Status Report

16.01.2022

Cserich Philipp – Project Lead

Boigner Thomas – Project Member

Maurutschek Fabian – Project Member

Siegl Bernhard – Project Member

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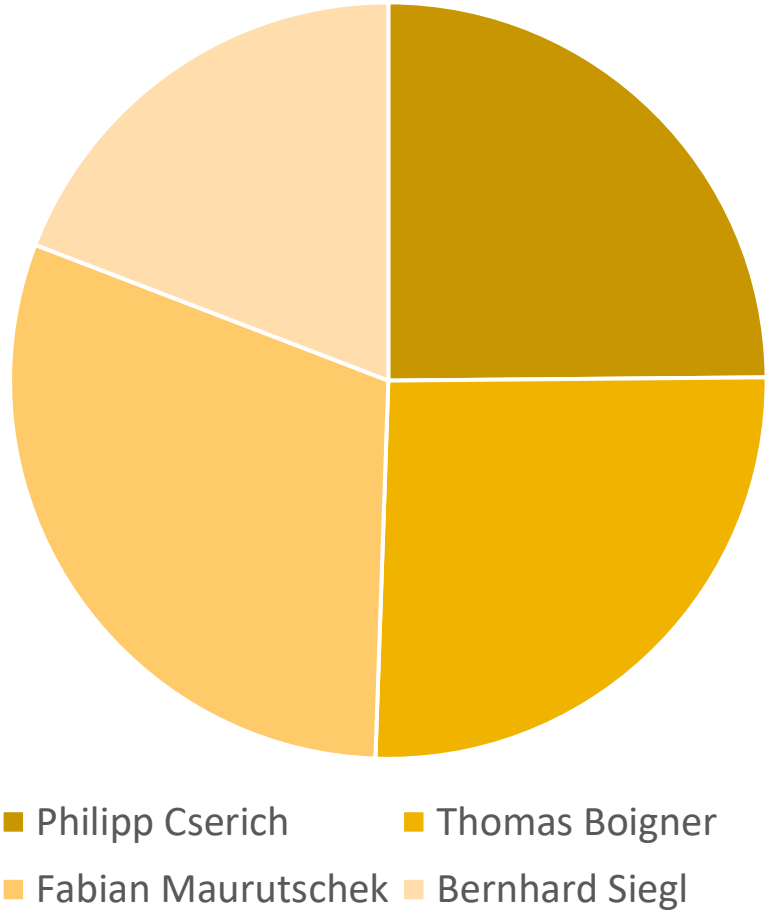
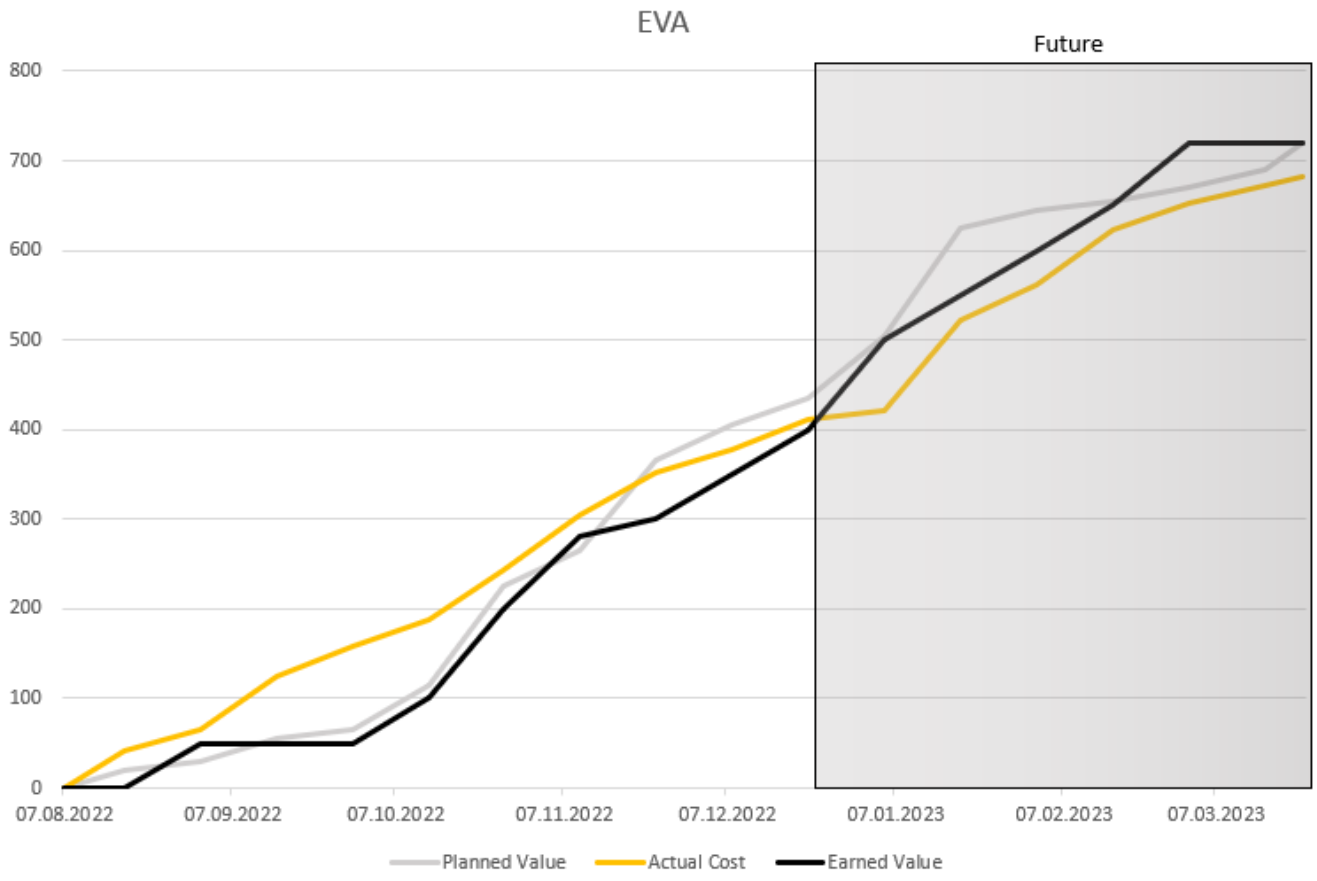
Updated time records



