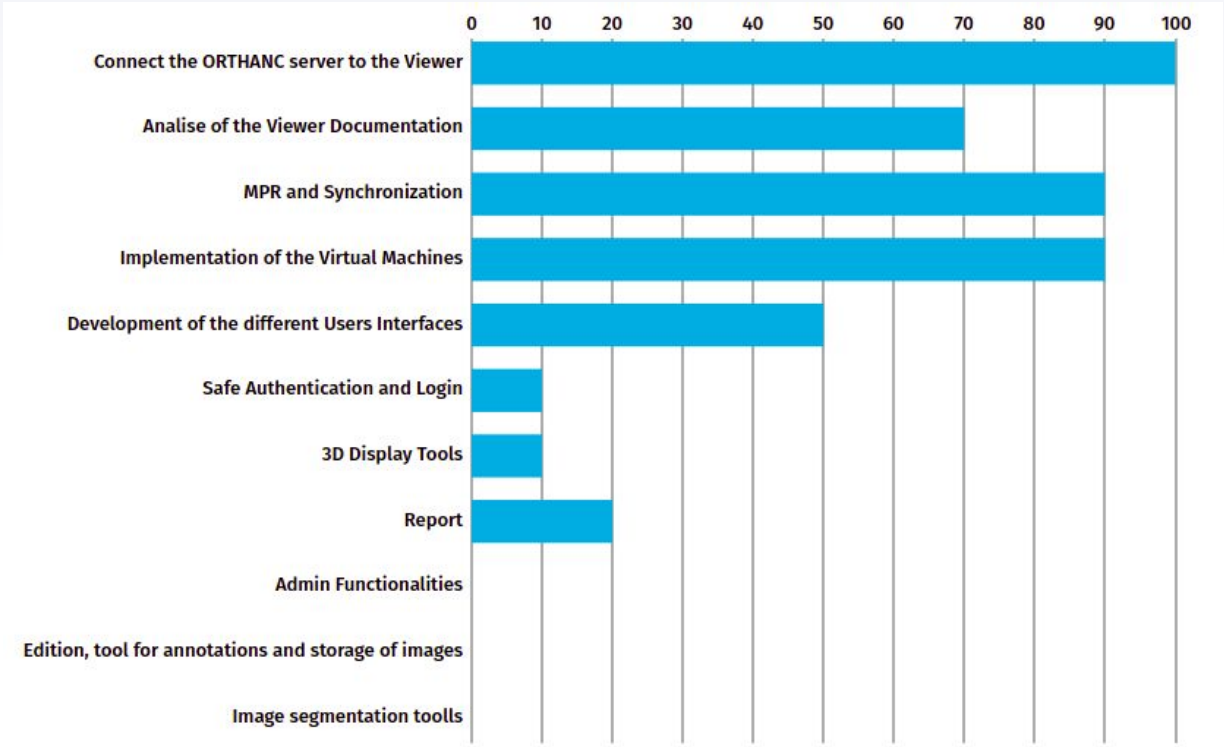
MI4WEB

Construction phase

Projeto em Informática - Group 7
LEI / Universidade de Aveiro
2021/2022

Tasks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Connect the ORTHANC server to the Viewer
Analise of the Viewer Documentation
MPR and Synchronization
Implementation of the Virtual Machines
Development of the different Users Interfaces
Safe Authentication and Login
3D Display Tools
Report
Admin Functionalities
Edition, tool for annotations and storage of images
Image segmentation toolls

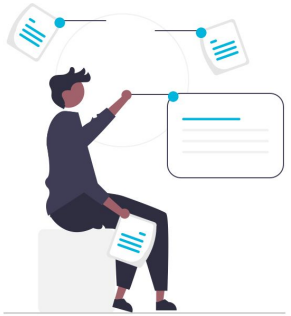
Analyze OHIF documentation

- Download OHIF Viewer;
- Study Configuration Files, Environment Variables;
- Architecture: how the Viewer is architected;
- Extensions.

