

Baby Steps: Using Computer-Mediated Communication to Educate Parents on Early Childhood Development



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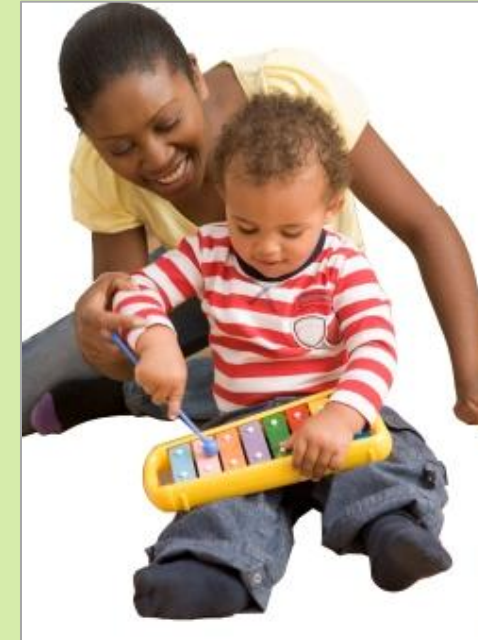
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Problem Statement

- It is estimated that as many as 19.5 % of children in the US have had a developmental delay, learning disability, or an emotional disorder
- Many aren't apparent until between ages 2 and 6, when they are developing most



- Research shows that early detection and intervention proves effective in helping children manage disabilities

Baby Steps

Kientz, Arriaga, and Abowd developed a computing system called Baby Steps, which is designed to:

- Help and encourage parents to track development
- Provide sentimental records

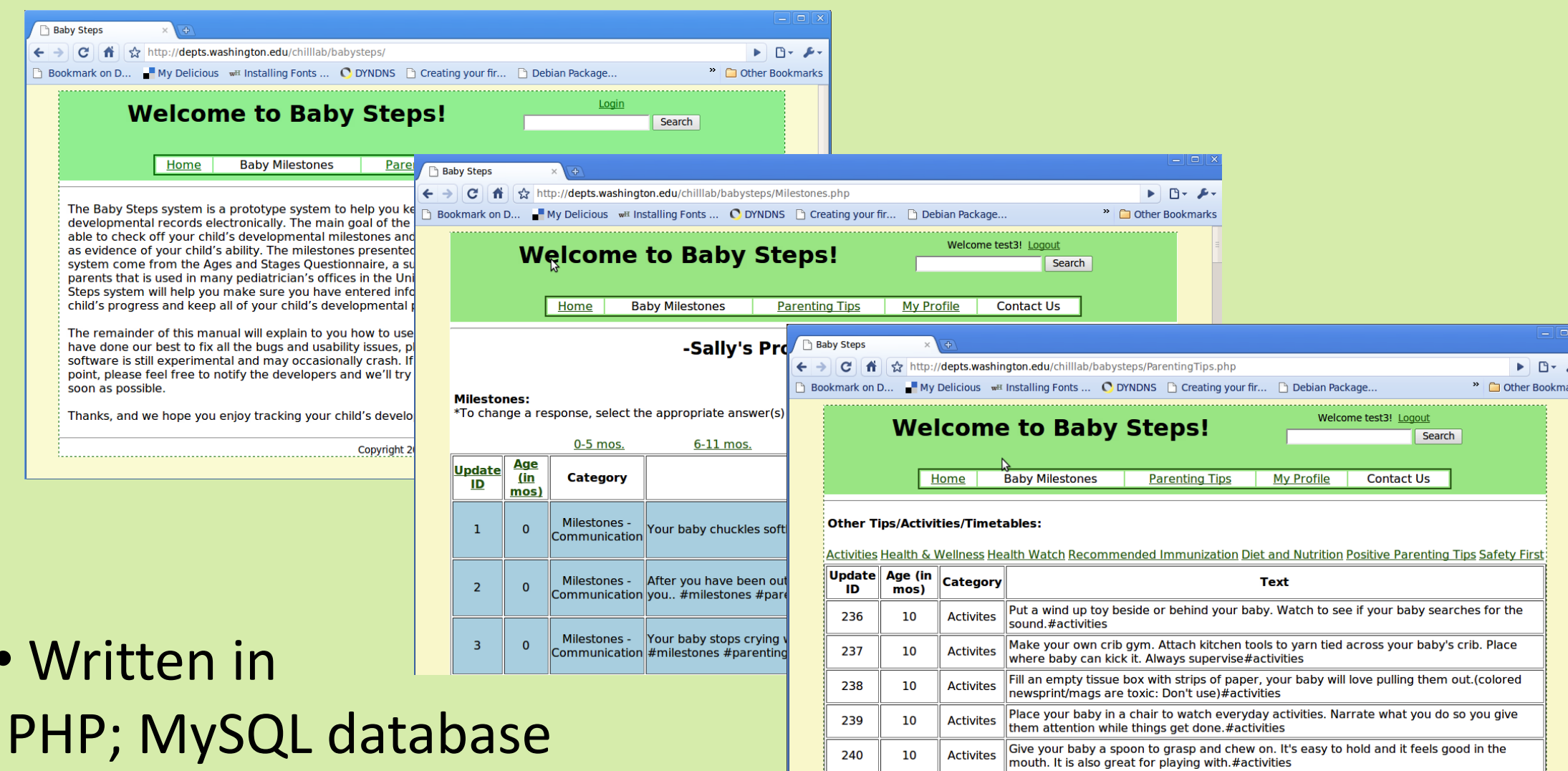


Using the results of the Baby Steps study and information from the CDC on childhood milestones, we created a system aimed at:

- Making information about child development more accessible
- Making milestone tracking easier

Website

We created a website for the Baby Steps program in hopes of allowing parents the access to their child's information from anywhere with internet access, regardless of resources.



