# Comparing voting methods for budget decisions on the ASSU ballot 

A research ballot attached to Stanfords student government 2018 elections

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A collaboration between the
Associated Students of Stanford University
and the Stanford Crowdsourced Democracy Team
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## Executive summary

During the 2018 Associated Students of Stanford University (ASSU; Stanford's student body) election and annual grants process, the Stanford Crowdsourced Democracy Team (SCDT) ran a research ballot and survey to develop insights into voting behavior on the budget component of the ballot (annual grants) where multiple grant requests (hereafter: 'projects') are considered. We provided voters with additional voting methods for the budget component, collected further insights through a survey and demonstrated the viability of the proposed workflow. Some of our (preliminary) findings are directly relevant to ASSU:

- If ASSU decides to implement a budget cap to the annual grants process, the knapsack voting method has shown to be a good option.
- Voters reported the knapsack ballot generally easier to use than the official ASSU ballot and were more confident that their preferences would be taken into account. The appreciation for knapsack voting is generally higher than that for comparison voting.
- While the resulting ranking of yes/no voting and knapsack voting are similar, there are some projects that get a different appreciation when voters are constrained by a budget.
- Voters requested that more information be provided about the projects.
- The different mechanisms provide more insight on student opinions regarding the projects than does the official ballot alone.
Furthermore, the (appropriately anonymized) data gathered in this year's research ballots is beneficial for research purposes.
Overall, our platform and pipeline (PB Stanford) with post-validation of ballots functioned well on a large scale. In particular, the knapsack ballot mechanism shows promise in voter feedback.


## Process

SCDT has collaborated with over 10 cities across the US (incl. Boston, Chicago, Seattle) to allow citizens to participate in the budgeting processes for a section of their city budget through its participatory budgeting (PB) platform: www.pbstanford.org. The platform allows different budgeting mechanisms, such as knapsack, pairwise comparison, and triplet comparison voting. These were implemented as follows:

- In knapsack voting, voters were asked to select any number of projects, as long as the total budget of the selected projects remained within the permitted budget (which we set for this ballot at ~90\% of the total requested amount).
- In pairwise comparison voting, voters were presented with 15 random pairs of projects, and for each pair asked to state which provides a higher value per dollar spent to the community.
- In triplet comparison voting, voters were presented 10 randomly selected triplets of projects (in random order) and asked to rank them in order of highest value per dollar spent to the community.
In the research ballots, we presented the same organizations (projects), requested amounts and information as was available on the annual grants portion of the official ASSU ballot. Thus, the aggregated votes of the research ballots can be compared with the aggregated votes of the official ballot. After the research ballot, voters were presented with a survey asking them about their voting experience.

All eligible ASSU voters were invited by ASSU to participate in the official ballot. This ballot included a section where voters were asked to approve or disapprove a set of budget requests ('projects'). The undergraduate ballot contained of 70 projects and the graduate ballot of 9 . After a voter submitted their official ballot, they were invited by ASSU to participate in the research ballot and survey. Participants were randomly assigned to one of the alternative voting mechanisms.

For voters on the undergraduate ballot, participants were assigned to knapsack (50\%) or pairwise comparison voting (50\%). For voters on the graduate ballot, participants were assigned to knapsack (50\%),
pairwise comparison (25\%) or triplet comparison (25\%) voting. After completing the research ballot, the participants were invited to participate in a survey. Finally, we selected 25 participants (from those who completed both the research ballot and the survey) at random to receive a $\$ 20$ voucher.

After completion of the elections, the ASSU election commissioner was able to confirm the validity of the research ballots through post-validation using the identifier that Qualtrics included in the URL when voters were sent to our platform, without SCDT requiring access to the identity of the voters. One vote within the voting timeframe was found without a valid code: a valid code combined with 'participatorybudgeting'.

