

# Pounder

(Java GUI Test Tool)

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# 1. History (of UI Testing)

- command-line driven applications
- scripts (input stream from file, not from screen)
- GUI applications (easy to use, difficult to test)

## 2. GUI Testing Problems

- event-driven software  
(too many execution paths, what to test?)
- many ways in (which events to test?)
- unsolicited events  
(out of paper, data changes - refresh screen)  
test drivers needed
- synchronisation (later)

## 3. Tools

- **full manual** (work & watch)
- **record-playback** (depends on ability of tester)
- **automatic test case generator**  
(implementation needed)
- **beta copies**  
(400 000 beta copies of Windows 95)

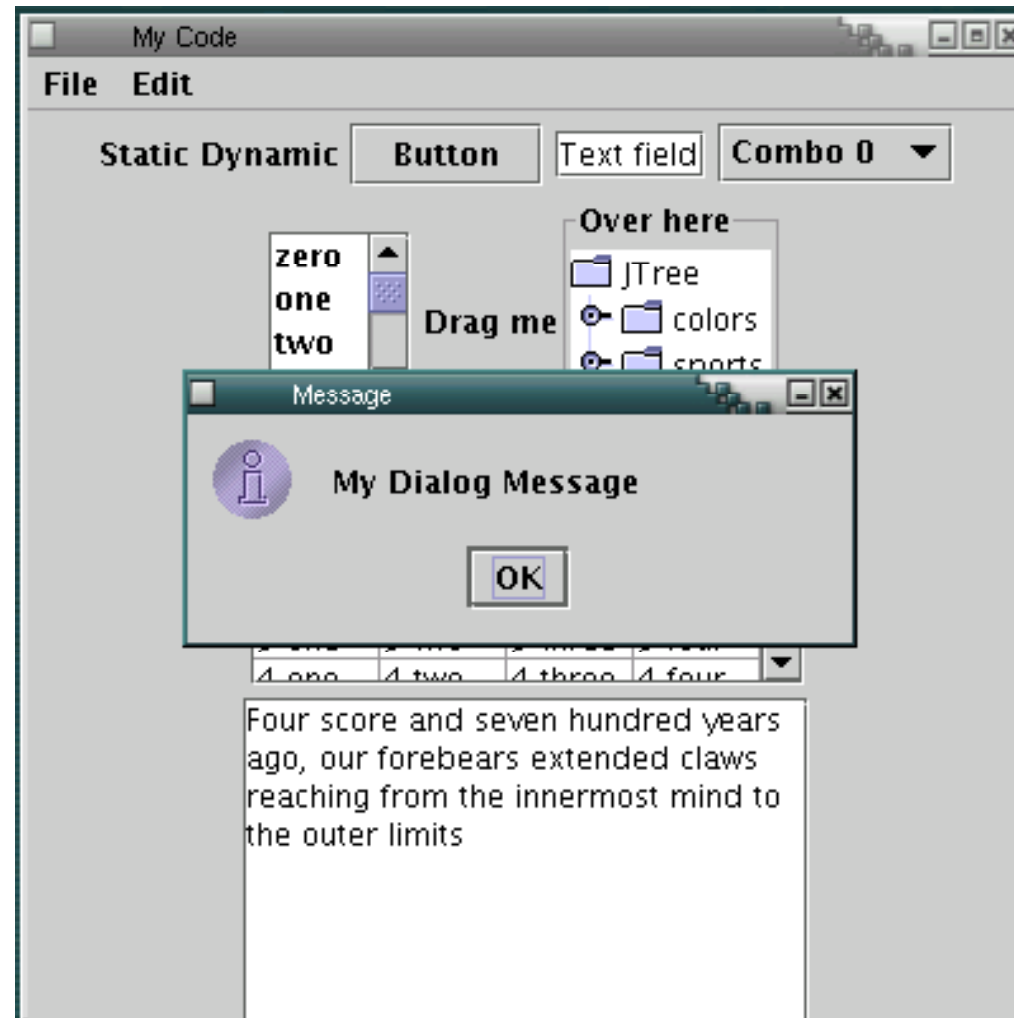
## 3.1 Record-playback

- **position-based**  
mouse movements/events, position on screen  
problems: components' size is changed
- **object based**  
events associated with objects  
pitfalls - visibiliy: visual check needed