- Written in PHP; MySQL database
 - open-source; free software
 - compatible with many platforms
 - fast performance
 - growing in popularity
- Main source for parenting tips, immunization schedules, etc.
- Functionality to store answers to milestones specific to child
- Ability to store and share photos, videos, and journals
- Main portal: summary of responses from Twitter & SMS

Short Message Service

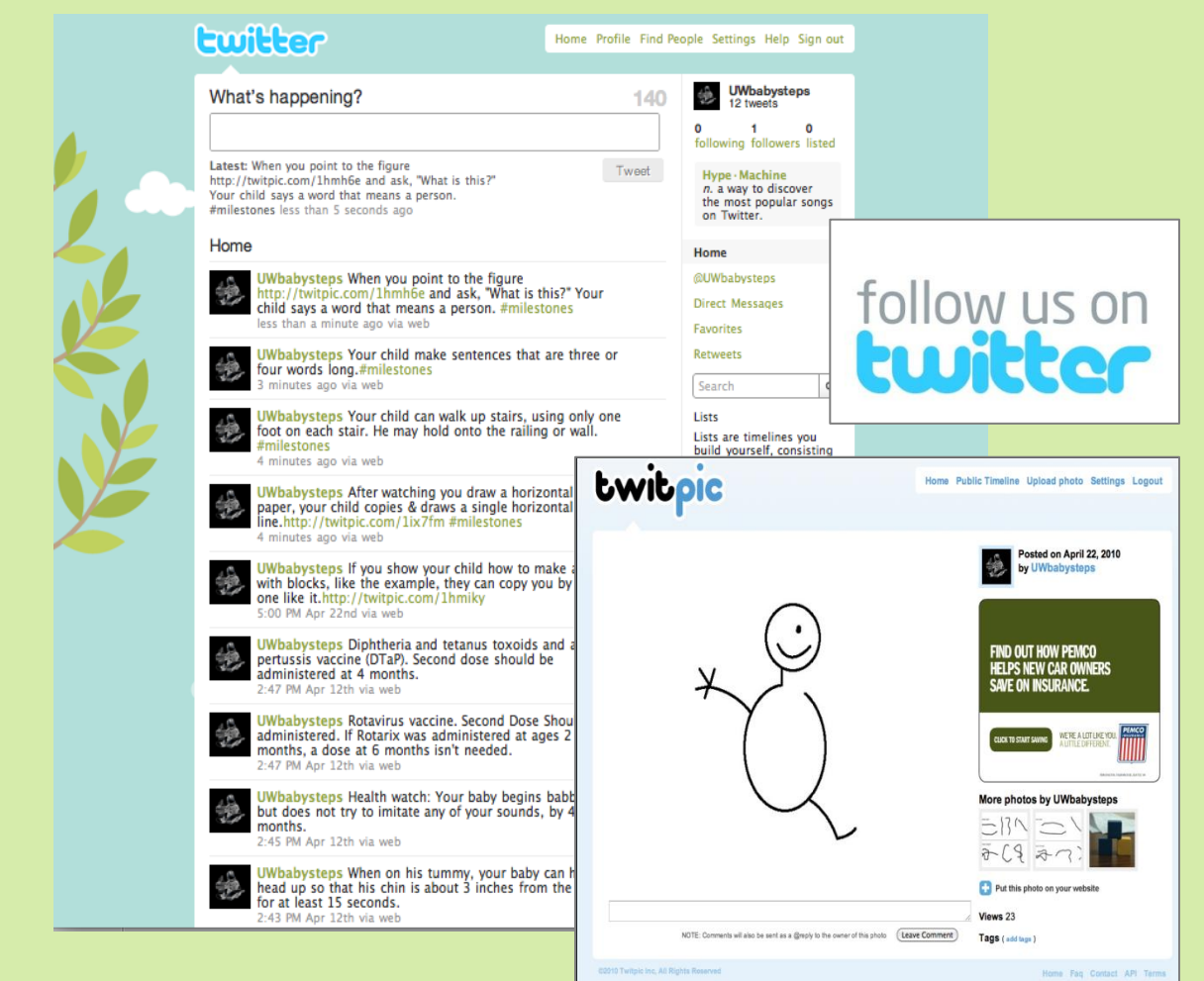
We designed an SMS system that will grant parents the capability of receiving alerts and updating their child's developmental milestones quickly via their mobile phone.

- Written in Python 2.6 with MySQL and pygoogle modules
 - easy to use and prototype; open source; free
 - compatible with both MySQL and Google Voice
- Easily accessible to parents; convenient and not out of the way to use
- Compatible with the website

Microblogging

We are also adding a social networking option, using Twitter. Connected to the website subscription, this could be chosen as an option of receiving daily updates.

- Parent follow the account for the month in which their child was born
 - Automated posts regarding milestones, activities, vaccinations and health and safety tips relevant to child's age group
 - Parents can then respond back and responses would be saved to the database
 - An advantage of this is the ability to easily share progression of development
- We hope that this form of tracking will become systematic, leaving users to feel as though it is not a chore but an inadvertent task.



Future Directions/Conclusion

Our next step is to conduct a study analyzing the reaction and potential benefits of the improved CMC Baby Steps system.

- Our deployment study will measure:
 - parental knowledge before/after usage
 - effectiveness/usability of the system
- Information found will be used to design a fully functioning CMC application, to promote:



- better tracking of development
- earlier detection of delays
- improved pediatric health.
- availability of resources to a broader audience
- varied mediums to increase usage

