Instant Runoff
Normalized Ratings

an Election Method by Brian Olson
Instant Runoff Normalized Ratings

- Expressive — you vote a rating on any candidate you have an opinion on
- Fair — everyone has the same voting power which is never ‘thrown away’ if your favorite doesn’t win
Example: one vote

A voter might rate 5 choices on a scale of -10 to 10 like this:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>6</td>
<td>-3</td>
<td>-10</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
Example: one vote

To make things fair, each vote is normalized to have the same magnitude.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>6</td>
<td>-3</td>
<td>-10</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.62</td>
<td>0.37</td>
<td>-0.19</td>
<td>-0.62</td>
<td>0.25</td>
</tr>
</tbody>
</table>
Sum the normalized votes

Adding up four normalized votes might look like this:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>0.62</td>
<td>0.37</td>
<td>-0.19</td>
<td>-0.62</td>
<td>0.25</td>
</tr>
<tr>
<td>2nd</td>
<td>0.07</td>
<td>0.66</td>
<td>-0.66</td>
<td>-0.33</td>
<td>0.13</td>
</tr>
<tr>
<td>3rd</td>
<td>-0.30</td>
<td>-0.59</td>
<td>0.59</td>
<td>0.42</td>
<td>-0.18</td>
</tr>
<tr>
<td>4th</td>
<td>-0.59</td>
<td>-0.47</td>
<td>0.12</td>
<td>0.59</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>-0.21</td>
<td>-0.04</td>
<td>-0.13</td>
<td>0.06</td>
<td>0.44</td>
</tr>
</tbody>
</table>
Instant Runoff Normalized Ratings

- Sum of all the voters' normalized ratings
- Disqualify the choice with the lowest sum
- Re-normalize, redistributing voters' votes to their remaining choices
- Repeat until there are only two choices left
- Of those two, the highest sum rating wins
One vote over several rounds

The following slides show how one voter’s vote might be redistributed over the course of several rounds.

Not shown are the other votes which add up to decide which choices are disqualified at each round.
One Vote, graphically

First round, normalized vote
One Vote, graphically

- Second round
- choice A was eliminated

![Normalized Vote Chart]

- A: Normalized Vote
- B: Normalized Vote
- C: Normalized Vote
- D: Normalized Vote
- E: Normalized Vote
One Vote, graphically

- Third round
- A and D are out
One Vote, graphically

- Fourth and final round
- A, D and E are out.
- This vote is distributed between B and C
Fin

For more on Instant Runoff Normalized Ratings (IRNR), go to

http://bolson.org/voting