## General statistics

The official ballot saw a high participation this year, and in part because of that, we received a good number of participants in our research ballot. In total, 1,249 undergraduate research ballots and 1,178 graduate research ballots were validly submitted: a completion rate of respectively $86 \%$ and $92 \%$ of the assigned ballots. Of these completed ballots, 1,195 undergraduates and 1,123 graduates also completed the survey. The voters that participated in the research ballot were mostly representative for the whole population of voters. When the official ballots of the different research ballot populations are compared, they differ up to a few percentage points between each other for any given project; the largest difference is 6 percentage points between the graduate knapsack and triplet populations.

The time spent by voters to complete the ballot highly depended on the type of ballot and the number of projects. The median undergraduate ballot took 208 seconds for knapsack, and 103 seconds for triplet comparison. The median graduate ballot took 62 seconds for knapsack, 91 seconds for triplet comparison and 80 seconds for pairwise comparison The median survey took 56 seconds (undergraduate) and 62

Table 1: General statistics

| Voters | Undergr. | Grad. |
| :--- | :--- | :--- |
| Official Ballot | $\mathbf{3 3 1 0}$ | $\mathbf{2 4 1 9}$ |
| Assigned | $\mathbf{1 4 4 8}$ | $\mathbf{1 2 8 3}$ |
| Knapsack | 755 | 621 |
| Triplets | 693 | 333 |
| Pairs | - | 329 |
| Completed | $\mathbf{1 2 4 9}$ | $\mathbf{1 1 7 8}$ |
| Knapsack | 609 | 553 |
| Triplets (10) | 640 | 311 |
| Pairs (15) | - | 314 |
| Survey | 1195 | 1123 |
| Knapsack | 577 | 522 |
| Triplets | 618 | 297 |
| Pairs | - | 304 | seconds (graduate). The undergraduate knapsack ballot took much longer than the graduate knapsack ballot, which is understandable given the large number of projects (70 compared to 9).

Among the people that completed the survey, $88 \%$ reported to use a laptop/desktop and $12 \%$ a smartphone. The smart phone rate is a bit lower than expected in a young generation of students and may be indicative of a lower completion rate of the combination of a long official ballot and a research ballot.

We asked students of how many organizations on the ballot they had knowledge before voting. See the appendix for plots. Of the graduate respondents, $7 \%$ indicate that they didn't know any organization on the ballot, and $31 \%$ that they knew only one or two. $2 \%$ indicated to have known more than 10 , which is unlikely given that there were only 9 organizations on the ballot. Of the undergraduate respondents, less than 1\% knew of not a single organization on the ballot, and $61 \%$ indicated to know more than 10 of the organizations on the ballot.

Figure 1: As compared to the official ASSU ballot, how easy was the PB Stanford ballot to use?


Figure 2: As compared to the official ASSU ballot, how confident are you that your preferences are effectively taken into account?


## Feedback

In the survey, we also posed a number of questions related to the experience of the research ballot. First of all, we asked how easy the PB Stanford ballot was to use. The overall response was quite positive: about $50 \%$ of the respondents considered the research ballots slightly or far easier to use than the official ballot ( $20 \%$ far easier), while $12 \%$ found the research ballot slightly or far more difficult. As could be expected, the experience was different for different methods. Knapsack voting was clearly considered easier to use ( $25 \%$ considered it far easier), while triplet voting was considered less favorably (although still easier than the official ballot).

It should be acknowledged that the official ballot consisted of more components than just the budget section, but the trend seems that the PB Stanford platform provided a positive experience. It should also be noted that the experience of a different voting method and a different platform/visualization are mixed here.

We see similar trends with the other questions on voter experience: the knapsack vote was considered more favorably than the pairs, the pairs more favorably than the triplets and all methods more favorably than the official ballot. We also see that the undergraduates typically consider the PB Stanford platform easier to use than the graduate students, which we think is caused by the PB Stanford platform being better able to present the larger number of items on the ballot.

