# Interacting with Multiple Devices

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## TV Companion

Television watchers currently must rely on multiple sources to select which programs to watch or record. We are designing a handheld-based application which simplifies show selection by combining program information with television and DVR controls.
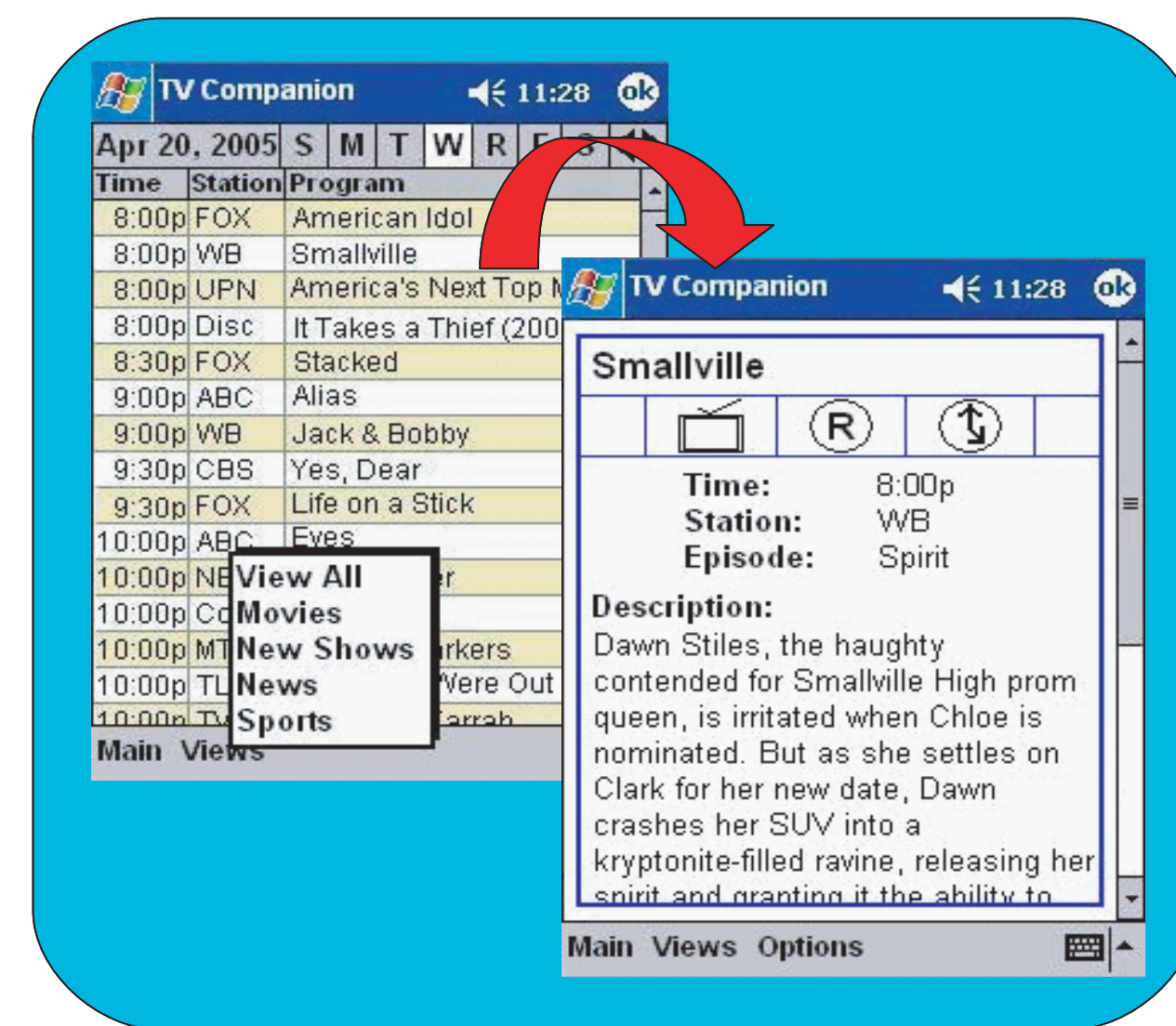


### Goals

1. Simplify show selection by providing program schedules and detailed show information on a single device.

2. Study methods of designing applications for handheld devices.

3. Explore applications that take advantage of multiple devices. Support planning by allowing users to create schedules of both live and recorded programs to watch later.

## Background

Past research on designing for handheld devices [1] highlighted techniques for overcoming small screen real estate.

