Issue #3:

Improving the Tk Binding Mechanism

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Overview

Problem:

- Hard to combine independently-developed bindings for widgets.

Solution:

- Allow more than one binding to trigger for widget.

- Add tag-like mechanism for specifying related groups of bindings.

- Provide control over order of execution of bindings.

Current Bindings

Three kinds of bindings:

- Widget-specific bindings: `bind .a.b.c ...`.

- Class bindings: `bind Button ...`

- "All" bindings: `bind all ...`

A single binding triggers for each event:

- Widget-specific has priority over class.

- Class has priority over "all".

- Within type, "most specific" binding wins:

   `<Escape>` beats `<KeyPress>`

   `<Control-B1-Motion>` beats `<Motion>`

Class bindings used for default widget behavior.

Widget-specfic bindings used for overriding, extending default behavior.

Problems with Current Approach

Bindings don't compose gracefully.

Example: add additional widget-specific action to \<Enter\> for buttons.

- `bind .b <Enter> foo`

- Replaces class binding for \<Enter\>, breaks normal button behavior.

- Current solution:
   ```
   bind .b <Enter> \
       "[bind Button <Enter>]; foo"
   ```

- But what if class binding changes to \<Any-Enter\>?

"All" bindings don't really work very well.

Proposed Solution

(based on suggestion by Michael Halle)

Let multiple bindings trigger on a single event:

- First find and trigger one widget-specific binding.

- Then trigger one class binding.

- Then trigger one "all" binding.

Add support for `break` command to skip remaining bindings.

Only one binding can trigger within a group.

Disadvantage: not backwards compatible.

Proposed Solution, cont'd

Provide new command to change binding tags for a widget:

- Change widget's class for binding purposes:

  ```
  bind MyButton ...
  bind tags .b .b MyButton all
  ```

- Add a new independent set of bindings:

  ```
  bind special ...
  bind tags .b special .b Button all
  ```

- Replace all bindings for widget:

  ```
  bind tags .b special
  ```

- Make widget-specific bindings trigger after class bindings:

  ```
  bind tags .b Button .b all
  ```

Conclusion

- Does this solve all known problems with bindings?

- Anyother suggestions for bindings?