User	Time *(h)*
Cserich Philipp	93:23
Thomas Boigner	96:27
Fabian Maurutschek	113:48
Bernhard Siegl	71:57
Total	375:37

Earned Value Analysis



The current state of the project is almost equal in value and cost, which will change going into the future. With the current up-trend our team will be able to generate more value than cost (at least for some time).

Project environment analysis

1. Technical Environment:

- Techstack:

What programming languages are used?

Vue, CSS, HTML, TypeScript, JavaScript, Dockerfile, Shell

- Security:

What security measures have been implemented?

Invalid data won't be used for the printer.

2. User Environment:

- User demographics:

Who are the users of the web interface?

The clients that use the 3d printers.

- User expectations:

What features and functionality do users expect?

A functional web interface to control the 3d printers.

3. Business Environment:

- Competitive landscape:

Who are the competitors and what are their offerings?

We do not have any competition at the moment, because we specifically create the interface for the company.

Stakeholder analysis

Lithoz is our project partner and defines the goals of the project.

Stakeholder Interests and Expectations:

They expect us to keep developing the interface, accordingly to the milestones they defined.

Stakeholder Influence:

Lithoz has full influence on this project, the project team is going to handle things accordingly to their desire.

Stakeholder Communication Plan:

Every two weeks the project team has an online meeting with our stakeholder, the project team is going to inform them about the project status for this current sprint and receive feedback. Every month the project team is going to present the current status in a more detailed way.

Stakeholder Engagement:

The project team is going to create Github issues, to keep track the open tasks and work them till the next meeting. Lithoz monitors these issues and can give feedback or provide further information based on the issues.

Retrospective summary

Overall, the team has made great progress in the last sprints. We've achieved all of our goals and have made significant progress towards the end of the last time frame.

What worked well?

Our Team worked a good amount of time on the project and has spent almost equal the amount of time on documentation.

The workflow has been really efficient and almost no time was lost during the last development cycles.

The communication within the team, as well as with their respective partner at Lithoz has worked out great.
Meetings are always held and most of the members are always present.

What could be improved?

Some working periods collided with other events, which forced us to delay features for several sprints. This can be easily prevented by including the projects external factors in choosing the sprints size and content.

Discord Meeting Protocol - 10.11.2022

Start: 4:00pm

End: 4:45pm

Participants

- Reiner Bachleitner
- Roland Fischer
- Richard Gradischnegg

Team

- Philipp Cserich
- Thomas Boigner
- Fabian Maurutschek
- Bernhard Siegl

Topics

going trough

- tune parameters
- default panel
- coating
- pull request to remove/work arround vuetify -> denied from us
- how to get layerview-pictures -> sill in progress

Findings

- Subscribe/Unsubscribe optimizable -> subscribe to all at once
- reset button with boolean
- use pull request tool to format code etc.
- 6102 - to "machine"
- 6101 - to "data"
- How do we get the machine name from the api? -> not implemented
- How can we find the Stop button? -> reset will transform into a stop button (abort)
- How do I know if im in the run state or loading state? -> running
- Where should we display the time on the interface? -> not at all, but possibly to display the time from the machine

Next-Steps

- mqtt implementation
- fixing few tiny flaws
- **2:30pm next thursday testing physically**

Discord Meeting Protocol - 24.11.2022

Start: 4:00pm

End: 4:20pm

Participants

- Reiner Bachleitner
- Roland Fischer

Team

- Philipp Cserich
- Thomas Boigner
- Bernhard Siegl

Topics

going trough

- talking about issues we have with proxys
- port issues from our side

Discord Meeting Protocol - 01.12.2022

Start: 16:00

End: 16:30

Participants

- Reiner Bachleitner
- Roland Fischer

Team

- Philipp Cserich
- Thomas Boigner
- Fabian Maurutschek

Topics

- i18n translation
- Anydesk connection

Findings

- Rows in den ParameterForms zu Hoch
- Layer ranges nicht ausklappbar
- immer anzeigen
- keypad in Firefox geht nicht (größe der buttons)
- Layer Range auswählbar machen

