Overview

This application is for those who wish to respond to the Interoperable Deliberative Tools RFP.

This application is for those who wish to respond to the Interoperable Deliberative Tools RFP. The goal of this RFP is to support new and existing tools for deliberation and governance, and to promote more interoperability between such tools. A total of $200,000 of grants will be issued.

To apply, first view and make a copy of the application template. This will be added to the submission below.

Deadline: 11:59p PST on May 15, 2024

Scope: Digital tools that go beyond basic voting and commenting, and provide new capabilities to the governance ecosystem—which may only be one step of a larger deliberative governance process. The processes these tools enable may be used for online community governance, AI governance and alignment, cooperative governance, citizen town halls or assemblies, or other kinds of institutional policy-making or decision-making.

If you have questions, please review the FAQ. You're also welcome to join the Metagov Slack and reach out in the #interoperability channel.

General Application Information

Please don't try to max out your word count for each section. Being concise will make your application more likely to be selected!

Project name

Power Ranker (working title)

Project participant(s) (include role, track record, and link to bio) **[200 words/person]**

Daniel Kronovet, project lead. Research engineer, developer of Chore Wheel as part of Zaratan Coliving and the BudgetBox and CoinMachine algorithms as part of the Colony team. BA Political Economy & Cognitive Science, MA Quantitative Methods in the Social Sciences.

Seth Frey, research advisor. Professor at UC Davis Dept. of Communication, PhD Cognitive Science under Elinor Ostrom.

Joseph DeSimone, research advisor. Game designer, franchise producer at Asmodee Group.

What are you trying to do? Explain it in as few words as possible with zero jargon. **[20 words]**

Provide an intuitive pairwise mechanism for participatory budgeting, implemented as an easy-to-use Slack app.

What tools already exist to do this, if any? What are the limitations of the current systems? **[150 words]**

Current systems require participants to assign value to individual items directly. This introduces a high cognitive burden as participants must keep track of the total funding available and ensure that funding is allocated fairly across all viable projects. Further, adding items to the set after the funding process has begun disadvantages them, as funding may have already been allocated.

Quadratic funding has addressed some of the cognitive burden by introducing a matching process, such that participants do not need to consider total funding and instead participate through what is essentially an approval voting process. However, projects which enter the round later are disadvantaged in the match, as it will be harder for them to get a competitive match.

The power ranking technique, on the other hand, is robust to a flexible item set and limits the cognitive burden on participants to the prioritization of one out of two options.

What does success look like for this project? What gap does it fill?

Be as concrete as possible, including concrete benefits of this project being a success? How does this tool existing and being more interoperable help the ecosystem? **[250 words]**

Success for this project looks like communities collaboratively determining their financial priorities, such that we see high engagement among community members and outputs which are seen as legitimate in the eyes of the community.

Success regarding interoperability means that this tool can be easily integrated into larger workflows, such that it is possible to pipe lists of items into the service and pipe budgets (defined as a list of percentages of the whole) into secondary services or tools.

Success also looks like ease of use for leaders, such that the overhead of installing the service and onboarding their users is kept to a minimum.

Overall, success looks like high engagement and outputs with high perceived legitimacy, such that participants come away feeling efficacious and energized.

What risks might make you unable to deliver on this project? [150 words]

There is relatively little risk of failing to deliver on this project, as what is proposed is essentially an extraction and generalization of existing functionality. The underlying budgeting algorithm is already being used as part of a more specific product, a chores scheduler, and this grant would support the extraction of the budgeting functionality into a generic, stand-alone service.

Provide a rough timeline for implementation. *With the expectation for a blog post, short (potentially WIP) demo, and public open source repo availability by [the first week of September]?* [200 words]

We will schedule development for the month of July, although potentially earlier if circumstances permit. The service should be in production by the beginning of August.

What is your requested budget? *Please provide a rough, concise bullet point breakdown of expected costs, including tech and labor and any other expenses you might incur. Feel free to include a moderate and an ambitious ask here, and please outline the budget for each if doing so.*

We are requesting $6,000 for this project. The majority of the funding ($5k) will go towards development time, which we estimate at about two weeks of full-time equivalent work. Some funding ($1k) will go towards maintaining a production deployment on AWS, which we can commit to sustaining for a minimum of 12 months.

