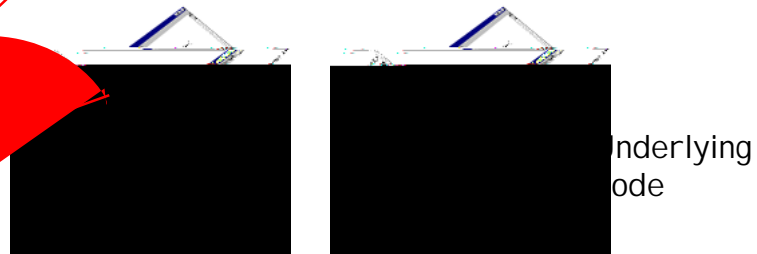


# Plan Generation for GUI Testing

- *The 21st International Conference on Software Engineering*
- *The Fifth International Conference on Artificial Intelligence Planning and Scheduling*
- *IEEE Transactions on Software Engineering*

GUI

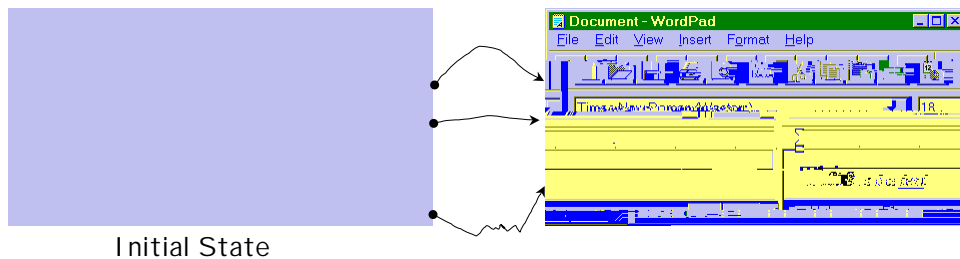


## Why Planning for GUI Testing

- GUIs are Event Driven
- Individual User Events
  - NOT ENOUGH!
  - Sequences of User Events lead to Different States
- Test Case: Sequence of User Events
- How to Generate Test Cases ?
- Use Planning to Select Likely Test Cases

## Selecting Test Sequences

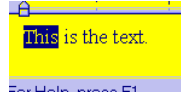
- Infinitely Many
- Randomly Choose Sequences
- Expert Chooses Sequences
- Automatically Generate Events for COMMONLY USED TASKS



## A Plan for a GUI Task

---

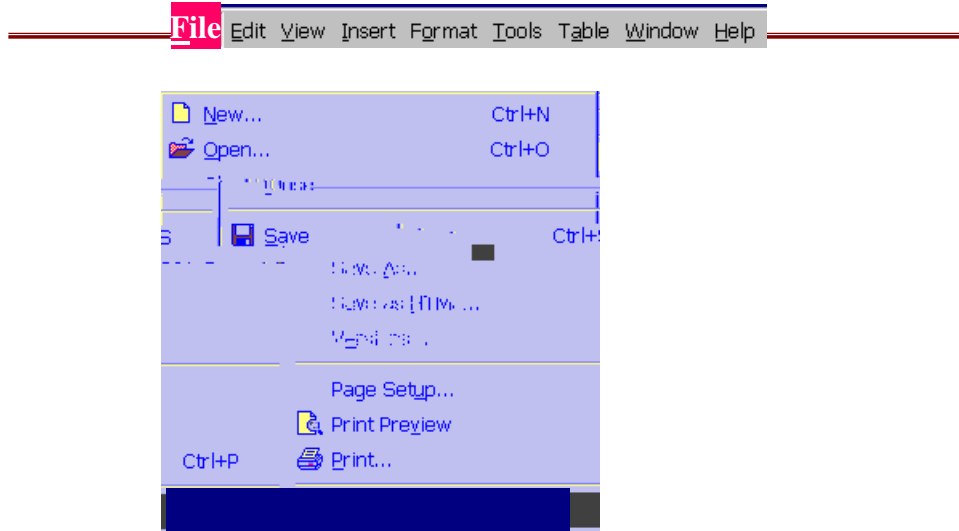
SelectText("This")







## Opening Menus





## Create Abstract Operators













## Feasibility Study

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- Purpose
  - To Determine whether Planning is a Feasible



## Coverage Criteria for GUI Testing

## Coverage Criteria for GUIs

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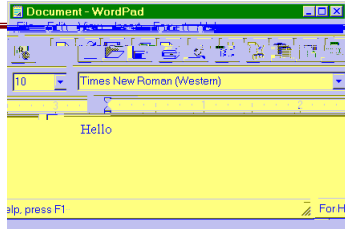
- Cannot use code-based coverage







## Modal Windows in GUIs





## Event-flow Graph