Next-Steps

- parameter integration

Discord Meeting Protocol - 12.12.2022

Start: 16:00

End: 16:35

Participants

Raina Rolandfischer

Team

Fabian Maurutschek Cserich Philipp

Topics

- 3d viewer start
- MQTT connection
- layer view question
- UI Change showcase

Findings

Eigene stl daten zur testung des 3d viewers : Stl posten - get stls id

Next steps

- Perfecting UI
- Implementing 3D Viewer
- Finishing mockup removal

Tech Stack

Environment: Vite

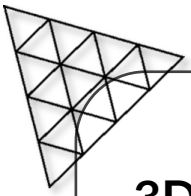
Vite is used together with node to bundle Script files and Script libraries. It runs the server and provides Plugin Support.

Design Library: Vuetify

Vuetify provides us with various design elements, such as buttons, text fields, sliders, and grid components.

Java Script Framework: Vue.js

Vue is the basis for our single page application. It is used for dynamic property binding and templating HTML Elements.



3D Graphics: Three.

The Lithoz Web Interface includes a 3d viewer to display a 3d model of the parts that are currently printed.

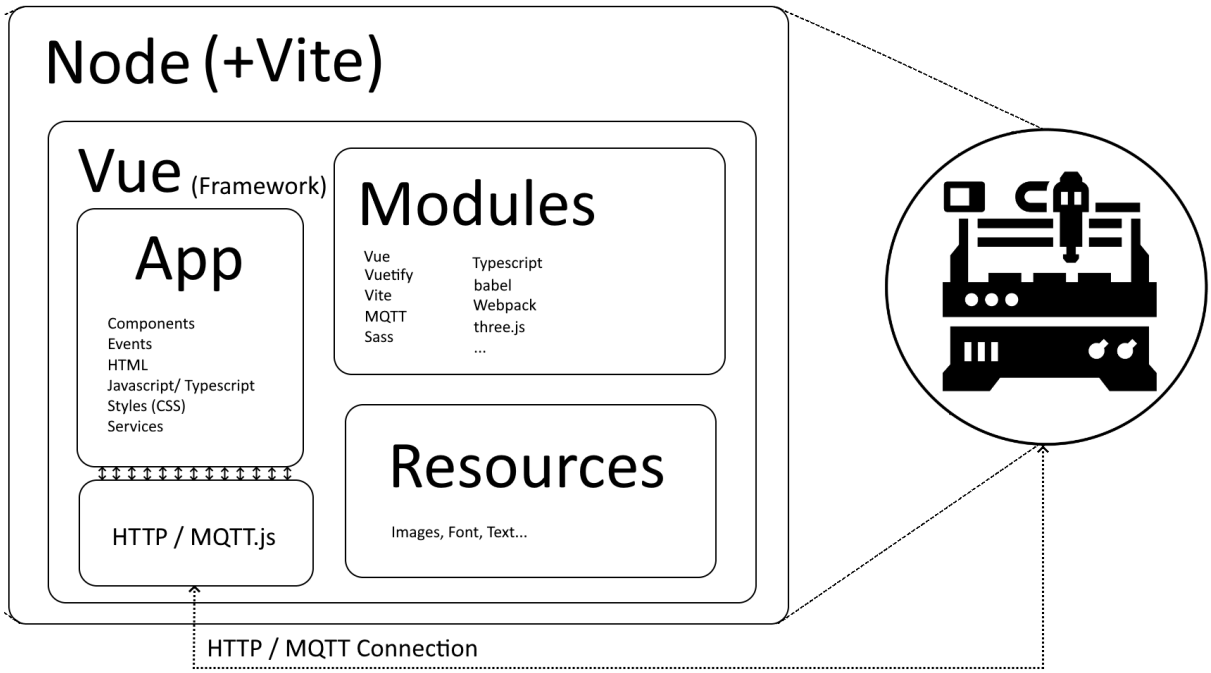
Machine to Machine communication: MQTT.js

MQTT connects the Lithoz Web Interface to the 3d printer. We use Mqtt.js as a MQTT library to establish a connection to the
3d printer and send data from and to it.

Programming Language: TypeScript

TypeScript is a programming language that adds Type support to JavaScript, giving you better tooling with an own compiler.

Architecture



Node

The WebHC architecture is based on Node.js, which is an open-source, cross-platform JavaScript runtime environment.

Modules

Within are some Node-Modules installed that are distinguish in Libraries and Frameworks. Our primary module and framework is Vue.js, which is the basis for the Vuetify-library, it provides prebuild components, code and style classes. Additionally, we have installed Typescript, Sass, and Babel for coding with certain plugins for Vue and Typescript compatibility. In the background are Vite and Webpack used for server improvements and MQTT.JS for communication with the printer.

Resources

Lithoz provided us for the creation of the Web-Interface images, icons, text, and styles. These are stored as resources in the project. Due to resource-type we make use of those differently. Images, icons, and styles are used within the HTML, so all resources are automatically sent from the server and used by the clients. For internationalization (i18n) the server requests from the client which language it prefers and sends then the correct language file back.