As to the question with which method the voters had more confidence that their vote was effectively taken into account, we see especially with the undergraduate voters a large difference between the triplet comparison voting and the knapsack voting. While $21 \%$ of the undergraduate respondents had less confidence in triplet voting than the official ballot ( $25 \%$ more confidence), in knapsack voting that is $10 \%$ less confidence ( $40 \%$ more confidence). This suggests that for larger numbers of items on the ballots, the voters have less confidence in comparison voting than knapsack voting. This difference is much smaller for graduate students, who have fewer items on the ballot.

Finally, we asked people to provide comments they wanted to share with us. We will share the comments separately with ASSU. Some lessons we draw from this that go beyond what was discussed above:

- Quite a few comments ask for more details about the requests.
- A number of people express appreciation for being forced to think about the bigger picture because of total budget constraints (knapsack)
- People feel that we're asking a different question (especially for the comparisons).
- Some people were under the impression that the knapsack budget applied always to ASSU. In a next occasion, we should be clearer that this maximum is set for research purposes.
- A number of people ask to permit partial funding.
- Feedback on some technical issues with the official ballot.
- Some people like being forced to prioritize some projects over others, while some people really dislike it.
- We got some helpful comments on how the interface could be clearer, but the general tone was positive for knapsack and mixed for comparisons.
All in all, the tone of the comments was much more positive with the knapsack method: people seemed to appreciate the fact that there is a budget to consider. The tone for the comparisons is more mixed: people that left comments didn't like to compare projects as much.


## Resulting rankings

The methods we used in the research ballots can be compared with the official ballot by creating a ranking for each method. We calculated the ranking for the official (yes/no) ballots taking all the votes of the people that also participated in one of the research ballots and ordering the projects by approval percentage. For the knapsack method, the budget items are ranked according to what percentage of voters selected that project for their 'knapsack' (budget selection). For both paired comparisons and triplet rankings, we use a standard mechanism to aggregate such pairwise votes, Copeland's method. These rankings are available in the appendices.

The resulting rankings of the comparisons require further research, but we wanted to share some preliminary findings. For the undergraduate rankings, the top of the ranking is almost identical: no matter what the method, the students seem to be in agreement on the projects that should definitely be funded. The knapsack method results in a fairly similar ranking as the yes/no ranking, with some notable exceptions: Stanford Daily, Stanford Dance Marathon and Stanford Student Space Initiative rank quite a bit higher while BIOME and SMAP ranked lower than on the official ballot (more than 20 places). The triplet ranking deviates more, which is perhaps not surprising, given the large number of projects that needs to be ranked while keeping the number of comparisons limited.

As for the graduate rankings, we see that the general distribution of projects across the ranking is similar, with only local differences (between place 1-3, 4-6 and 7-9) between the different rankings.

It seems that provided with an incentive to choose between projects - either because of a limited budget, or because of a requested comparison - the student population generally arrives at a similar ranking as with a question to approve/disapprove of individual projects. However, some shifts are to be expected.

## Evaluation of the process

After we decided to change the approach from running the budget portion of the ASSU ballot to running a research ballot instead, we used our PB Stanford platform that we also use in city participatory budgeting processes. As part of this research ballot, we implemented a new voting method (triplet comparison) and were able to run the ballot without significant technical difficulties. After the election, we were able to post-validate the research ballot as if it were an official ballot and exclude a few votes that were entered by ourselves as test.

After going through this research ballot, we believe there is a better mutual understanding of what is and isn't possible, providing a good basis for continued collaboration. With this understanding, it should be quite achievable to provide the official ballot for ASSU next year.

The sweepstake vouchers were an effective method to get people to participate in the research ballot and should be considered again next year. The costs (\$500 provided jointly by SCDT and ASSU) are not prohibitive, and the turnout was nicely representative.

Besides the research interest, this was for us a good chance to test an all-online setup with a student population. We have received some helpful feedback on the ballot design for a ballot with so many different options, and in the specific ASSU setting (e.g. make clearer what happens with the remaining budget - which is relevant when the budget size approaches the size of the total requests). We set this time an artificial budget cap at a round number near $90 \%$ of the requests - but this amount is flexible to be set and should reflect whatever amount is set by the ASSU governing bodies. We could add a default that unspent budget is reflected in lower expenses and a lower student fee - which we can make explicit by adding a 'project' of 'unspent budget' that is then set to the value of the remaining budget.