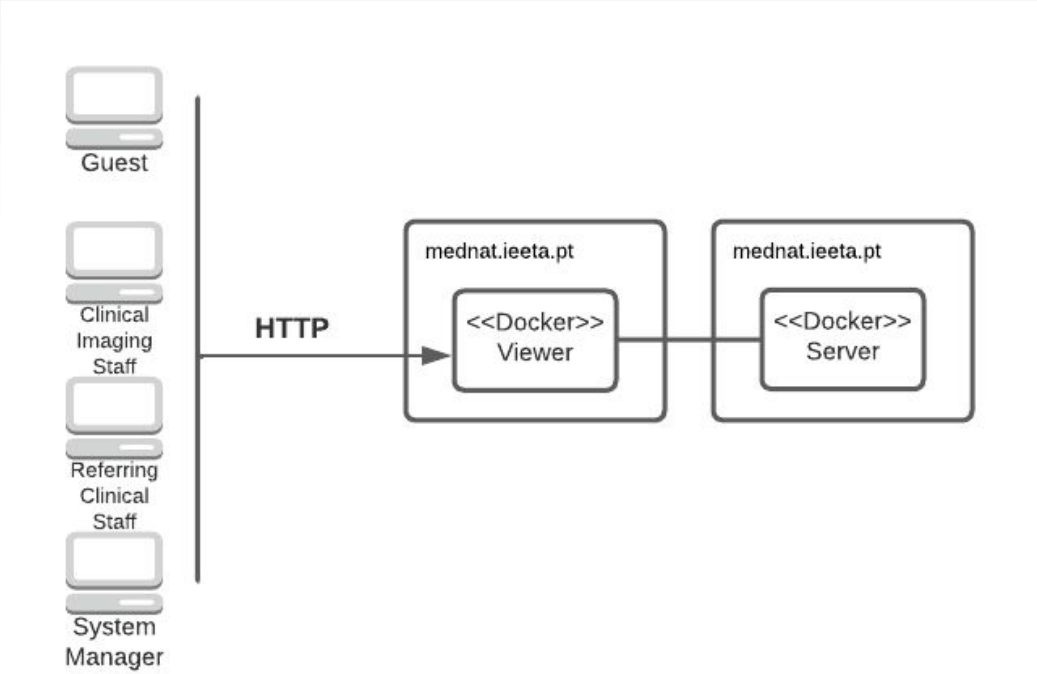
Connection between Services

- For the viewer to have *DICOM* images we first start by connecting the *ORTHANC* server to the viewer locally in our computers using a docker-compose file.

- The next step was to use Virtual Machines, so that you can upload DICOM images by the server to the viewer through the Web.



Deploy Diagram

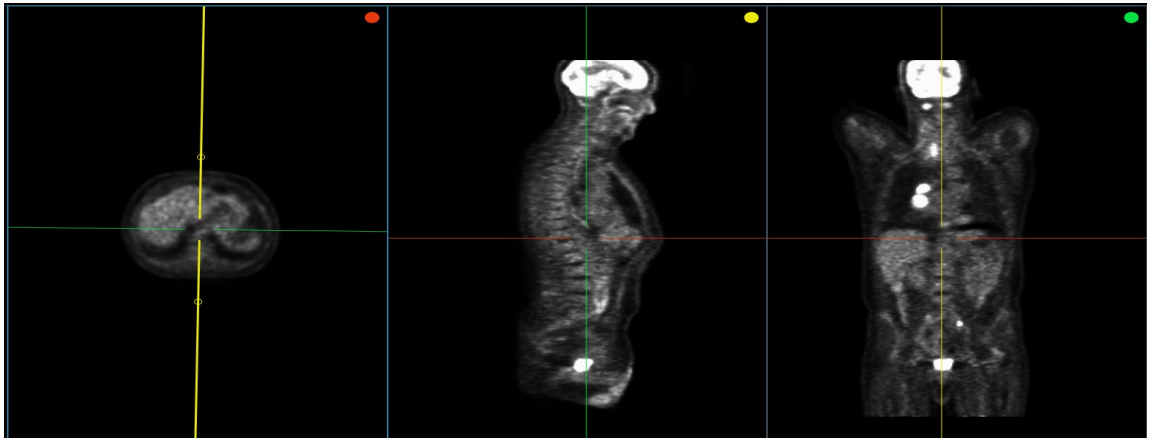


MPR

- MPR(Multiplanar reformation) involves the process of converting data from an imaging modality acquired in a certain plane.
- It may be achieved with scanning in any plane and whatever modality capable of cross-sectional imaging, such as:
  - CR
  - CT
  - MR
  - US

Synchronization

Multiplanar Synchronization is a primary 3D navigation tool in Picture Archiving and Communications System (PACS) viewers.

