Multiverse and Multi-User Design

Graduate

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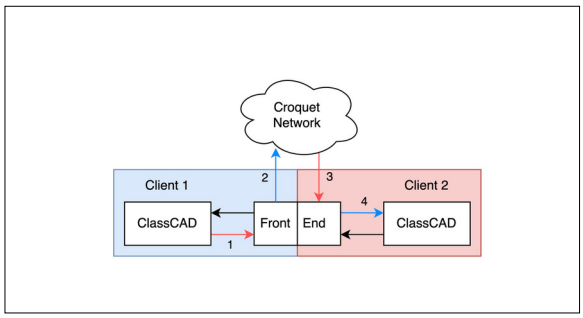
Initial Situation: AWV Informatik is responsible for the development of ClassCAD, which enables CAD/CAM applications. Apart from integration into existing systems, such as for product configuration or parameterization of components, AWV Informatik is working on browser-based applications. In addition to offering a browser-based CAD application based on ClassCAD, it is planned to test multi-user collaboration using a prototype. This is in connection with the developments in the area of metaverse, which try to redesign the existing form of collaboration.

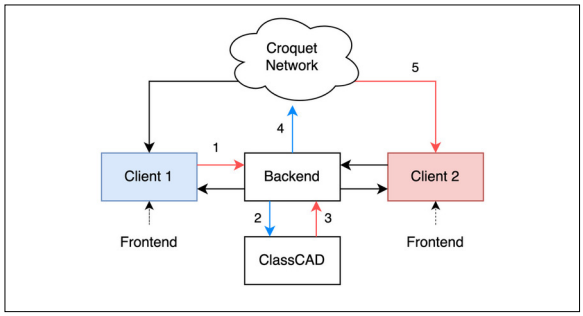
Definition of Task: The task for the prototype is to implement key functions for the collaboration of multiple users in a web application. These include synchronization of existing commands sent to the local API and visualization of the required information in the browser. For synchronization, the integration of the CroquetOS framework was foreseen. With access to the private source code of AWV Informatik, the task is to show feasibility, usefulness, and possible steps for further development.

Conclusion: The prototype implements the necessary functions required for collaboration. The result in the form of the prototype provides a solid basis for further development and shows the areas in which conflicts are to be expected. Points were identified that will certainly need to be worked out in more detail for a potential product. However, on the basis of the prototype, it is possible to estimate at an early stage how high the effort could be and where the focus should be set.

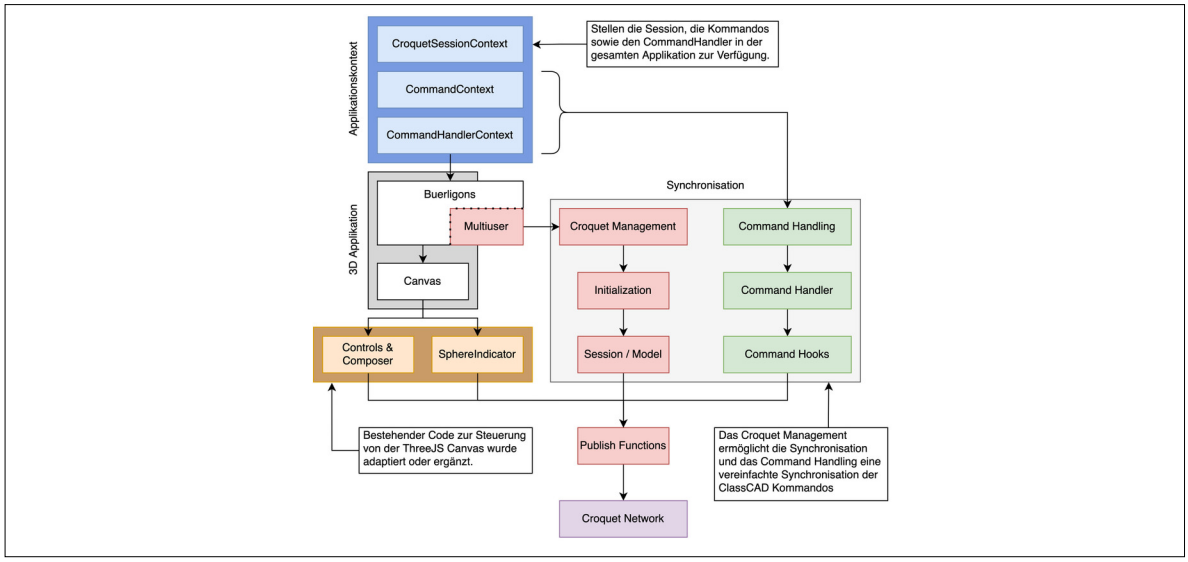
Path of a synchronization
Own presentment



Path of synchronization with a central ClassCAD server
Own presentment



Prototype structure
Own presentment



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Subject Area
Computer Science

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