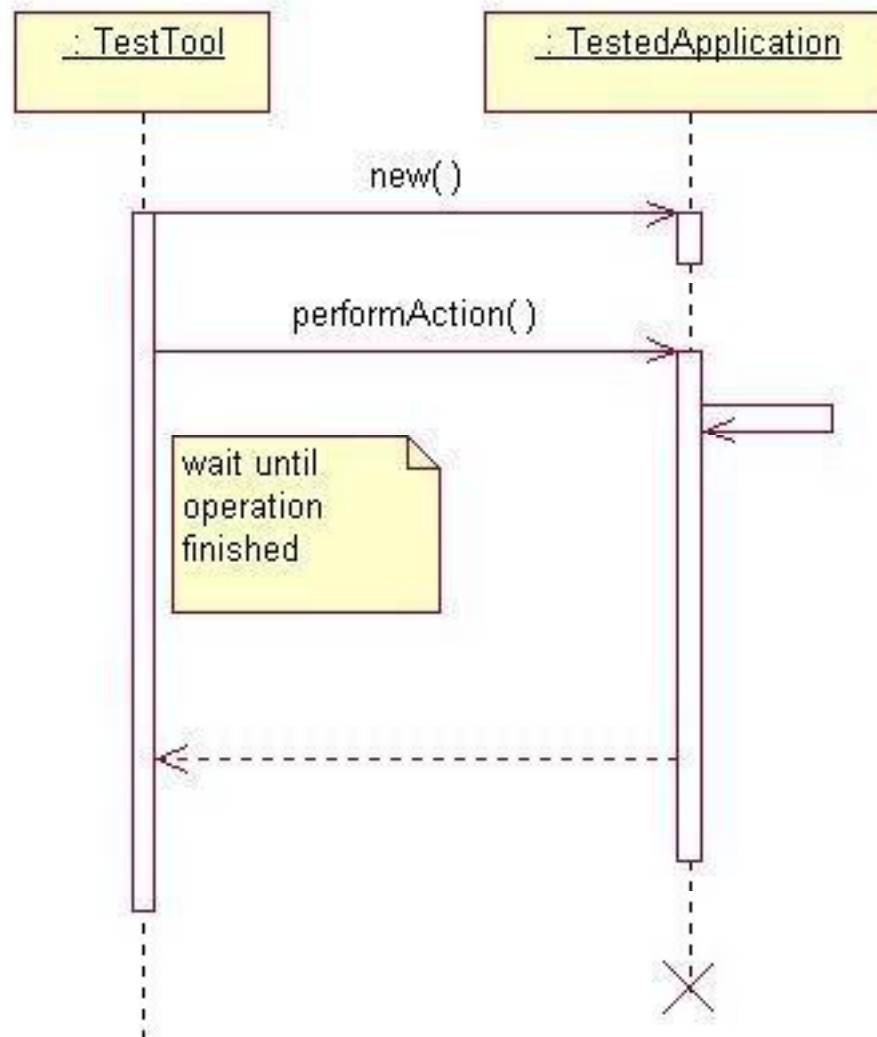
## 3.2 Record-playback

- **output checking**  
screenshot (bitmap)  
content (object's attributes)
- **synchronisation problem**  
(script execution faster than human)

## 3.3 Synchronisation problem



## 3.4 Synchronisation problem



## 4. Pounder - overview

- Java GUI Test Tool  
(java.awt.Component, java.awt.Window,  
com.mtp.pounder.ComponentConduit)
- License: GNU
- record-playback tool  
(key events, mouse events, window events)  
saved as XML
- synchronisation problem (repeat)

## 4.1 Pounder

- installation & execution
- recording a script

## 4.2 Pounder - how to test

- manual output checking
- create a test (with JUnit)

## 4.3 Pounder - JUnit test

```
import com.mtp.pounder.Player;
import example.MyCode;

public class FirstTestCase extends TestCase {

    public static String SCRIPT_FILENAME = "/home/marcin/btu/testen/script1.pnd";

    public void testButton() throws Exception {

        Player player = new Player(FirstTestCase.SCRIPT_FILENAME);
        MyCode code = (MyCode) player.play();
        assertEquals(3, code.getButtonClicks());
        assertEquals(true, code.isOneSelected());
    }
}
```

## 5. Conclusion

- Problems (points, mouse events,...)
- Applets (?)
- comparision to Abbot