Comparative Web Design
Tool Evaluation

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The Design Tools

- **Dreamweaver MX**
  - commercially available
  - has extended features for site management

- **Mozilla Composer**
  - freeware
  - supports most common Web editing needs
Evaluation Plan

- Test subjects relatively new to design tools
- Some experience with HTML authoring
- Tool quality assessment goals
  - functional completeness
  - learnability
  - pleasantness (lack of frustration)
- Devise consistent test metrics
- Devise design to encapsulate tasks
Our Process

- Six subjects evaluated using both tools
- Subject activity captured via Camtasia
- Passive observation of subjects
- Questionnaires used to capture quantitative and qualitative data
- Post-session Camtasia capture studies
Coding Scheme

- number of times help is accessed
- number of errors
- number of design omissions (at the end)
- number of times program help is consulted
- open existing page as guide
- time duration for completion of all tasks (overall session time)
- an “undo” operation
- idle browsing (hunting) periods
- number of times code (vs. design) mode used
## Questionnaire Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Familiarity (1 – 7 scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How familiar are you with Dreamweaver?</td>
<td>3</td>
</tr>
<tr>
<td>How familiar are you with the applications in the Macromedia Studio suite?</td>
<td>3.83</td>
</tr>
<tr>
<td>How familiar are you with Mozilla composer?</td>
<td>1</td>
</tr>
<tr>
<td>How much experience do you have with creating a web page?</td>
<td>4.67</td>
</tr>
<tr>
<td>How much experience do you have with creating Weblog pages?</td>
<td>1.17</td>
</tr>
<tr>
<td>How comfortable are you in writing HTML code (with no graphical editor or tools)?</td>
<td>4.33</td>
</tr>
</tbody>
</table>
Dreamweaver Results

- Five subjects completed tasks in < 18 min
- One subject did not finish (ran out of time)
- One subject accessed help
- User errors: header, image border, text weight, and table height
- Two subjects started with an existing page
- Idle browsing: exploring, cell merging, image border, copyright symbol
Composer Results

- Three users did not finish (ran out of time)
- Three users completed in < 13 min
- Three subjects accessed help; one was helped
- User errors: header, page width, bullet list
- Two subjects started with an existing page
- Table column resizing, control handles, and horizontal rule problematic
Dreamweaver vs. Composer

► Learnability
  - Total time taken related to familiarity with Macromedia products
  - Composer required trial-and-error for tables
  - Bulleted lists difficult in both
  - Patterns in idle browsing

► Functional Completeness
  - Help system issues in both tools
  - Composer had system bugs or nonstandard UI

► Pleasantness (lack of user frustration)
  - Issues in completeness and nonstandard functionality created frustration
  - One user emitted a grunt of disdain while working with Composer
Conclusions

► Users will transfer gained domain knowledge to a new tool
  ▪ e.g., methods for table modification, and special character insertion (copyright symbol)

► Almost all users knew how to insert a special character
  ▪ helped tool learnability, since users instinctively knew where to find a function
Conclusions, part 2

► Composer look & feel led to relatively better performance
  ▪ predictable text- and formatting-oriented functions; had a learnability advantage

► Dreamweaver had clear advantage in Web page design-specific tasks
  ▪ setting image border and modifying tables
  ▪ more functionally complete
  ▪ this tool has greater learnability for these tasks
Conclusions, part 3

- Significant functional completeness differences
  - Composer table editing handles non-standard for a modern GUI tool
  - subjects repeatedly tried to adjust table properties
  - horizontal rule couldn’t be set in Composer

- Above led to frustration in using tool
  - many subjects unable to complete due to these complications
  - three users unable to complete task in Composer vs. one user in Dreamweaver
Summary

► Overall, Dreamweaver is a better tool as the complexity of the task increases.
► Five of six subjects said they’d use it for future, more complex tasks.
► Dreamweaver’s extensive functionality did not reduce its learnability.
► Frustrations shown by Composer users indicate some design environment issues that need to be addressed in future product iterations.