

“Applet to JSF Converter”

Project Proposal

1. Group

1.1 Group Members

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1.2 Group Name

2. Project

2.1 Project Title

“Applet to JSF Converter”

2.2 Project Sponsor

“Siemens EC”

2.3 Description

In this project, we intend to convert projects which uses “Java Applet”, an old technology, to a project in JSF which is today’s technology. The reason behind this solution is that with the growth of the technology, old applications having troubles to meet current needs.

Java applets were introduced in the first version of the Java language in 1995. In those days, applets are designed to provide interactive features to web applications that can not be provided by HTML alone^[1]. In response to the user action, applet can change the state and content. However, JSF technology provides all the required things to replace applet technology in nowadays. JSF includes managed beans, AJAX support, HTML and web application components, state management and etc.^[2]

Our project is planned to be an application that will parse a Java project that is based on Applet technology and generate the similar project implemented with JSF technology. An Applet (Java) project will be taken as an input and a JSF (Java) project will be produced as an output. In order to identify Applet usages, all source files need

to be parsed and corresponding JSF objects need to be produced. For more complex and future works, generation of an XML file that defines mapping between Applet and JSF usages may be considered. ^[3]

2.4 System Development

In this project, JSF based source files and projects will be generated to provide users a relatively new GUI. First of all, we will start with simple Applet projects such as a single Applet windows containing buttons, textboxes etc. Then the next step may be parsing an Applet wizard consists of workflows. Finally, if we succeed with transforming these kind of Applet projects to JSF ones, we may go on converting more complex ones, that is portals composed of menus, sub-menus and main window.

2.5 Market Research

After doing a simple search over the web, we didn't find any specific tool or solution related to our problem. In the market, there are some other automatic code generators like XML-DTD code generators. But considering our specific problem, there exists no such generator that will parse an Applet projects as an input and produce JSF ones. Our project promises Applet to JSF conversion to some level. It would have been a huge design project if we tried to parse any Applet project to JSF.

2.6 Details of the Project

As indicated at 2.4 -System Development section- we will start with simple Applet projects and move to complex ones. There is no specific Applet project limitation, but it is hard to parse all kinds of projects. According to Siemens EC's needs and also if we succeed, we will do conversion of Applet-based portals finally.

Our system can be implemented in two ways. First one may be parsing from the source code directly and building some specific GUI elements with JSF. Second one is using some tools which start the specific application and capture GUI elements. These tools maps GUI elements to XML files with their coordinates and element types, such as:

```
<element>
  <TextBox>
    <FirstCoordX> 25 </FirstCoordX>
    <FirstCoordY> 35 </FirstCoordY>
    ...
  </TextBox>
</element>
```

Then, we convert to JSF using that XML file.

This project does not promise a 100% conversion. It would take much more time to convert every kind of Applet project to JSF one. But this converter in a small scale may help developers and final customers ease their job. Automation of this conversion will reduce maintenance cost and time of Applet projects, that is modifying Applet projects according to today's needs, and produce much more modernized JSF projects.

Siemens EC's customers that use old Applet applications will not suffer from old technology anymore. We will show demonstrations of our projects periodically to Siemens EC's project coordinators and also their customers. According to their needs and demands, some specifications may be added.

3. References

- [1] **Wikipedia Applet Page**, http://en.wikipedia.org/wiki/Java_applet
- [2] **Wikipedia JSF Page**, http://en.wikipedia.org/wiki/JavaServer_Faces
- [3] **Alper Teke, "Project Presentation of Siemens EC Sponsored Projects"**,
https://cow.ceng.metu.edu.tr/Courses/download_courseFile.php?id=2708
- [4] **Oracle Applet Page**, <http://java.sun.com/applets/>
- [5] **JSF home page**, <http://www.java-serverfaces.org/>