

Abstract

The background of the thesis is that Ericsson Infotech (EIN) today has a simulation product (SEA) that is built using components. The components are combined at run-time to create a simulation of the system the user needs. The system is divided in a simulation part and a control part. The component system used only covers the simulation parts not the graphical user interface (GUI) used to control the system.

In this thesis we have evaluated some existing technologies that can be used to build a GUI that is run-time extensible using some form of component structure. We propose a technology that are suitable for EINs needs. We have also built simple prototypes using the selected technologies.

The general solution to the problem is divided into two parts, dynamic extension of functionality and comprehensive window control. These two problems are analyzed separately for each technology. EIN has stated the following technologies to analyze: Tcl/Tk, Java, KDE and GNOME. For each technology/language a distributed and a non distributed technology is analyzed.

All the distributed technologies give a overhead and a high level of complexity that is not needed in this application, therefore the non distributed technologies is selected. The selected technologies to implement are:

- Tcl/Tk using the source command and namespaces
- Java using dynamic class loading.
- KDE2 using the KPart technology.

Finally the technology and language that we recommend to use for the development of a Component Based Graphical User Interface is Tcl/Tk using namespaces or Java using dynamic class loading. The selection of these technologies is based on the analysis and the implementation of the different technologies.