# A CEWebS Component for Facilitating Online Cooperative Brainstorming Processes

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Drawing your ideas on a peace of paper is easy, but drawing onto the screen using the mouse appears to be quite complicated. This usually results in some non-formalised, bad-looking scribbling that is hard to extend and which makes it hard to modify.

## Findings in Order to Draw Rich Picture Diagrams

- *Students either used pen and paper or convential tools like Word, PowerPoint and Visio.*
- *Students used well-known symbols like actors from UML amd network diagrams symbols.*
- *In a total of 51 analysed RPDs only 28 distinct symbols were found.*
- *RPDs realised with pen and paper used symbols that were easier to understand.*
- *Excessive use of ClipArt leads to a cluttered appearance.*
- *Diagrams done with ordinary drawing tools resembled pen and paper style but were incomplete due to usage problems.*
- *Commercial whiteboards provide only basic drawing features.*

## Improve the Situation

Our findings reveal that available tools cannot keep up with the demands of sketching situations online. Therefore we developed a tool that supports the cooperative creation of diagrams, which involves:
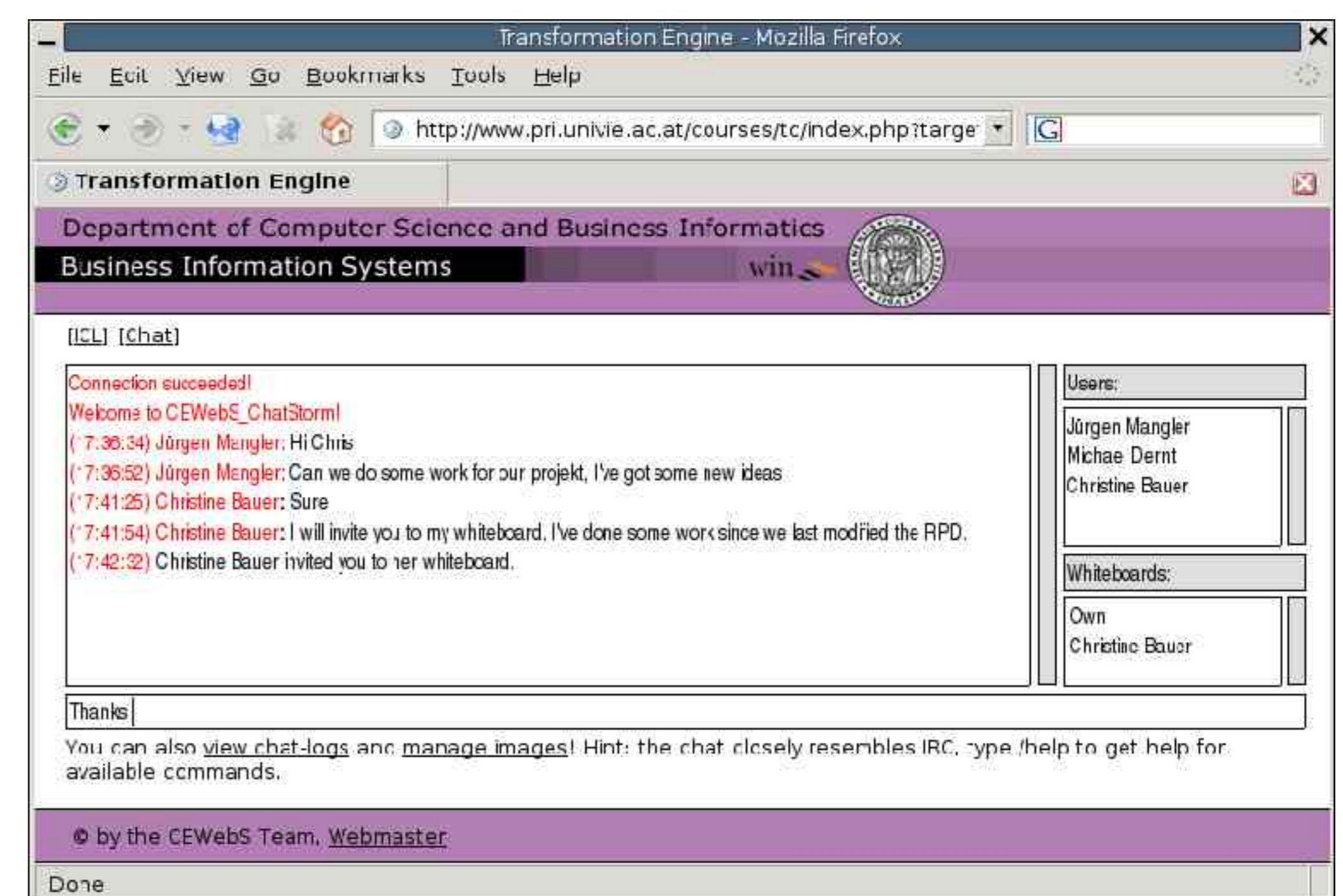
- *shared drawing of diagrams that consist of common used symbols to exploit the advantage of a semi-formalised picture language and*
- *a chatting facility in order to comment, describe, and discuss decisions.*
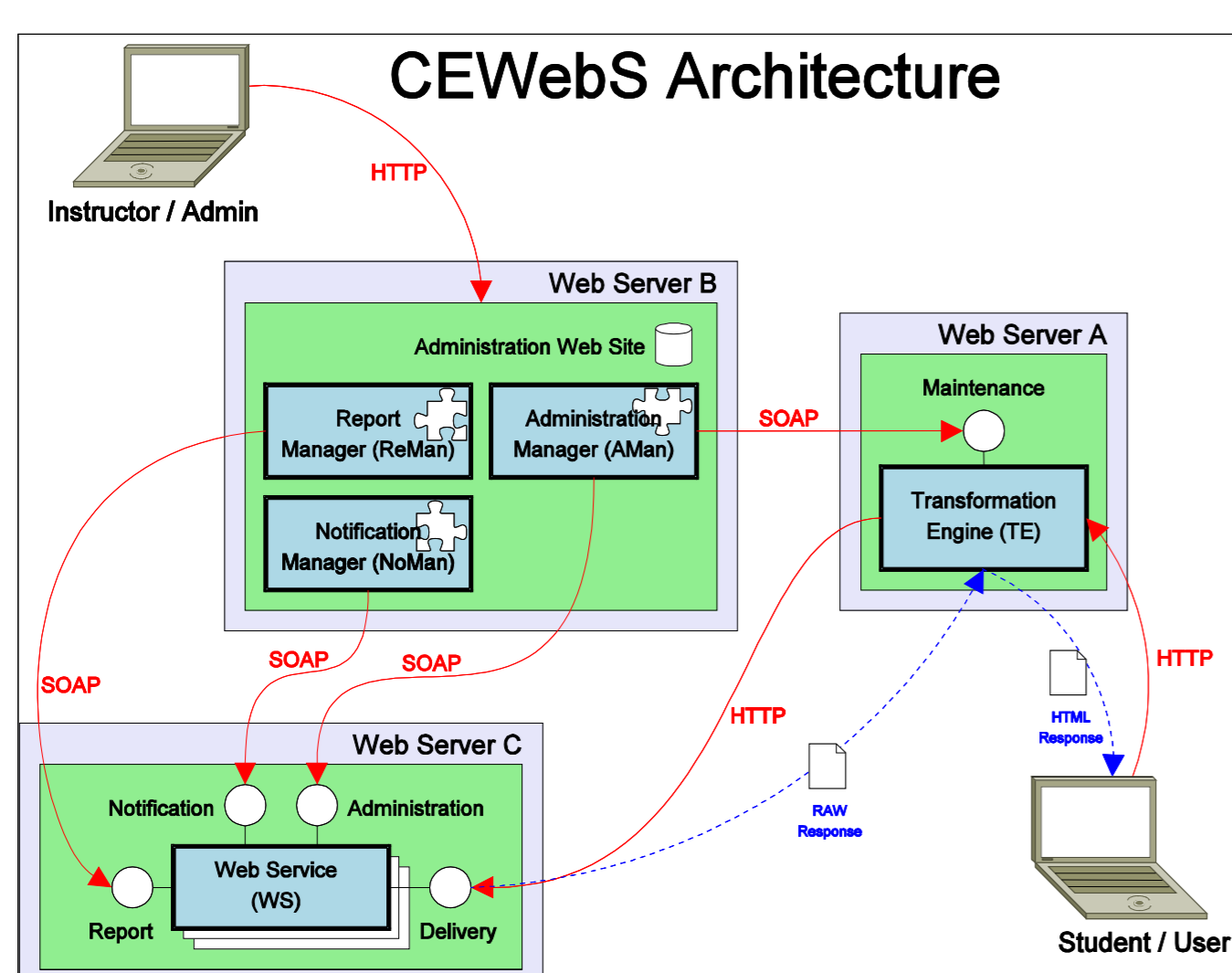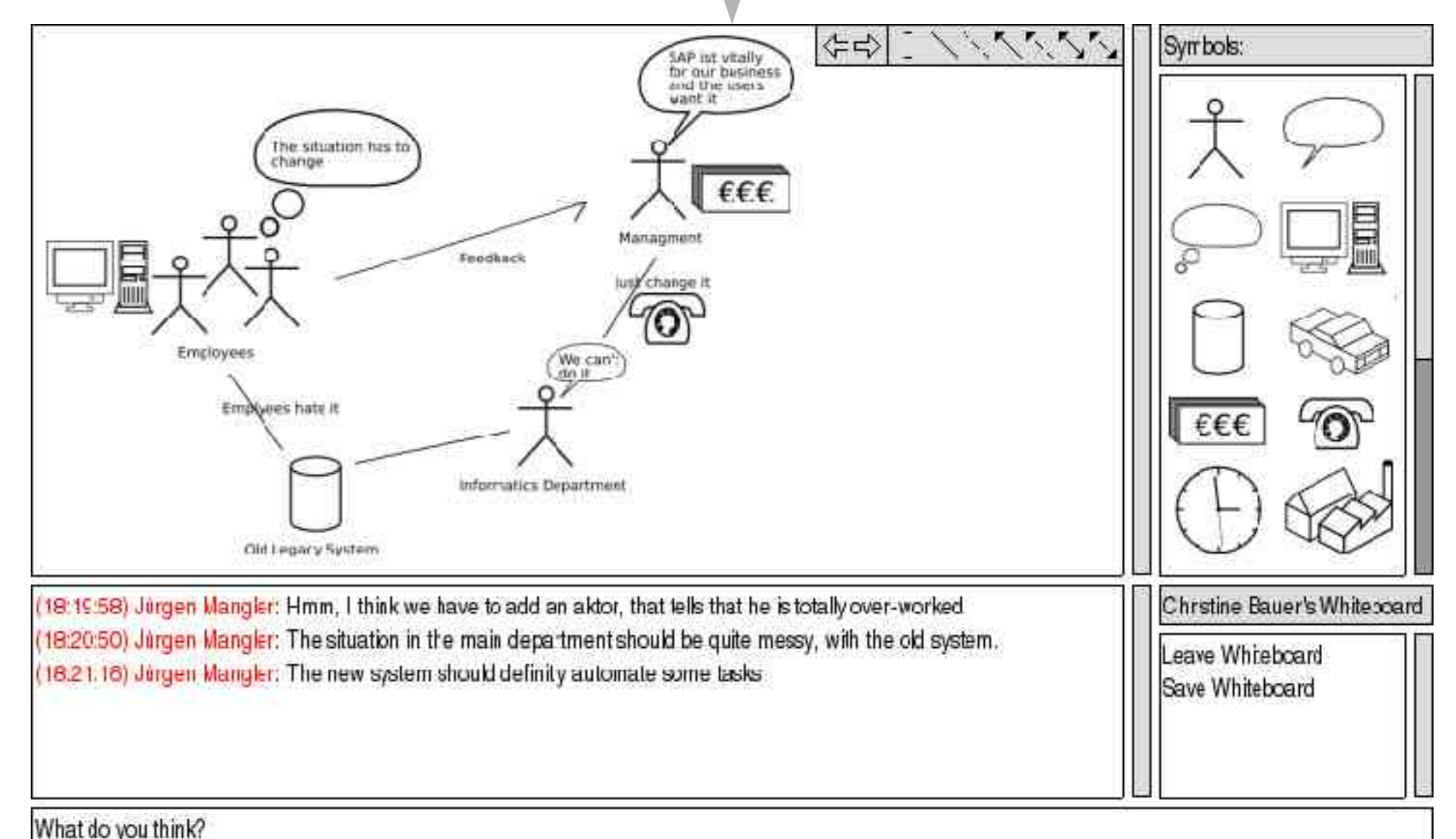
## ChatStorm provides