This grant will cover porting existing functionality into a new and more general format. It will not allow for additional new features and functionality beyond what is described. If additional feature work is required, we would request an additional $10,000 to cover design, implementation, and testing.

Deliberative Tool “Process Card” Information

Answer the following for a valuable kind of deliberative process enabled by your deliberative tool. If your deliberative tools enable multiple kinds of processes, you may link to additional copies of this section (which may be reviewed if your application makes it through the first phase of review).

See Process Card Template for examples

Provide at most 1-3 bullets for each section (except for the inputs and outputs sections if needed).

Intended Uses

Primary intended use

- Communities seeking to develop participatory budgets, in which finite resources are allocated among some number of options.
- The budgeting process may be one-off, or may be an ongoing process in which allocations are updated continuously over time.

Primary intended users

- Members of a Slack-based community, who are non-expert but have some familiarity with the options being considered.

Primary intended context

- Slack-based communities with shared resources. Possible types of allocations are among different candidate projects in a grant setting, or different departments of an organization in a long-term operational setting.

Out-of-scope use cases

- To choose a winner among some number of options, such as the winner of a writing contest or film festival. In these cases, we sort the items by their allocation and declare the item with the largest allocation the winner.

Structure

Inputs

You must provide a way to programmatically import these inputs where appropriate for interoperability. Ideally provide an example. E.g. Seed statements, participants, moderation

Input will be JSON, with the following structure:

```
{
  name: string // Name of the budget (i.e. “infrastructure projects”)
  items: [string] // List of items (i.e. [“roads”, “parks”, “trains”]
}
```

Outputs

You must provide a way to programmatically export these outputs for interoperability. Ideally provide an example. E.g. Vote counts, report(s), group informed consensus ranking of proposals, opinion groups, etc.

Output will also be JSON, with the following structure:

```
{
```

```
  // List of results (i.e. [{item: "parks", allocation: .55})
  results: [{item: string, allocation: float}]
  exportedAt: timestamp
}
```

Additional impacts (state changes)

What else happens to participants or others as a result of the process, beyond the direct outputs? E.g. People learn about the spread of opinion.

Ideally, participants will have had the opportunity to reflect on their own values and priorities through engagement with this process, and will have a better foundation for engaging in dialogue with others about their choices.

Details

Principles & Rationale*

What are the guiding principles and rationale behind this approach and process?

Daniel's master's thesis consisted of a long exploration of pairwise preference as an input type. Through this research, it became clear that pairwise preferences are both a simple and general input type, arguably the simplest possible input (one bit) and that pairwise preferences have many attractive properties as the basis for voting and decision systems.

Since then, Daniel has continued to develop this line of research, making pairwise preferences the basis for Colony's much-admired BudgetBox algorithm, as well as the basis for Chore Wheel's chore scheduling system.

Generalizing some of Chore Wheel's implementation into a simple and general tool represents an additional direction, allowing for more opportunities to trial this type of decision process.

Benefits

What are the reasons to use this process or include it in a larger process? What are difficult challenges that it addresses?

Participatory budgeting is an exciting but often overlooked area of self-governance. By governing via budgets, instead of via policy, it becomes possible to express **continuous preference,** not simply **absolute preference**. The success of Gitcoin Grants in the Web3 space, in contrast with the continued struggle of voting-based governance, further demonstrates that participatory budgeting is one of the most promising research directions for self-governance today.

Intentional Limitations

What are the limitations of the process which are expected by design?

One of the core assumptions of the power ranking technique is that participants do not need exact control over the final output. Rather, a set of pairwise inputs are processed to produce an allocation, with the exact allocation not being known at the time of the user input. This assumption allows us to engage a broad user base with minimal cognitive overhead, with the argument that legitimate inputs plus legitimate process leads to a legitimate outcome. However, if exact control over the final allocations are needed, then this technique will not work.

