Designing Interactive Systems II

Assignment 2 "Window System (Part 1/3): Desktop and Windows"

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2. Testing Your Understanding

1. We suggest to use a hash map stored by a WindowSystem component as a data structure, which has an object Placement as a key and a object SimpleWindow as a value. The Placement includes information about component position on a Desktop.

2. The WindowSystem is expected to be responsible for defining positions of SimpleWindows and to write this information into the hash map. The WindowSystem is regarded as an object with adding/removing SimpleWindow objects methods and reflecting this information into the hash map, as well as an object which includes logic for ordering SimpleWindow components in front-to-back. The WindowSystem is considered to have functionality for finding a specific SimpleWindow given an arbitrary (x, y) (desktop) coordinate by use of hash map, specifically Placement objects in it. Overall code complexity is higher than putting SimpleWindow objects into other datastructures as a LinkedList or Array for example. However, this approach will pay off while working with this design, as the WindowSystem and Placement objects will stay for decoupling all complex logic regarding SimpleWindow arranging.

3. Expert Question

During the solving session of task 3 we learned: a concrete component should be added to ActionListener, not a frame for example, otherwise the application will handle events from the whole frame; we don't need specific knowledge of events implementation, e.g. drag and drop, but we need to know precisely event action delivered, in order to use it; we should initialize EventListners before events happen.