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The Automatic Generation and Execution of Lean Cuisine+ Specifications

A thesis presented in partial fulfilment of the requirements for the degree of Master of Information Science in Computer Science at Massey University, Palmerston North, New Zealand

Lei LI (李磊) 2003
Lean Cuisine+ (Phillips, 1995), a semi-formal graphical dialogue notation for describing the behaviour of event based direct manipulation GUls, was developed at Massey University in the early 1990s. More recently, a software environment, SELCU (Scogings, 2003) has been built for Lean Cuisine+ which permits dialogue models to be manually constructed and edited using a drag and drop approach. The aim of the research presented in this thesis is to develop extensions to SELCU, which include the automatic generation of Lean Cuisine+ diagrams, and their execution.

A shortcoming of current prototyping tools and user interface builders is that although they permit the designer to construct a mock up of the look and feel of the interface, they provide no model of the interaction. The Auto-Generation Software is a tool which can automatically generate a Lean Cuisine+ diagram for a graphical user interface developed using Delphi. The generated description is represented as a text file, and in a format compatible with the SELCU system.

The Lean Cuisine+ Execution Environment is embedded in the SELCU application. It supports the execution of Lean Cuisine+ specifications, including meneme selection and task action sequence, and also takes account of triggers.

The SELCU extensions successfully integrate a graphical dialogue notation (Lean Cuisine+), an object oriented development environment (Delphi), and an existing support environment (SELCU). This offers a more complete environment for the early stages of the design of graphical user interfaces.
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