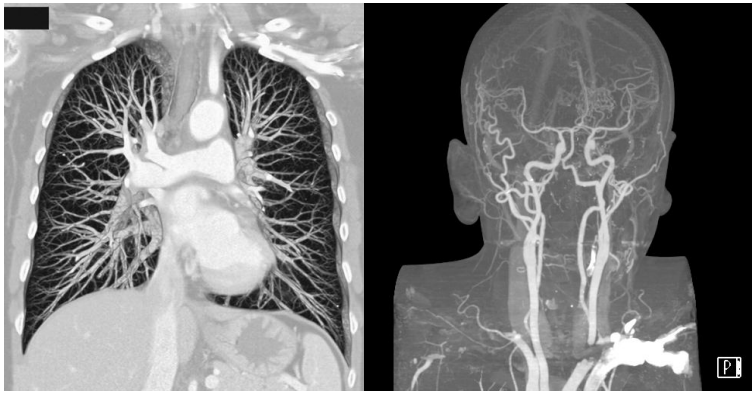


Axial View | Sagittal View | Coronal View

Intensity Projection: to be announced

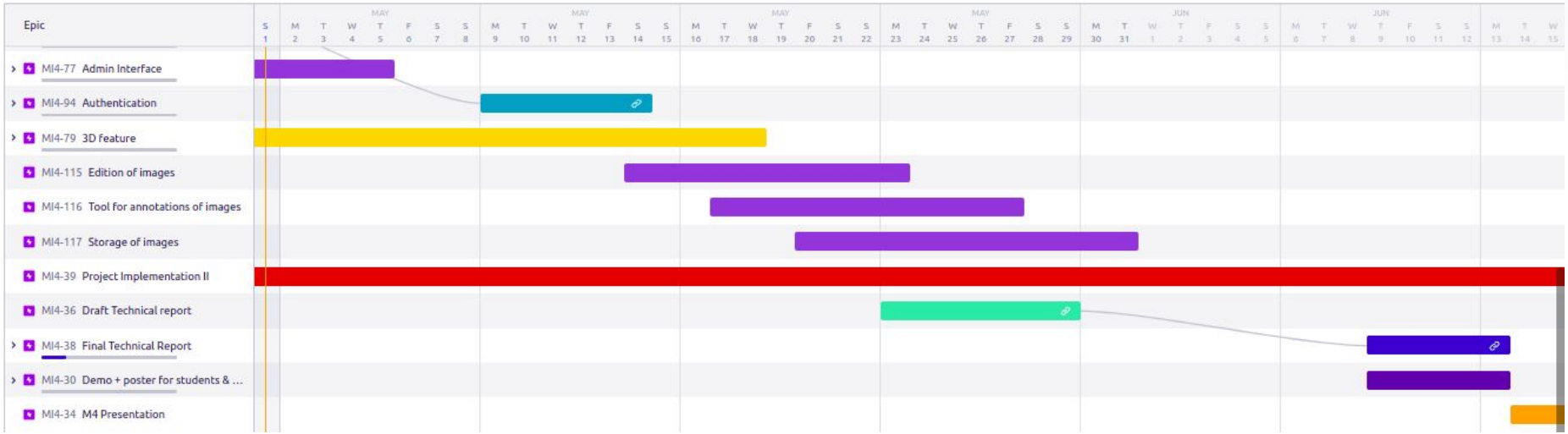
- MinIp(Minimum Intensity Projection) is a data visualization method that enables detection of low-density structures in a given volume, which is useful to analyze the bile tree and pancreatic duct, because they are hypodense compared to surrounding tissue.

- MIP(Maximum Intensity Projection) is a method that allows to find all hyperdense structures in a certain volume, usually used to better the identification of pulmonary nodules and evaluate their abundance.



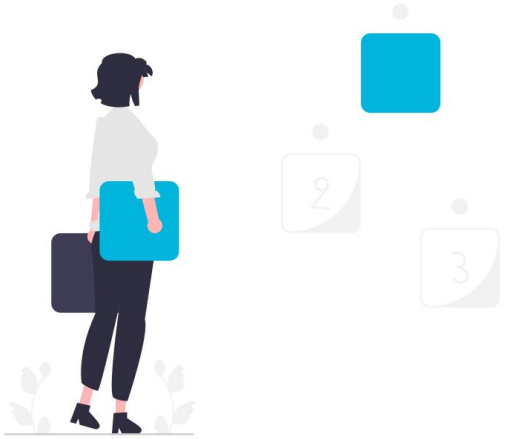
Adaptado de: https://pubs.rsna.org/doi/10.1148/rg.263055186

Calendar


Epic
MI4-77 Admin Interface
MI4-94 Authentication
MI4-79 3D feature
MI4-115 Edition of images
MI4-116 Tool for annotations of images
MI4-117 Storage of images
MI4-39 Project Implementation II
MI4-36 Draft Technical report
MI4-38 Final Technical Report
MI4-30 Demo + poster for students & ...
MI4-34 M4 Presentation

Risks and Fears

- Lack of time;
- Have difficulties working on the viewer;
- Have difficulties working with the VTK.js and Cornerstone.js.



So far...

- **Minimal proof of concept full web based medical image network .**
- **Services access from the internet.**
- **MPR and Synchronization.**

Prototype

THANKS!

Any questions?