The feedback was clear that voters want to have more information on the ballot to make an informed choice - especially if we force them to make a choice. In this setup, we tried to mimic the amount of information on the official ballot, to keep them comparable. While presenting more information comes with design challenges, it is a reasonable request. Whatever system is used, we would recommend including more per-project information on the ballot. Voters also indicated an appreciation for better understanding the bigger picture. A visualization/explanation to that effect could also be added to whatever ballot is used next year.

All in all, the research ballots and survey have provided us with some rich data to work with. We can evaluate the differences between voting methods given a high approval rate (not a typical scenario) and the triplet comparisons allow us to learn more about context effects in making a choice. We would be interested in providing another research ballot in 2019.

What question to ask voters is a political choice. We do believe that if ASSU decides to move to a fixed budget, knapsack is a viable method to consider.

## Acknowledgements

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## Appendices

- Appendix 1: Distribution of number of organizations voters were familiar with
- Appendices 2, 3: Plots of remaining voter experience questions
- Appendix 4, 5: Resulting rankings
- Print screens of the research ballots

Appendix 1: Of the organizations on the grant ballot, how many did you have knowledge about before voting today?



Appendix 2: As compared to the official ASSU ballot, how easy was it to know how to vote?

$\square$ Far easier
Slightly easier
About the same difficulty Slightly more difficult
Far more difficult

Appendix 3: As compared to the official ASSU ballot, how easy was it to understand what you were asked to do?



Far easier
Slightly easier
About the same difficulty Slightly more difficult
Far more difficult

| Official | Appr. \% | Knapsack | Triplets | Pairs |
| :---: | :---: | :---: | :---: | :---: |
| Cardinal Free Clinics | 88.5\% | Cardinal Free Clinics | Cardinal Free Clinics | Cardinal Free Clinics |
| Educational Studies Program (Stanford Splash) | 79.9\% | Educational Studies Program (Stanford Splash) | Stanford Daily | Educational Studies Program (Stanford Splash) |
| Stanford Daily | 75.3\% | Stanford Daily | Educational Studies Program (Stanford Splash) | Stanford Daily |
| Stanford Concert Network | 66.1\% | Stanford Speakers Bureau | Stanford Club Sports | Stanford Speakers Bureau |
| Stanford Club Sports | 65.7\% | Stanford Club Sports | Stanford Speakers Bureau | Stanford Concert Network |
| Stanford Speakers Bureau | 64.6\% | Stanford Concert Network | Stanford Concert Network | Stanford Club Sports |
| KZSU Stanford | 61.0\% | Stanford Viennese Ball Committee | KZSU Stanford | KZSU Stanford |
| Stanford Viennese Ball Committee | 53.3\% | KZSU Stanford | Stanford Viennese Ball Committee | Stanford Viennese Ball Committee |
| Stanford Martial Arts Program (SMAP) | $52.2 \%$ | Stanford Martial Arts Program (SMAP) | Stanford Martial Arts Program (SMAP) | Stanford Martial Arts Program (SMAP) |