Previous work on interaction between PDAs and TVs [2] provided insights for designing for these particular devices.

• Televisions can support interfaces with pictures, videos, and audio output.

• PDAs can display text and some graphics such as simple maps or icons.



### Future Work

• Explore methods of controlling DVR through PDA.

• Perform a user study to determine if the application meets our goals.

## Extending Eclipse

Computer usage is moving from a model of one machine per user to many machines per user. One approach to taking advantage of the increased input and output resources provided by mobile devices is to create interfaces that can divide across them. This research provides support for designing interfaces that divide across multiple devices by extending the Eclipse Visual editor to generate XML descriptions of divisible interfaces.
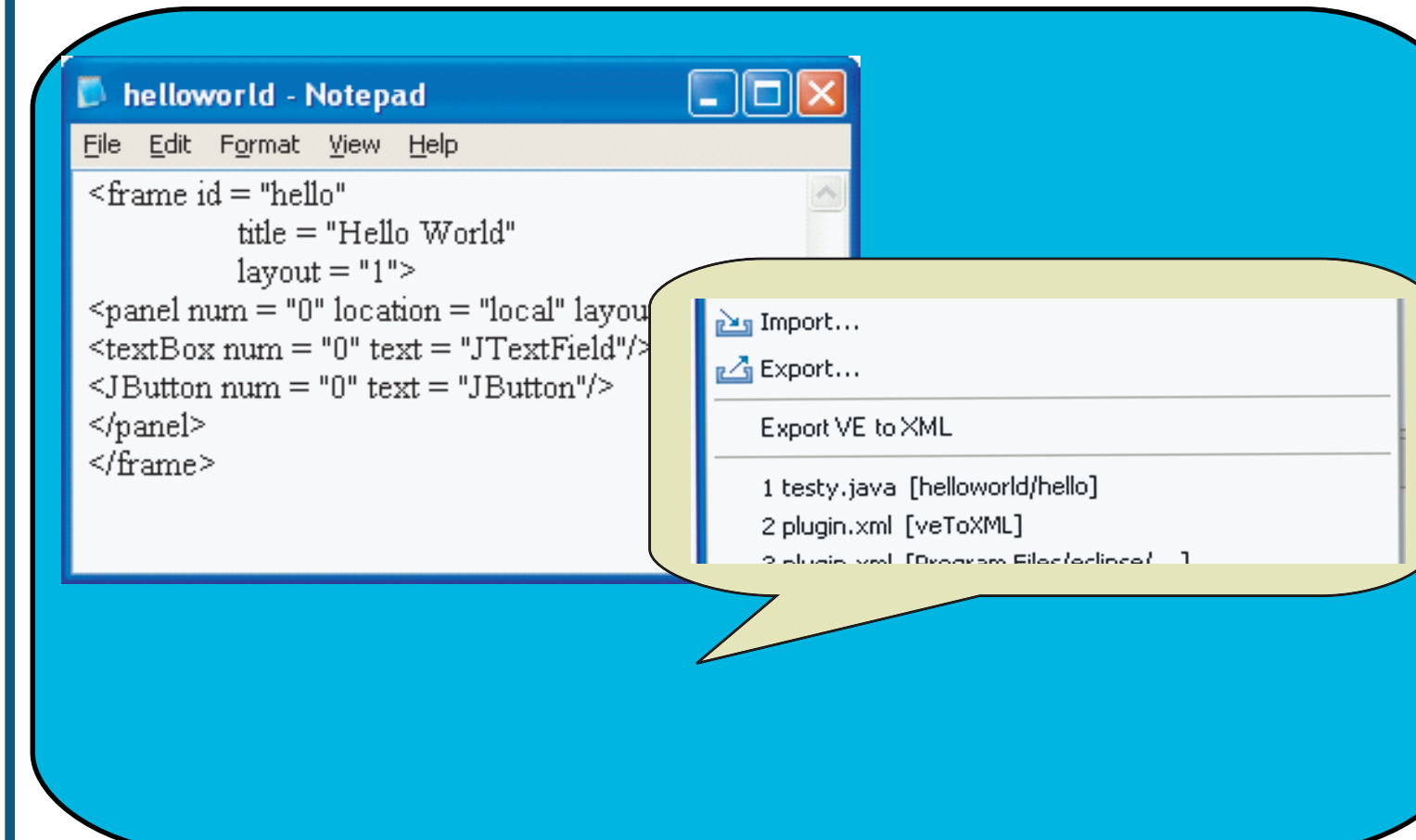


