Pattern Based User Interface Generation

Mestrado em Engenharia Informática

André Lopes Barbosa

Orientador: António Nestor Ribeiro

Agenda

- Context

- Patterns

- UsiXML

- Project

Context

What makes a successful software?

Ÿ H \ Y ˙ U b g k Y f ˙] g ˙ [Y h h] b [˙ ` Y g g ˙ h Y W \ l

Ÿ Å ˙ U b X ˙ a c f Y ˙ U V c i h ˙ \ c k ˙ h \ Y ˙ g c Z h k U
Computer Interaction.

Ÿ This is a problem for most developers.

Context

How are user interfaces built?

Ÿ   Manually coding everything.

Ÿ   Generating code through WYSIWYG tools.

Ÿ   Some work on model driven development.

Patterns

Can patterns help?

Ÿ Patterns are very useful in other areas.

Ÿ Patterns are solutions that have been used in other projects.

   Ÿ Patterns promote reusability.

   Ÿ Patterns have already been used and tested. <u>If a user interface pattern is known to be compliant with HCI rules, an instanciation of that pattern is also compliant with HCI rules.</u>

Patterns

What kind of patterns?

Ÿ Patterns usualy hava a name, a problem, a soluction and a set of consequences.

Ÿ In *Î; YbYfUh]j Y ˙DUhhYfb -Based Design of User Interfaces* , *JeanVanderdoncka* and *Francisco Simarro* define two kinds of patterns:

   Ÿ Descriptive patterns;
   Ÿ Generative patterns.

Patterns

How can we specify them?

- Ÿ UML is not suitable.

- Ÿ UsiXML.
  - Ÿ XML based language developed from scratch with the objectvive of expressing user interface models.

UsiXML

How can we use UsiXML?

Ÿ UsiXML is divided in a set of components.

    Ÿ Abstract user interface model;

    Ÿ Task model;

    Ÿ Context model;

    Ÿ Domain model;

    Ÿ Mapping model.

Project

What features will be supported?

- Ÿ Read and interpret patterns specied in UsiXML models.

- Ÿ Read and interpret source code of one or more OOP language with annotations in a separate XML file.

- Ÿ Generate a concrete user interface resulting from a transformation of the pattern.

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