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Official

| Official | Appr. \% |
| :---: | :---: |
| The Bridge Peer Counseling Center | 95.8\% |
| Stanford First Generation and/or Low Income Partnership | 93.9\% |
| Cardinal Free Clinics | 93.4\% |
| Sexual Health Peer Resource Center | 93.2\% |
| Stanford Undergraduate Research Association | 92.4\% |
| Stanford Undergraduate Research Journal | 89.5\% |
| International Undergraduate Community | 88.8\% |
| Students for a Sustainable Stanford | 88.5\% |
| Stanford Outdoor Outreach Program | 88.4\% |
| Educational Studies Program (Stanford Splash) | 88.0\% |
| Stanford Symphony Orchestra | 88.0\% |
| Stanford Taiko | 87.7\% |
| Stanford Women in Politics | 87.7\% |
| Student Organizing Committee for the Arts | 87.3\% |
| Black Student Union | 87.1\% |
| National Association for the Advancement of Colored People | 86.9\% |
| The Arab Student Association at Stanford | 86.8\% |
| Volunteers in Latin America | 86.8\% |
| Stanford African Students Association | 86.4\% |
| Stanford in Government | 86.3\% |
| Alternative Spring Break | 86.3\% |
| Stanford American Indian Organization | 86.3\% |
| Stanford Collaborative Orchestra | 86.2\% |
| Stanford Women in Business | 86.1\% |
| Muslim Student Union MSAN | 85.8\% |
| Stanford Jazz Orchestra | 85.7\% |
| Stanford Shakespeare Company | 85.7\% |
| Asian American Student Association | 85.6\% |
| Jewish Student Association | 85.5\% |
| Stanford Wind Ensemble (Wind Symphony) | 85.2\% |
| Cardinal Calypso | 85.2\% |
| Stanford Speakers Bureau | 84.9\% |
| Stanford Bhangra | 84.8\% |
| Stanford Daily | 84.4\% |
| Stanford Martial Arts Program (SMAP) | 84.3\% |
| LSJUMB | 84.3\% |
| Mariachi Cardenal de Stanford | 84.1\% |
| Stanford Robotics Club | 83.8\% |
| Stanford Film Society | 83.5\% |
| Los Salseros de Stanford | 83.4\% |
| Stanford Theater Laboratory | 83.3\% |
| Society for International Affairs at Stanford | 82.6\% |
| Stanford Club Sports | 82.6\% |
| Basmati Raas | 82.1\% |
| Mixed Company | 81.9\% |
| BIOME (Biological Interdisciplinary Open Maker Environment) | 81.8\% |
| Stanford Jump Rope | 81.0\% |
| Everyday People | 81.0\% |
| Stanford Political Journal | 80.7\% |
| Barrio Assistance | 80.4\% |
| Akasma Bellydance | 80.3\% |
| Movimiento Estudiantil Chicano de Azatlan (MEChA) | 80.2\% |
| Stanford Fleet Street Singers | 80.2\% |
| Stanford Harmonics | 79.9\% |
| Stanford Dance Marathon | 79.8\% |
| Stanford Raagapella | 79.4\% |
| Stanford Mock Trial | 78.7\% |
| Black Family Gathering Committee | 78.2\% |
| L'Chayim Club: Chabad at Stanford | 77.6\% |
| Stanford Social Entrepreneurial Student's Association | 77.6\% |
| Stanford Viennese Ball Committee | 77.5\% |
| Stanford Solar Car Project | 77.1\% |
| Stanford Mendicants | 77.1\% |
| KZSU Stanford | 76.7\% |
| Stanford Student Space Initiative | 76.1\% |
| Mint magazine | 75.8\% |
| Stanford Concert Network | 75.4\% |
| SUAVE | 74.4\% |
| Stanford Axe Committee | $73.4 \%$ |
| Stanford Video Game Association | 68.2\% |

Knapsack
The Bridge Peer Counseling Center
Sexual Health Peer Resource Center
Stanford First Generation and/or Low Income Partnership Cardinal Free Clinics Alternative Spring Break

| Alternative Spring Break |
| :---: |
| Stanford Undergraduate Research Association |
| Stanford Daily |
| Students for a Sustainable Stanford |
| Stanford in Government |
| Stanford Undergraduate Research Journal |
| Black Student Union |

Asian American Student Association
Stanford Women in Politics
Stanford Symphony Orchestra
National Association for the Advancement of Colored People LSJUMB

| LSJUMB |
| :---: |
| Stanford Women in Business |
| Stanford American Indian Organization |
| Stanford Outdoor Outreach Program |
| Educational Studies Program (Stanford Splash) |
| Stanford Taiko |
| Stanford African Students Association |
| International Undergraduate Community |
| The Arab Student Association at Stanford |
| Stanford Club Sports |

