

Foldit: Impact Guide

For Players

Foldit is an online puzzle videogame developed by the University of Washington's Center for Game Science in collaboration with the university's Department of Biochemistry. First released in 2008 for most computer operating systems, *Foldit* asks its players to manipulate the structure of actual proteins using a wide variety of the game's own tools and built-in simulations. Subject to much interest and praise since its release, *Foldit* is revolutionary in that it hopes its players' puzzle-solving skills and efforts lead to real-life progress in scientific research and development.



How to use this guide: Players – We've identified several interesting or important themes in the game. As you play through, reflect on your play. How have you experienced these themes? Are there other important ones present in the game? What kind of impact does your play allow in the larger world? Answer the questions we've provided – but feel free to add more at www.gamesandimpact.org.

Warning: Questions contain some spoilers about the games.

Theme: "Democratization" of Science

Part of the appeal of *Foldit*'s crowd-sourcing model is in its ability to involve players in science-like practices and research. This involvement serves to introduce several complex biological and chemical concepts as tools in its puzzle-solving gameplay.

Game

- *How does manipulating the game's tools and mechanics change the structure of the protein? Is it easy to understand why these adjustments are beneficial?*
- *Are the scientific concepts behind the puzzle-solving mechanics explained in detail? Is there a way to further explore this interest in the game space?*
- *How are the game's competitive aspirations handled? Is protein-folding a rewarding competitive activity?*

Player

- *Did you understand the scientific aspects behind the puzzle mechanics? If so, did this understanding change how you approached the game?*
- *Do you think the gameplay mechanics were sacrificed in order to fit in scientific concepts or (if you happen to have a background in science) vice-versa?*
- *What do you feel your activity in the game has achieved?*
- *Is contributing to scientific research a realistic goal for most players? Was this aspect of the game motivating for you?*

World

- *Has Foldit had an effect on real-life scientific research? Do you think its crowd-sourcing model is an attractive one going forward?*
- *How is most scientific research conducted today? Has this changed considerably in recent years, and do you foresee any further changes going forward?*
- *Do you think games can contribute meaningful solutions to problems as serious and complex as healthcare? Is there a disconnect between the 'play' in a game and its real-world implications?*

Theme: Problem Solving

At its core, *Foldit* is a puzzle game where players must fold a given protein into its most efficient structure. This is achieved by using one of the game's many tools and simulations which, at higher levels, involves a great deal of complexity and precision.

Game

- *Did the tutorial levels sufficiently introduce and explore the game's many mechanics and tools? Was the jump from the tutorial levels to the general proteins a comfortable transition?*
- *Is the game's puzzle-solving intuitive? Does it borrow mechanics from other common puzzle-solving games?*
- *How did the game's scoring system work? Were the point values assigned to certain processes intuitive or did they feel arbitrary?*

Player

- *How did you approach the folding of each protein? Did you take a similar approach each time, or was a variation in strategy beneficial or even required?*
- *How often did you rely on the automated simulations, such as the 'wiggle' and 'shake' tools? Did you understand what they were doing that allowed you to progress?*
- *Did you compete or co-operate with others in the game's leaderboards or team system? Did these community features extend the life of the game for you?*

World

- *Was the puzzle-solving in this game similar to any real-world activities?*
- *How do you think this game could be improved? Do you think there is any easier or more efficient way to introduce the player to the complexity involved in folding proteins?*
- *Outside of the game's contributions to and involvement with scientific research, would you recommend the puzzle-solving aspect of this game to others? Why or why not?*