App

We use Single-File-Components in Composition-Code-Style for developing the app. With MQTT.js we create a typescript handler which provides real time information and updates some parts of the application. HTTP is used for basic information gathering from the machine user controlled.

Docker

In production the Lithoz web ui runs in a docker container, that has all of the required dependencies installed that the application needs.

Hardware

The Lithoz Web interface can be deployed either directly on the 3d printer or on an external server. The 3d printer or server then serves the Vue.js components as Html and JavaScript files. These files then get executed on the user's pc in a browser. The hardware requirements to run the Lithoz web ui are very low, but for the 3d Preview the client needs to be able to run WebGL.

Rollout procedures

1. **Software usage:**
   The Lithoz Webinterface is supposed to be used using the docker image created from the docker file provided by Lithoz.

2. **Deployment:**
   Lithoz will take care of deploying the application and making it accessible for users.

3. **End Tests:**
   The project team will provide end to end tests to assure a good quality of the application.

Additional Steps

When all rollout procedures have been utilized, the repository will be transferred to Lithoz to give them full control over future updates and changes.

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Procedural directory

1. Purposes of data processing:

The main purpose of the data processing in the "3D Web Interface" project is to allow users to control and monitor their 3D printing processes remotely via a web-based interface.

2. Types of personal data processed:

The following types of personal data may be processed as part of the "3D Web Interface" project:

- Contact information (e.g., name, email address)

- 3D printing activity data (e.g., print job status, print history)

3. Legal basis for processing personal data:

The legal basis for processing personal data in the "3D Web Interface" project is the consent of the user, as well as the performance of a contract with the user (i.e., the use of the 3D printing services).

4. Data recipients:

The following categories of recipients may have access to the personal data processed in the "3D Web Interface" project:

- Employees of the company responsible for the "3D Web Interface" project, who need access to the data for the purposes of maintaining and improving the service.

- Third-party service providers, who may be contracted to assist with the development and maintenance of the "3D Web Interface" project. These service providers are required to adhere to strict confidentiality obligations.

5. Data retention:

Personal data processed in the "3D Web Interface" project will be retained for as long as necessary to fulfill the purposes outlined in this procedural directory, or as required by law.

6. Data subject rights:

Users of the "3D Web Interface" project have the following rights with respect to their personal data:

- The right to access their personal data and request a copy of it.

- The right to request the rectification of any inaccurate or incomplete personal data.

- The right to request the erasure of their personal data, subject to certain exceptions.

- The right to object to the processing of their personal data in certain circumstances.

- The right to request the restriction of the processing of their personal data in certain circumstances.

- The right to request the transfer of their personal data to another controller in a structured, commonly used, and machine-readable format, subject to certain exceptions.

7. Data protection measures:

The following measures will be implemented to protect the personal data processed in the "3D Web Interface" project:

- Encryption of personal data in transit and at rest.

- Implementation of appropriate access controls to ensure that only authorized personnel have access to personal data.

- Regular testing and monitoring of the security of the "3D Web Interface" project.

8. Data protection officer:

The company responsible for the "3D Web Interface" project has designated a data protection officer (DPO) to oversee the compliance with GDPR and other data protection regulations. Users may contact the DPO with any questions or concerns regarding the processing of their personal data.