Stanford American Indian Organizati

Stanford Outdoor Outreach Program
ducational Studies Program (Stanford Splash)
Stanford African Students Association
The Arab Student Association at Stanford Stanford Club Sports
Muslim Student Union MSAN
Volunteers in Latin America
Stanford Speakers Bureau
Jewish Student Association
Student Organizing Committee for the Arts Stanford Bhangra
Stanford Dance Marathon
Stanford Jazz Orchestra
Stanford Student Space Initiative
Stanford Shakespeare Company
Mariachi Cardenal de Stanford
Stanford Collaborative Orchestra Cardinal Calypso
Stanford Jump Rope
Stanford Solar Car Project
Stanford Robotics Club
Stanford Wind Ensemble (Wind Symphony)
Los Salseros de Stanford
Movimiento Estudiantil Chicano de Azatlan (MEChA) Everyday People
Black Family Gathering Committee Mixed Company
Stanford Theater Laboratory
Stanford Political Journal
Society for International Affairs at Stanford KZSU Stanford
Stanford Film Society
Stanford Fleet Street Singers
Stanford Mock Trial
Stanford Concert Network
Stanford Raagapella
Stanford Axe Committee Basmati Raas
Stanford Martial Arts Program (SMAP)
Stanford Mendicants
Stanford Harmonics
Stanford Viennese Ball Committee Mint magazine Akasma Bellydance
Stanford Social Entrepreneurial Student's Association
BIOME (Biological Interdisciplinary Open Maker Environment) L'Chayim Club: Chabad at Stanford

SUAVE
Stanford Video Game Association

Triplets
The Bridge Peer Counseling Center
Stanford First Generation and/or Low Income Partnership Sexual Health Peer Resource Center Cardinal Free Clinics Black Student Union Stanford Daily
Stanford Undergraduate Research Association Alternative Spring Break
National Association for the Advancement of Colored People Asian American Student Association Stanford African Students Association
Cational Studies Program (Stanford Splash) International Undergraduate Community

Stanford in Government
Stanford Women in Business LSJUMB
Stanford Women in Politics
Stanford Speakers Bureau
Stanford Undergraduate Research Journal
Stanford American Indian Organization Stanford Club Sports
Stanford Outdoor Outreach Program Student Organizing Committee for the Arts

Volunteers in Latin America
Muslim Student Union MSAN
Movimiento Estudiantil Chicano de Azatlan (MEChA) Black Family Gathering Committee

Stanford Concert Network
Stanford Student Space Initiativ
Stanford Dance Marathon
Society for International Affairs at Stanford Stanford Symphony Orchestra
The Arab Student Association at Stanford Stanford Political Journal Barrio Assistance
Stanford Social Entrepreneurial Student's Association Stanford Robotics Club Stanford Solar Car Project Jewish Student Association Everyday People
BIOME (Biological Interdisciplinary Open Maker Environment) Stanford Taiko
Mixed Company

Stanford Mock Trial
Stanford Collaborative Orchestra Stanford Jazz Orchestra
Stanford Viennese Ball Committee
Stanford Shakespeare Company
Stanford Wind Ensemble (Wind Symphony
Stanford Axe Committee KZSU Stanford Stanford Jump Rope Stanford Harmonics Stanford Theater Laboratory Stanford Bhangra
Mariachi Cardenal de Stanford Cardinal Calypso Stanford Mendicants Los Salseros de Stanford

Stanford Fleet Street Singers

## Mint magazin

Stanford Raagapella
Akasma Bellydance
Stanford Video Game Association

Color key undergraduate rankings.
Distance to Official Rank Color
0
17
35
52
52
70

## Stanford Daily

Stanford Martial Arts Program (SMAP) Stanford Concert Network
Educational Studies Program (Stanford Splash)

Stanford Viennese Ball Committee Cardinal Free Clinics Stanford Speakers Bureau KZSU Stanford

Stanford Club Sports

This is only a survey. It will not affect your vote.

