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Zeph Landau* (zeph.landau@gmail.com), Department of Computer Science, 387 Soda Hall, University of California, Berkeley, CA 94720-1776, and **Ilona Yershov** and **Oneil Reid**. *A Fair Division Solution to the Problem of Redistricting*.

Redistricting is the political practice of dividing states into electoral districts of equal population in response to decennial census results to ensure equal representation in the legislative body. Where the boundaries are drawn can dramatically alter the number of districts a given political party can win. As a result, a political party which has control over the legislature, can (and does) manipulate the boundaries to win a larger number of districts, thus affecting the balance of power in the U.S. House of Representatives.

This work introduces a novel solution to the problem of fairly redistricting a state that is motivated by the ideas of fair division. Instead of trying to ensure fairness by restricting the shape of the possible maps or by assigning the power to draw the map to nonbiased entities, this solution ensures fairness by balancing competing interests against each other. Essentially, it is a simple interactive protocol that presents two parties with the opportunity to achieve their fair representation in a state (where the notion of fairness is rigorously defined) and as a result a balanced electoral map is created. (Received September 10, 2008)