- *efficient synchronous brainstorming through the combination of chat and whiteboard,*
- *the sharing of diagrams with trusted people,*
- *a web-based interface provided by a CEWebS (Web service),*
- *the export of diagrams to a common image format (PNG),*
- *management of multiple diagrams (save whiteboard, load to whiteboard, rename, delete), and*
- *going back and forth in creation history to visualise the creation process.*
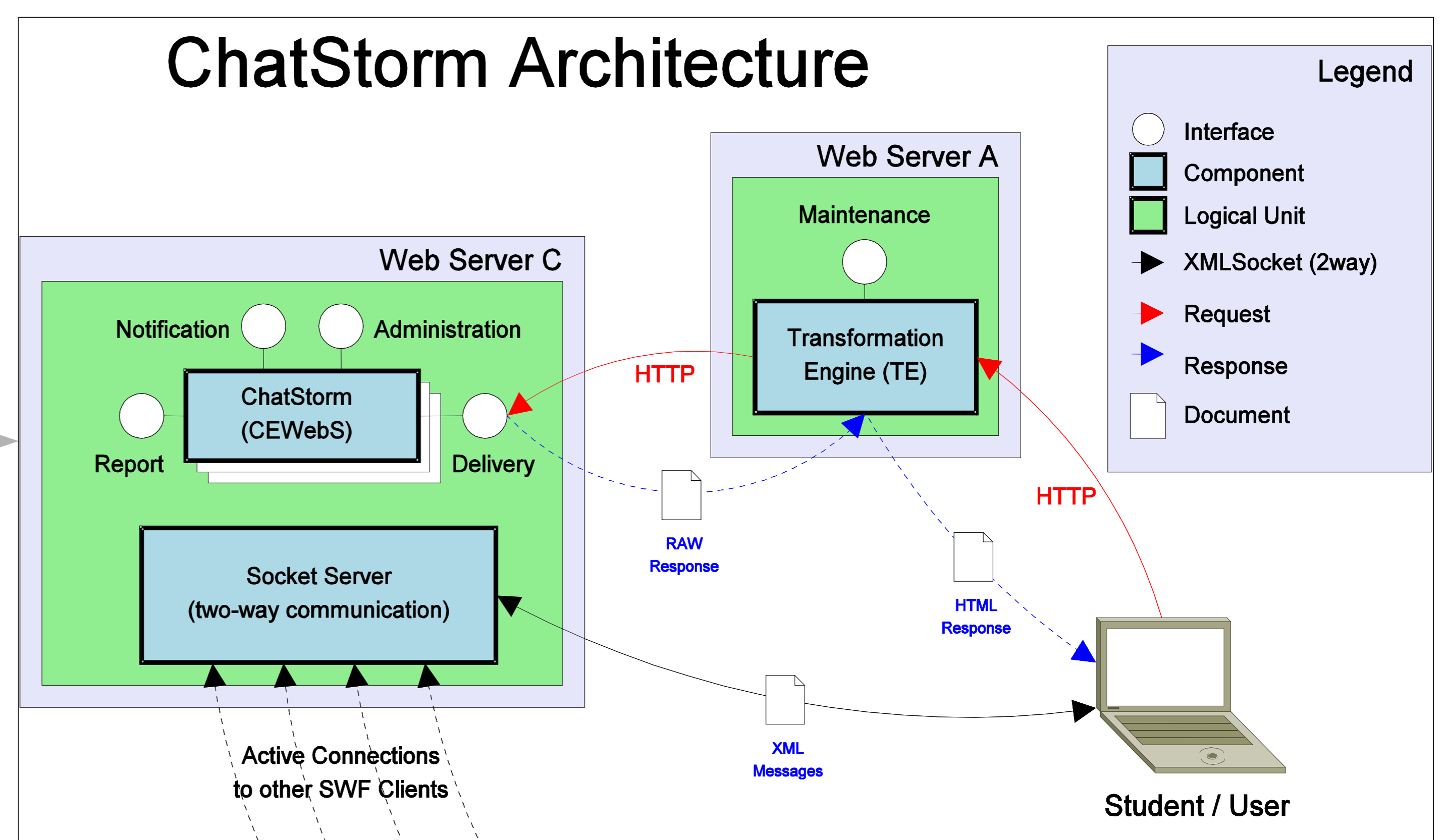
## The Architecture

ChatStorm is a CEWebS (Web Service) with an extension to allow synchronous communication between participating users. The resulting component is embedable into existing platforms.

If you want to hear more about our future work, leave your name / eMail on the attached sheet.



Jürgen joins Christine's whiteboard





CEWebS Architecture



ChatStorm Architecture