## Instructions

1. Select the projects you would like to support. The total cost cannot exceed $\$ \mathbf{3 0 0}, 000$, but can be less.
2. You can see the total amount you have allocated so far in the bar above. You can remove any previously selected projects by clicking on the bar or directly by clicking on the chosen project.
3. Click the "Submit My Vote" button when you're ready to submit.
```
Submit My Vote..
```


## Stanford Daily

Estimated cost per student: $\$ 5.40$
More info ${ }^{\mathbf{C}}$
Total request: $\$ 47,808$

## Select

## Stanford Martial Arts Program (SMAP)

Estimated cost per student: $\$ 1.56$
More info ${ }^{\mathbf{C}}$
Total request: $\$ 13,832$

## Select

## Stanford Concert Network

Estimated cost per student: $\$ 4.93$
More info $C=$
Total request: \$43,646

## Select

Educational Studies Program (Stanford Splash)
Estimated cost per student: \$2.09
More info $C=$
Total request: \$18,463

## Select

## Stanford Viennese Ball Committee

Estimated cost per student: \$0.68
More info ${ }^{-1}$
Total request: \$6,000

## Select

## Cardinal Free Clinics

Estimated cost per student: $\$ 1.01$
More info ${ }^{-1}$
Total request: $\$ 8,918$

## Select

Stanford Speakers Bureau
Estimated cost per student: $\$ 10.30$
More info ${ }^{[1}$
Total request: $\$ 91,190$

## Select

## KZSU Stanford

Estimated cost per student: $\$ 4.4$
More info $\mathbb{C}$
Total request: $\$ 39,348$

## Select

## Stanford Club Sports

Estimated cost per student: $\$ 7.00$
More info $\mathbf{C B}$
Total request: $\$ 61,931$

Which project gives the best value for money, that is, provides the most benefit to the community per dollar spent? (1/15)

## Stanford Club Sports

Estimated cost per student: $\$ 7.00$
More info $\mathbb{C B}^{\prime}$
Total request: $\$ 61,931$

Stanford Daily
Estimated cost per student: $\$ 5.40$
More info ${ }^{C}$
Total request: $\$ 47,808$

## Rank these projects ( 1 / 10)

Please rank these projects in terms of benefit to the Stanford community per dollar spent. Give the project with the highest benefit rank 1.

## Cardinal Free Clinics

Total request: \$8,918.00

Estimated cost per student: $\$ 1.01$ More info $\boldsymbol{U}^{\mathbf{C}}$

## Stanford Daily

Total request: $\$ 47,808.00$
Estimated cost per student: $\$ 5.40$
More info $\mathbb{C}$

## Stanford Club Sports

Total request: $\$ 61,931.00$

Estimated cost per student: $\$ 7.00$
More info ${ }^{[ }$
(Change the ranking by dragging the $\downarrow \uparrow$ icons.)
1 Cardinal Free Clinics $\downarrow \uparrow$
2 Stanford Daily $\downarrow \uparrow$
3 Stanford Club Sports $\downarrow \uparrow$


## Rank these projects ( 1 / 10)

Please rank these projects in terms of benefit to the Stanford community per dollar spent. Give the project with the highest benefit rank 1.

| Movimiento Estudiantil Chicano de Azatlan (MEChA) | Stanford African Students Association | Kids with Dreams |
| :---: | :---: | :---: |
| Total request: \$33,200.00 | Total request: \$44,437.00 | Total request: \$6,062.00 |
| Estimated cost per student: \$4.99 | Estimated cost per student: \$6.68 | Estimated cost per student: \$0.91 |
| More info | More info ${ }^{\text {c/ }}$ | More info ${ }^{\text {c/ }}$ |
|  | (Change the ranking by dragging the $\downarrow \dagger$ icons.) |  |
|  | 1 Movimiento Estudiantil Chicano de Azatlan (MEChA) | $\downarrow \uparrow$ |
|  | 2 Stanford African Students Association | $\downarrow \uparrow$ |
|  | 3 Kids with Dreams | $\downarrow \uparrow$ |


[^0]:    Color key graduate rankings

