

Project Peer Feedback

Visualization of Metagenomic Data

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Reviewed by Project Group:

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General Questions

How many species do you have? (Andrew)

- We have about 40 species.
- We can also focus on a subset of species that we find interesting for the story we want to tell, if it becomes too cluttered.

Are you planning to give explanations for each part of your visualization? A user guide of sorts (Guy)

- We will make a question mark icon next to each of the chart titles. Clicking on this icon will overlay a div explaining what the chart is showing and why it is interesting to look at.

How extensible is this? Can any dataset be plugged into? (Andrew)

- It's not as extensible to other data unless one wrangles it beforehand. It is currently more tailored to our data. For example, feature selection had to be done for our data, therefore, any other person wanting to use it would have to do that too.
- Since these charts are standard for analysis of metagenomic data, making it extensible so that anyone can upload their data and generate the same charts would be a huge benefit to researchers. This is, however, outside the requirements for the project.

Visual Encoding

Is color sensibly used?

- Specifying a color for each species can be an issue if you have a lot of species for the stacked barchart (Andrew)
 - We anticipate this may be an issue if all the species are shown at once, but we hope to enable the user to select a subset of the tree at a time. This will help minimize the abuse of color.
- To aid the possible reuse or overuse of color, adding a tooltip with the species name to appear over any of the stacked bars upon hovering would be helpful (Guy).
 - We thought this was a great idea and will implement it in our project.
- Having the stacked bars be in absolute order (in terms of color) might help visually (Guy).
 - There is already a standard order to the data so we will keep this default order, so that it is familiar to researchers in this field.

How will the very small abundances be visualized? (Alysha)

- Some abundances may be small at first, but we plan to get around this issue by enabling tree selection so that even small abundances can be drilled down by selecting the appropriate level or node.
- The tooltip would also help us to pick out these small abundances.

Interaction

How will you show the depth of the tree to indicate there is more? What is the furthest node?

What will the tree view be like? (Guy)

- We will render the entire tree completely as a first step to get a sense of its size.
- We plan to make the nodes clickable so that they expand and collapse upon click.
- Nodes with hidden children will be styled differently from nodes with its children already displayed (probably by different colors).
- It is still unclear how the tree will coordinate its view with the stacked bar chart so that the user knows what part of the tree they're looking at.

Overall, we felt that the feedback was helpful and gave us more ideas about how to connect our different views as well as areas that we need to refine more.