Key performance indicator

1. Number of API calls made per user.

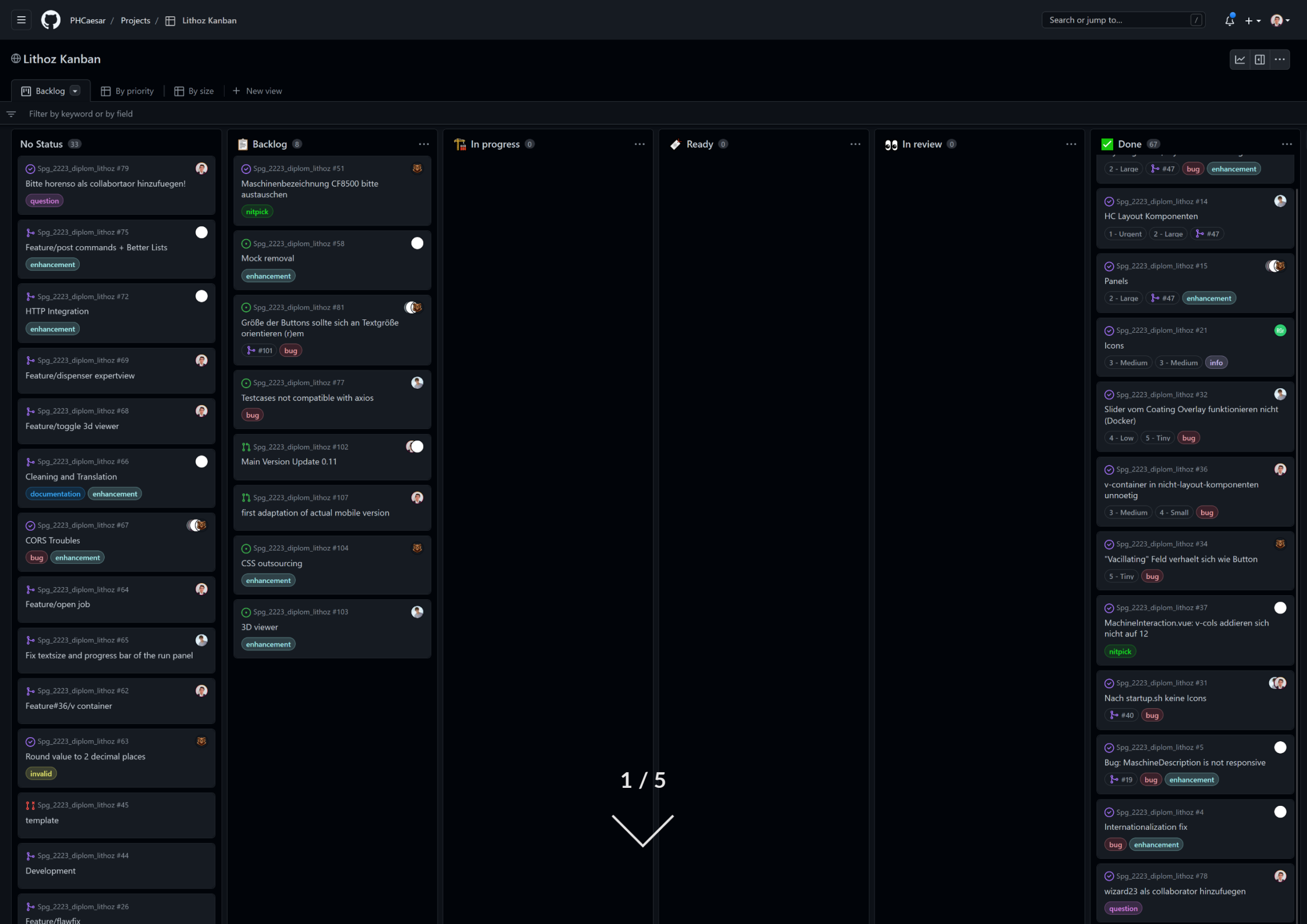
This KPI measures how many API calls are made per user, showing whether the application is efficient or sending to many requests to the 3d printer. The smaller the number of API calls the better.

2. Memory usage

Memory usage is important, because a high memory usage can cause poor performance and is annoying for the client, especially because all of the web interfaces code is executed on the client's machine. The lower the memory usage is the better.

3. Loading speed at a fixed bandwidth

We measure the load speed of the UI at a certain bandwidth to make it comparable. A quick load speed is important, because a lot of users get impatient if the UI takes a few second to load. The smaller the loading speed of the UI is the better.


PHCaesar / Projects / Lithoz Kanban
Search or jump to...
Lithoz Kanban
Backlog
By priority
By size
New view
Filter by keyword or by field
No Status 33
Spg_2223_diplom_lithoz #79
Bitte horenso als collabortaor hinzufuegen!
question
Spg_2223_diplom_lithoz #75
Feature/post commands + Better Lists
enhancement
Spg_2223_diplom_lithoz #72
HTTP Integration
enhancement
Spg_2223_diplom_lithoz #69
Feature/dispenser expertview
Spg_2223_diplom_lithoz #68
Feature/toggle 3d viewer
Spg_2223_diplom_lithoz #66
Cleaning and Translation
documentation
enhancement
Spg_2223_diplom_lithoz #67
CORS Troubles
bug
enhancement
Spg_2223_diplom_lithoz #64
Feature/open job
Spg_2223_diplom_lithoz #65
Fix textsize and progress bar of the run panel
Spg_2223_diplom_lithoz #62
Feature#36/v container
Spg_2223_diplom_lithoz #63
Round value to 2 decimal places
invalid
Spg_2223_diplom_lithoz #45
template
Spg_2223_diplom_lithoz #44
Development
Spg_2223_diplom_lithoz #26
Feature/flawfix
Backlog 8
Spg_2223_diplom_lithoz #51
Maschinenbezeichnung CF8500 bitte austauschen
nitpick
Spg_2223_diplom_lithoz #58
Mock removal
enhancement
Spg_2223_diplom_lithoz #81
Größe der Buttons sollte sich an Textgröße orientieren (r)em
#101
bug
Spg_2223_diplom_lithoz #77
Testcases not compatible with axios
bug
Spg_2223_diplom_lithoz #102
Main Version Update 0.11
Spg_2223_diplom_lithoz #107
first adaptation of actual mobile version
Spg_2223_diplom_lithoz #104
CSS outsourcing
enhancement
Spg_2223_diplom_lithoz #103
3D viewer
enhancement
In progress 0
Ready 0
In review 0
Done 67
2 - Large
#47
bug
enhancement
Spg_2223_diplom_lithoz #14
HC Layout Komponenten
1 - Urgent
2 - Large
#47
Spg_2223_diplom_lithoz #15
Panels
2 - Large
#47
enhancement
Spg_2223_diplom_lithoz #21
Icons
3 - Medium
3 - Medium
info
Spg_2223_diplom_lithoz #32
Slider vom Coating Overlay funktionieren nicht (Docker)
4 - Low
5 - Tiny
bug
Spg_2223_diplom_lithoz #36
v-container in nicht-layout-komponenten unnoetig
3 - Medium
4 - Small
bug
Spg_2223_diplom_lithoz #34
"Vacillating" Feld verhaelt sich wie Button
5 - Tiny
bug
Spg_2223_diplom_lithoz #37
MachineInteraction.vue: v-cols addieren sich nicht auf 12
nitpick
Spg_2223_diplom_lithoz #31
Nach startup.sh keine Icons
#40
bug
Spg_2223_diplom_lithoz #5
Bug: MaschineDescription is not responsive
#19
bug
enhancement
Spg_2223_diplom_lithoz #4
Internationalization fix
bug
enhancement
Spg_2223_diplom_lithoz #78
wizard23 als collaborator hinzufuegen
question
1 / 5