1. Learn to develop plugins to extend the Eclipse Visual Editor.

2. Study XML .

3. Enable designers to create divisible interfaces using the Eclipse Visual Editor and the DIAMOND framework.

## Methods

To extend the Visual Editor, we first studied its framework to find an extension point. Using the Plugin Development Environment we created a plug-in to traverse the SWT interactor tree and generate an XML description of the widgets which the designer lays out. This XML description can later be used to create divisible interfaces with the DIAMOND framework.
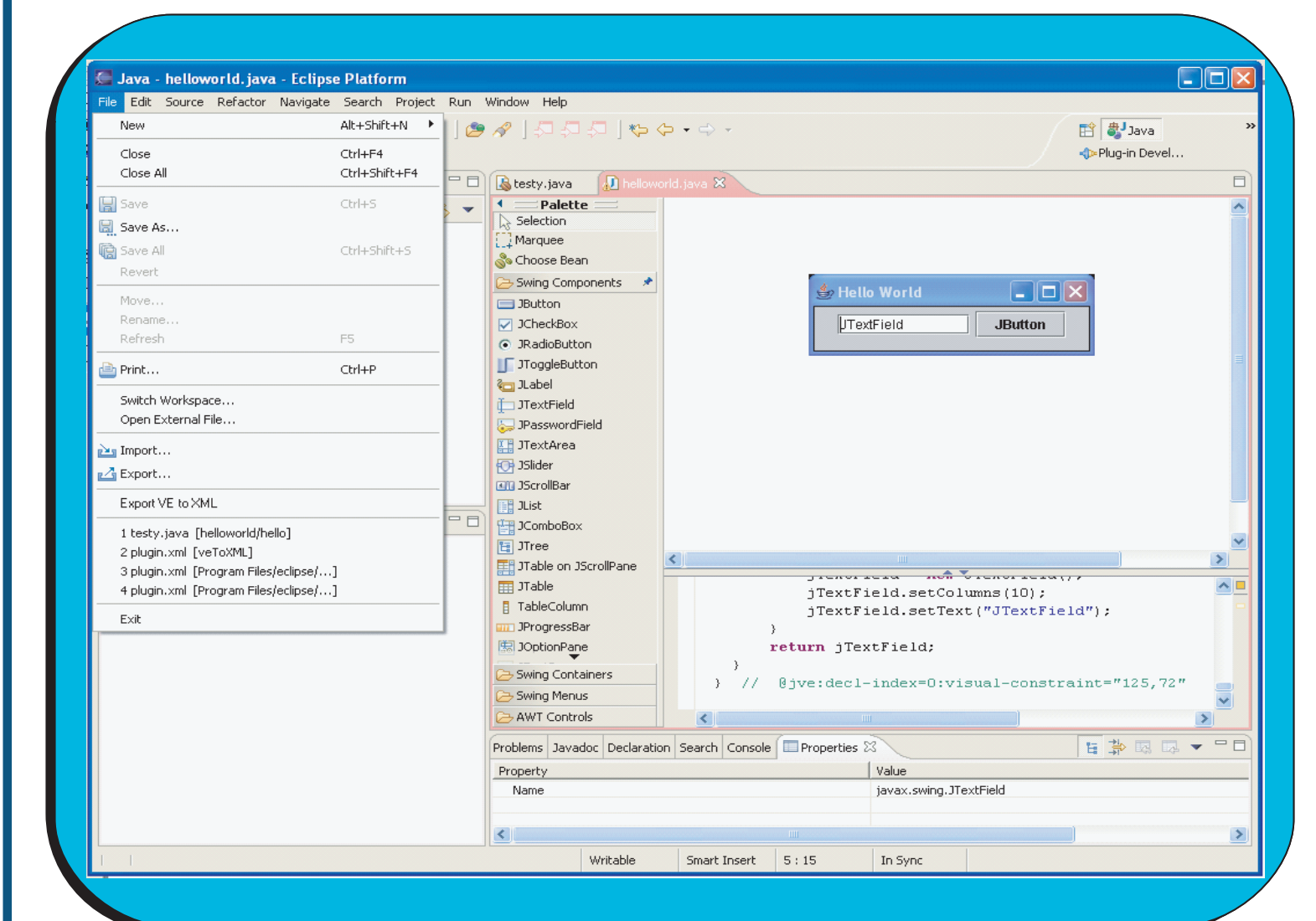


### Future Work

• Perform usability testing with designers.

• Internationalize plugin