

duoludo: a game whose purpose is games

<http://dwrensha.ws/duoludo>

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Designing games is hard. In order to create an engaging and coherent space of interactions for players to explore, a game designer must develop a keen awareness of players' possible mindsets and intentions throughout the space. It is easy to overlook points in the space that appear to be inaccessible, and it is difficult to avoid biases about players' inclinations even at obviously accessible points. A game designer needs to be able see things as a newcomer. Human beta testers can help in developing this awareness, but they usually are inefficient explorers. They often share many of the biases of the designer and tend to get stuck at all of the same points, especially if they all start playing from the same point. Automated testing can also help, but unless it incorporates some sort of sophisticated artificial intelligence, it usually fails to achieve adequate coverage. In any case, it gives no clue as to how human players, the intended audience, would react in corner cases. Are there any other options for a game designer in search of feedback?

Recent work has shown that the powers of human intelligence and computers can be combined and harnessed to perform tasks that neither can perform alone. Examples of this principle in action include systems for protein folding [1], image labeling [2], and text translation [3]. In each of these systems, computers perform otherwise intractable tasks by offloading to humans the parts for which humans are particularly well suited. The humans, in turn, find these subtasks so stimulating and rewarding that they are willing to perform them for free. To make participation even more enjoyable, these systems may also add game mechanics such as achievement levels and leaderboards.

Duoludo is a prototype system that aims to apply this principle to the problem of providing better feedback for game designers. Duoludo takes as input a game, which must be written in javascript and must implement a simple interface allowing duoludo to control it. Duoludo serves bite size chunks of the game to players on the Internet, recording their inputs. Because duoludo gets to choose which chunks to serve, it can steer players toward unexplored regions. Moreover, stripped of their original context, these chunks will elicit a more diverse set of responses than what would be observed in traditional beta testing. The paths through the game generated in this way may then be stitched together, replayed, and analyzed in whatever way the game designer finds most useful.

References

1. <http://fold.it>
2. <http://www.gwap.com>
3. <http://www.duolingo.com>