Spg_2223_diplom_lithoz #26
Feature/flawfix
bug

Spg_2223_diplom_lithoz #27
Feature/component testing buttons (#24)

Spg_2223_diplom_lithoz #28
Feature/internationalization
enhancement

Spg_2223_diplom_lithoz #25
Adds basic combobox

Spg_2223_diplom_lithoz #24
Feature/component testing buttons

Spg_2223_diplom_lithoz #22
Feature/project setup

Spg_2223_diplom_lithoz #20
Feature/components
enhancement

Spg_2223_diplom_lithoz #2
Feature/components layer image panel

Spg_2223_diplom_lithoz #3
Enhance Testpage
enhancement

Spg_2223_diplom_lithoz #10
adding extra functional component

Spg_2223_diplom_lithoz #17
Feature/mockup polish

Spg_2223_diplom_lithoz #12
Create Action-Pipeline with Vite
#19

Spg_2223_diplom_lithoz #19
Feature/components

Spg_2223_diplom_lithoz #18
Development

Spg_2223_diplom_lithoz #13
Feature/components

Spg_2223_diplom_lithoz #11
Feature/mockup polish

Spg_2223_diplom_lithoz #8
Feature/components button

question

Spg_2223_diplom_lithoz #33
Typos
nitpick

Spg_2223_diplom_lithoz #23
Kleinigkeiten - Flaws
#26

Spg_2223_diplom_lithoz #35
"Globale" v-container Breite/App Hoehe
#40 enhancement

Spg_2223_diplom_lithoz #53
Formular reset button is biiiig
bug

Spg_2223_diplom_lithoz #55
Add "Fake" Form to screwdriver menu
enhancement

Spg_2223_diplom_lithoz #16
Formular Komponenten
enhancement

Spg_2223_diplom_lithoz #52
Coating Overlay: Buttons nicht aligned, 2 der Buttons verschwinden
bug

Spg_2223_diplom_lithoz #54
TestExposure + Formularcomponents
enhancement

Spg_2223_diplom_lithoz #43
Feature/panelfixes

Spg_2223_diplom_lithoz #56
Feature/expertview

Spg_2223_diplom_lithoz #47
Feature/btn scaling
enhancement

Spg_2223_diplom_lithoz #49
Feature/formating fix

Spg_2223_diplom_lithoz #42
Bugfix/routing

Spg_2223_diplom_lithoz #41
Squash formularcomponents
enhancement

Spg_2223_diplom_lithoz #48
Feature/modelviewer scaling

Spg_2223_diplom_lithoz #7
Feature/vuetify theme
enhancement

Spg_2223_diplom_lithoz #6
seperating svgs
enhancement

Spg_2223_diplom_lithoz #1
Feature/set up application

Feature/modelviewer scaling

Spg_2223_diplom_lithoz #29
Feature/formular components
enhancement

Spg_2223_diplom_lithoz #30
Feature/routing
enhancement

Spg_2223_diplom_lithoz #40
Feature/dockerfile fix
bug

Spg_2223_diplom_lithoz #39
Feature/tune parameters

Spg_2223_diplom_lithoz #46
Feature/expert view

Spg_2223_diplom_lithoz #59
Fix textfield slider

Spg_2223_diplom_lithoz #60
Update package-lock.json
documentation enhancement

Spg_2223_diplom_lithoz #61
Remove "public" from img sources
nitpick

Spg_2223_diplom_lithoz #57
Test Dropdown removal
nitpick

Spg_2223_diplom_lithoz #50
Expertview Switch doesn't transfer state between layouts
#69 bug

Spg_2223_diplom_lithoz #76
Delete all direct exports
info nitpick

Spg_2223_diplom_lithoz #74
Run panel restrukturieren
nitpick

Spg_2223_diplom_lithoz #73
Manche Buttons haben mehrere States (2 States)
nitpick

Spg_2223_diplom_lithoz #71
Anbindung GET /project/<project_id>
enhancement

Spg_2223_diplom_lithoz #70

Spg_2223_diplom_lithoz #70
Anbindung <backend>:6002 /commands
enhancement

Spg_2223_diplom_lithoz #108
Feature/quick fixes

Spg_2223_diplom_lithoz #105
Adapt features to the new stack
enhancement

Spg_2223_diplom_lithoz #106
Feature/alternativepanels

Spg_2223_diplom_lithoz #101
Feature/responsive
enhancement

Spg_2223_diplom_lithoz #95
Dependency Change
bug enhancement info

Spg_2223_diplom_lithoz #97
Adds a reset button to the sliders
enhancement

Spg_2223_diplom_lithoz #100
Bugfix/cors

Spg_2223_diplom_lithoz #99
Feature/parameters

Spg_2223_diplom_lithoz #98
Fix proxy.

