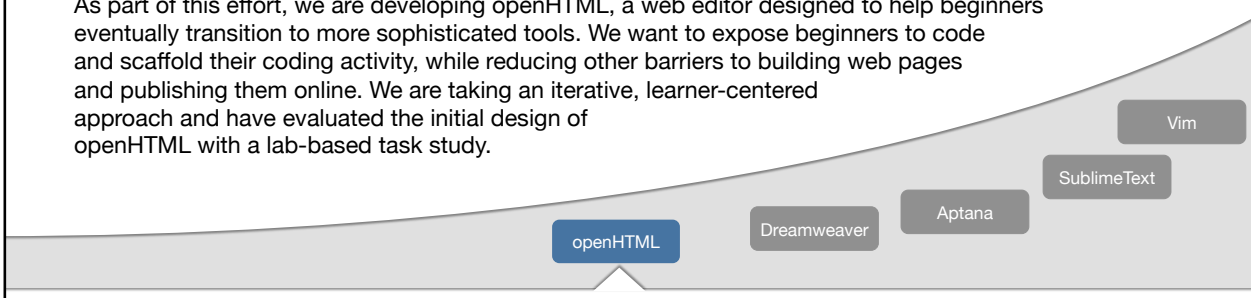
openHTML:
Designing a Transitional Web Editor for Novices

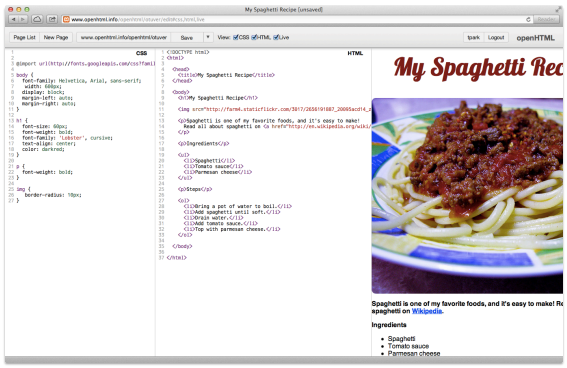
Andrea Forte • **Susan Wiedenbeck** • **Thomas Park** • **Ankur Saxena** • **Swathi Ragannath**
College of Information Science & Technology • Drexel University

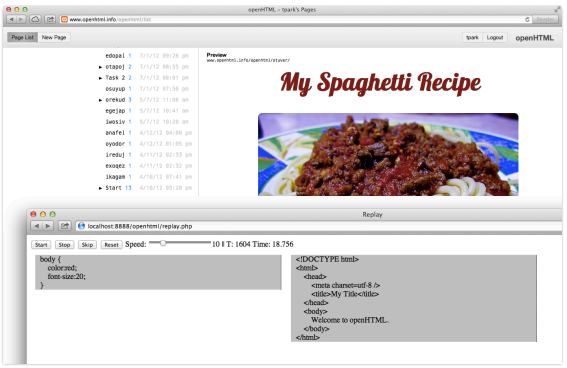
INTRODUCTION

For many people, basic web development is the start of a lifelong engagement with creative computation. Our research focuses on supporting beginners in having positive and productive learning experiences with HTML and CSS, and preparing them for more sophisticated activities.

As part of this effort, we are developing openHTML, a web editor designed to help beginners eventually transition to more sophisticated tools. We want to expose beginners to code and scaffold their coding activity, while reducing other barriers to building web pages and publishing them online. We are taking an iterative, learner-centered approach and have evaluated the initial design of openHTML with a lab-based task study.







EVALUATION

We conducted a lab-based study to evaluate the initial design of openHTML. 20 participants were asked to use openHTML to complete 5 HTML and CSS coding tasks. We observed participants directly as they followed a think-aloud protocol and completed the tasks to the best of their ability. The tasks were followed with a brief interview about their experiences with the editor. Our analysis is focusing on the coding errors they made, as well as the role openHTML and other resources played in making and resolving these errors.

PRELIMINARY FINDINGS

In our first round of analysis, we identified several themes with implications for the design of openHTML.

Coding Errors
We identified classes of active errors perceived immediately by the user, and latent errors that lay dormant and undetected. We want to find new ways of surfacing latent errors through our interface.

Tinkering
The participants often tinkered with code. The context in which it occurred often determined whether it was a sign of playful and productive exploration, or frustrated and unproductive thrashing.

Web Search
Participants regularly turned to web searches to help complete tasks. Searches were code-centric and action-oriented, suggesting an opportunity to integrate explanations with openHTML itself.

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