Assumptions

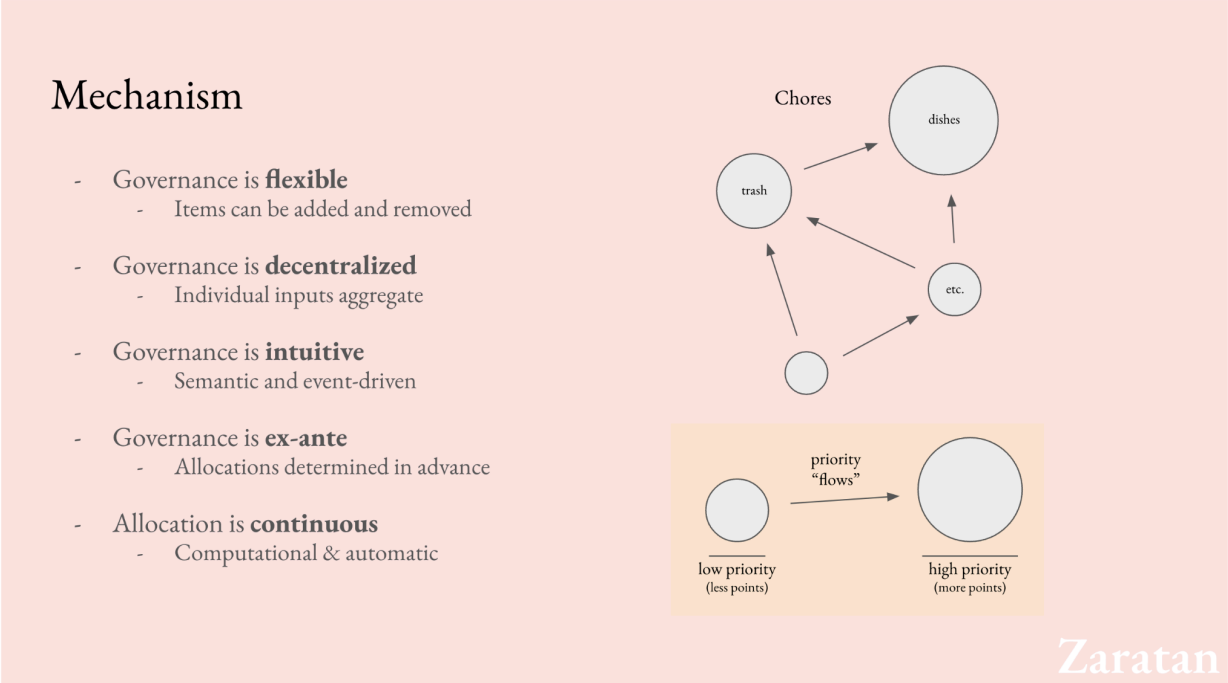
What assumptions must be true for the process to be applicable and effective?

One important assumption is that all the items are of the same "kind" and are thus comparable, for example "parks improvement" and "street improvements". Items of different kinds, for example "parks improvement" and "employee development seminar" are harder to meaningfully compare. It is also helpful that items are of similar "sizes" in terms of their cost, although this is less critical. Items of drastically different sizes or kinds will challenge participants, who will feel as though their inputs are less coherent, and that the outputs are thus less legitimate.

