

# Adding Usability to Web Engineering Models and Tools

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- Research Goal
- Current Approach to Automated Validation
  - Existing Usability Validators
  - Common Problem
- Improving Validation Quality
  - Idea: Use Information from WE Models
  - List of Possible Extensions
- Prototype Implementation
- Conclusion

# Research Goal

Add “usability support” to Web Engineering:

- How can (semi-)automatic usability testing be integrated into WE tools?
- What extensions to WE methods, models and tools make sense?

This paper:

Usability tool support –  
Validation of HTML code

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# Existing Usability Validators

How powerful are the tests of state-of-the-art usability/accessibility validators?

Examined the following:

- A-Prompt
- Bobby
- EvalIris
- Kwaresmi
- LIFT
- NAUTICUS
- WAVE
- WebTango

# Common Problem of Existing Validators

- Too many general warning messages
- Messages tell user to make manual checks

## Examples:

LIFT: "Please check if the table is used to present data and in such a case provide header information."

Bobby: "Are there navigation bars for easy access to the navigation structure?"

WAVE: Always warns if ALT text of an image is empty, even if image is ornamental.

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# Improving Validation Quality

Idea: Use information from existing Web Engineering models. For example:

- Presentation model assigns meaning to page areas (“this is advertising”)  
⇒ Does page use standard layout?
- Navigation model gives navigation paths and interaction patterns (“guided tour”)  
⇒ Check click distances



# Possible Model Extensions

- Timing

Overall contact time with site, time per visit; time taken to perform main tasks; maximum time for delivery of pages

- Purpose of the site

Main objective; required information/navigation complexity; site type (sensational, educational, informational...)

- Target group, anticipated user

Main user group; age distribution; computer skills; technical infrastructure (computer type, Internet connection)

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# Prototype Implementation

For more information, please visit the demo session!

Step: 1 2 3 Select type of this area:  
Main content OK

Type of content is assigned to selected area

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Save \$10 or more when you send your sweetheart a bouquet from ProFlowers. Shop for roses, tulips, or fragrant lilies. Order by 11:59 p.m. Eastern time, February 10, for delivery by Valentine's Day.  
See all ProFlowers Valentine's Day savings

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Shop for locker room gear in our Super Bowl XXXIX Fan Shop

**\$20 Scale Offer**  
Spend \$99 on these

GO! Powered by A9.com

http://localhost:8180/wusab/regionprop.jsp?id=79&url=http://amazon.com

# Conclusion and Further Work

- I do not want to replace the usability expert, but make his work easier
- If usability is built into WE/authoring tools (results are “usable by default”), this will improve sites even when people do not pay attention to usability issues at all
- Further work: Improve prototype, demonstrate integration into WE environments, other tools (not validators)

# Thank you!

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