Spg_2223_diplom_lithoz #94
Language Switch
#96 enhancement

Spg_2223_diplom_lithoz #96
Feature/language switch
enhancement

Spg_2223_diplom_lithoz #84
Modal popup
enhancement

Spg_2223_diplom_lithoz #93
Diese Änderungen sind nötig damit euer Projekt mit Reverse Proxy funktioniert.
documentation enhancement

Spg_2223_diplom_lithoz #92
Feature/Server config
documentation enhancement

Spg_2223_diplom_lithoz #90

Spg_2223_diplom_lithoz #90
Feature/Modal
enhancement

Spg_2223_diplom_lithoz #91
Feature/delete all direct exports
enhancement

Spg_2223_diplom_lithoz #88
Zuruecksetzen bei Boolean etc..
bug

Spg_2223_diplom_lithoz #83
Formularcomponents - Bugs
bug

Spg_2223_diplom_lithoz #89
Feature/mqtt buttons
enhancement

Spg_2223_diplom_lithoz #9
Feature/components slider

Spg_2223_diplom_lithoz #82
Experimental changes of the entire layout to css grid.
enhancement question

Spg_2223_diplom_lithoz #85
Install webpack plugin
enhancement

Spg_2223_diplom_lithoz #87
Enhance TuneParamteres
enhancement

Spg_2223_diplom_lithoz #86
Feature/mqtt integration
enhancement

Spg_2223_diplom_lithoz #80
Update TuneParameters.vue

You can use Control + Space to add an item

Current Status

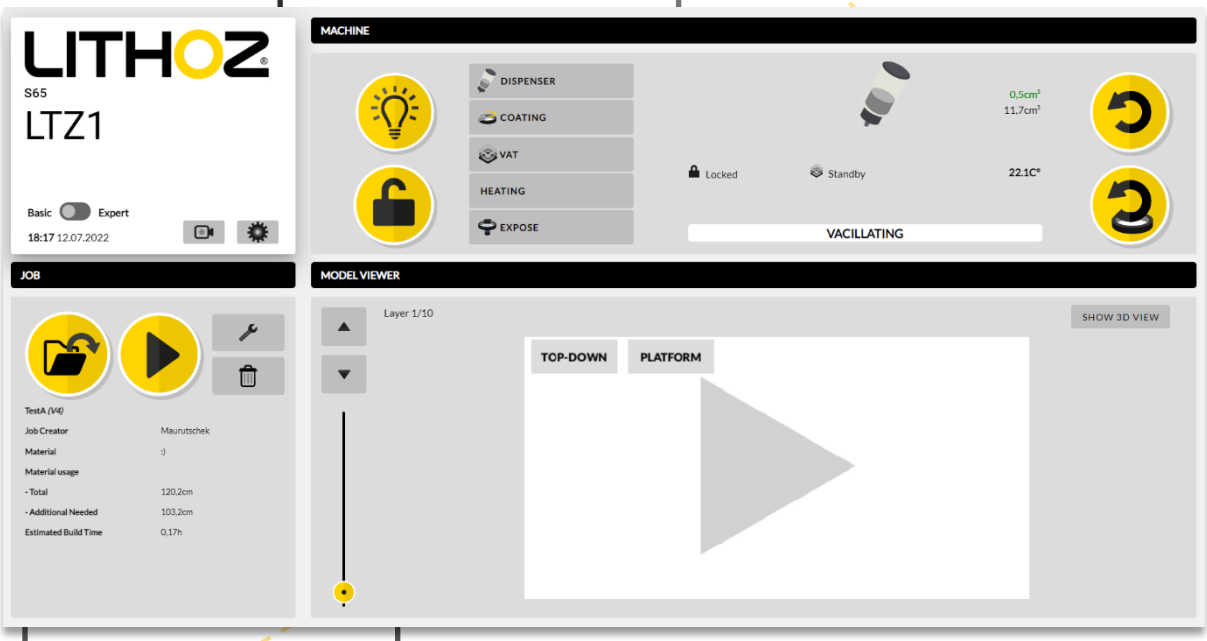
Machine Description

Includes Machine details, daytime ...