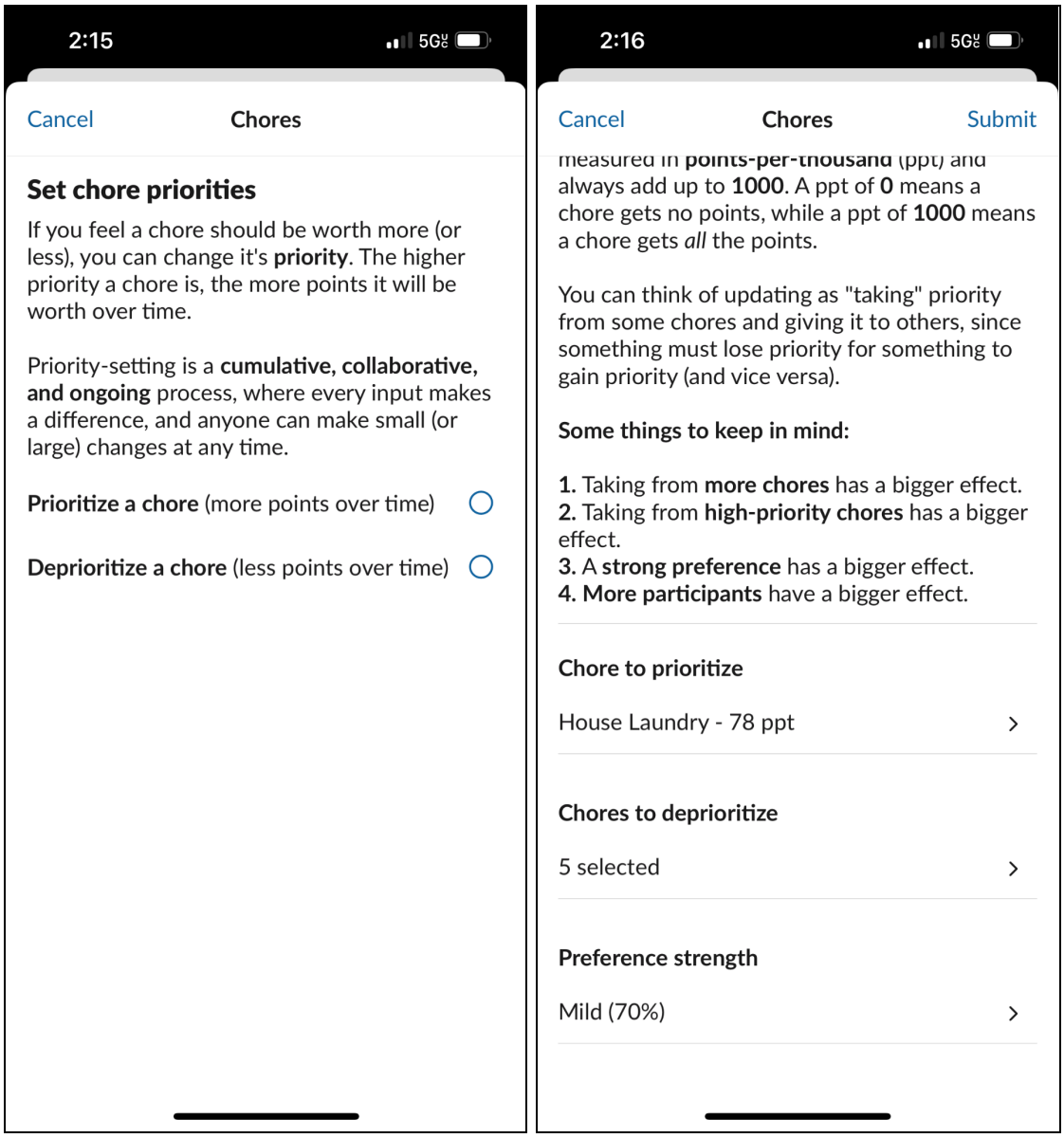
Explanation Overview

[optionally include diagrams, if appropriate]

This slide from a prior talk on the chores system provides a visual of the algorithm. It is fundamentally similar to Google's PageRank, in that it uses pairwise inputs to create a graph of relationships among the items, which is then used as the basis for a "centrality ranking" of the items, which we interpret as a percentage allocation of a budget.



Here are some screenshots of the current chores implementation, which frames budget allocation as an increase or decrease of “priority”. In these images, 78 ppt is equivalent to 7.8% of the allocation. The implementation allows for users to specify many counter-pairs at once, as well as a measure of preference intensity, allowing for some more fine-grained control while still managing complexity.



Open ended additional information

Provide any **additional information** and **links** here that might explain your application.
Note that this and other links to additional materials may only be reviewed in detail (beyond the first 200 words here) if your project makes it through the first phase of application review from the above material. Provide at most 1 page of text and 2 pages of diagrams.