

Project Metronome

The project consists of contracting work in coordination with BigDeal.com.

Estimated Time: 4 - 6 weeks

Compensation: \$1750 per week, or \$10,500 for 6 weeks. (or an hourly rate of \$45/hr)

Develop one or more candidate client platforms to use with push technology (long socket connection or long polling, for example). An example implementation might be a flash component that handles updates via socket connection, and updates JavaScript variables and causes screen updates. Other technologies are acceptable as long as they have wide browser penetration (> 60%). Goal is to stop constant new connections from the browser to the server and lower latency of delivered data.

Secondary goal is to profile the running client and fix CPU or memory bottlenecks. This part can be done independently or in conjunction with the new communications mechanism.

Milestones

1. Determine metrics for success
 - How to measure client CPU and Memory, clock accuracy, average data latency from server to display, number of HTTP connections required while watching an auction.
 - Define target goals for success
2. Profile browser code to determine major CPU and memory bottlenecks. If you see any quick fixes that would have good performance impact, go ahead and do them, otherwise, postpone until after the new communication mechanism is working.
3. Develop the new communications mechanism, working with dev to implement new server protocols as necessary. If the new mechanism doesn't work in all major browsers, have a fallback mechanism (AJAX polling for example).
3. Develop fixes or new code to fix bottlenecks, and suggest changes to dev team.
4. Deploy branched build to test environment and demonstrate success criteria.
5. Document code changes or development on a wiki or in a file. Include high to medium level concepts, explain what was done, and any reference material necessary for ongoing maintenance.
6. Help integrate changes to head branch, deploy to production, and repeat measurements to ensure success.

Any option for reducing client load would be considered, including optimizing current code, re-writing current code, changing the network protocol, using other libraries, etc. Any change to client display functionality would have to be approved. Dev team will support efforts to build out new protocols, install any necessary diagnostic framework, etc.