Machine Interaction

Basic Printer Commands & panel reference buttons

01_Default Screen

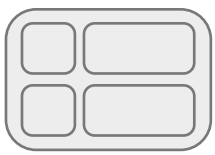


Job

Starting, importing, or configuring a job

Model Viewer

Views all Layers of the current object in the 3D Printer - *Realtime*

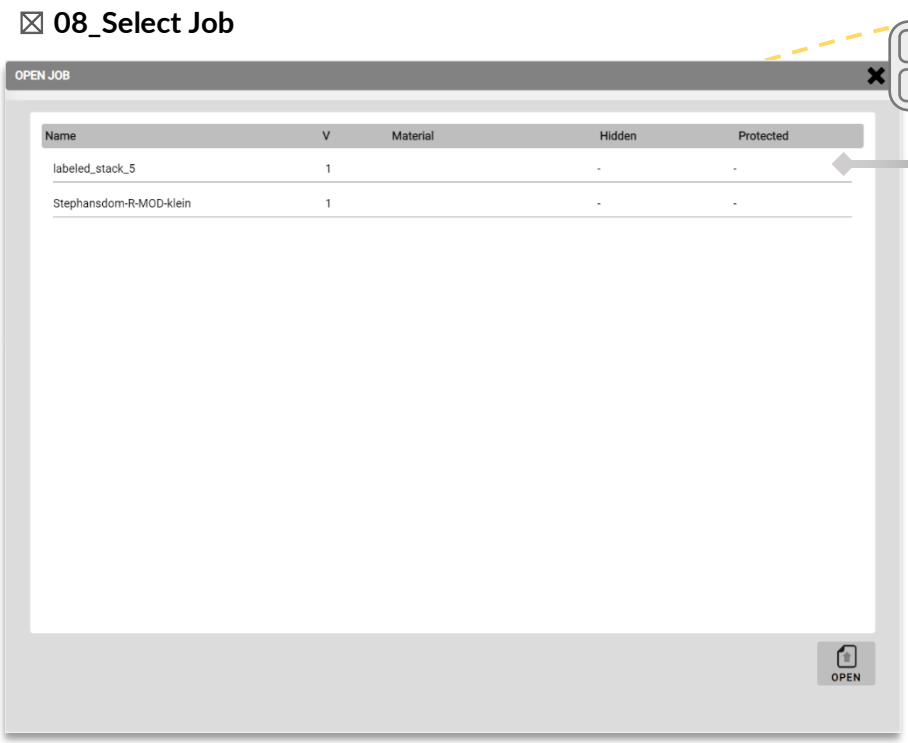


Every Panel except the Machine Description is interchangeable.

The position of the panels will be shown through a yellow marking in the graphic seen on the left.

New Panels:

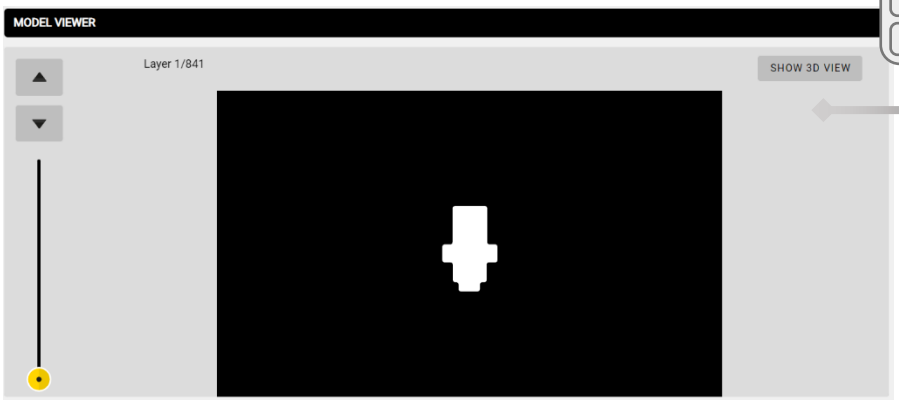
☒ 08_Select Job



This Panel is used to load the project of your choice.

Double click the project or select it and then click on the "open" button.

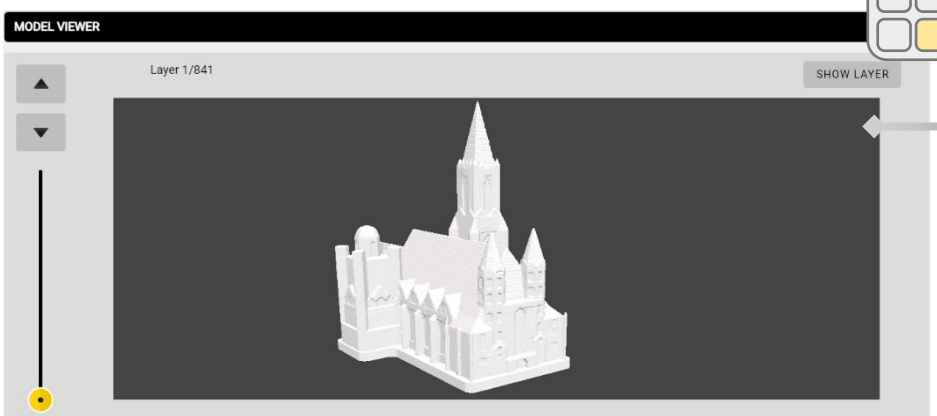
☒ 09_Layer View



This Panel shows the different layers of the printing object.

Use the slider or the buttons to navigate between all the layers.

☒ 10_3D_Viewer



Pressing the "Show 3D view" button in Panel *09_Layer_View* will reveal the 3D viewer.

Product Demo Video

Link :

https://youtu.be/qOcP9uK2Lh4