Assignment 6: Project Pitch Review

Software Engineering for Scientists

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Group 5 Review

**Scientific overview:**

1. Is any part of the scientific background unclear or confusing? If so, what additional information would be helpful?

*Starting with the basic description of RNA and the cellular biology background/relevance is very useful – and then drawing both of these to organism health was even better. There was some language used in the second slide which perhaps could have been explained better (expression gradients, etc.). Obviously in your field, this would be easily understood, so if your intended audience is there, then great! But as someone who doesn’t work in the field, it was a bit much.*

1. What part of the project do you find interesting?

*I loved your explanation of fluorescent RNA tools – this sounds like a classic explanation, explained well, and it’s really remarkable that we can “watch” molecules in a “tagged” RNA piece. The clear similarity between the stress granule marker and the Riboglow probe shows how useful this method can be – you rarely see curves that match so nicely in science! So, the premise itself is interesting to me, and I’m excited to see how your work progresses with this.*

**Architecture:**

1. What components of the groups’ proposed architecture do you think is a good design?

*I think it’s wise to approach this from the get-go with a clear idea of what your three functions will do. I’m also glad that “statistics and plotting” makes an entrance – it’s good to see data visualization take up a significant enough amount of a project to be mentioned alongside the other working functions.*

*The detailed outline of all the working functions is clear and, I think, will be useful as you develop the code.*

1. What, if any, are some limitations of the current proposed architecture that you see?

*It looks good to me. Your outline is clear and detailed.*

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1. What components of the architecture do you think might be missing?

*I see the data format (list of lists) you’ll be using, but it could be useful to discuss how these data (beyond just the masks) are saved as the project runs. If your only intention is to save the masks, that’s great, though I think it would still be useful to define exactly what this output will look like (format, etc.).*

**Technical Implementation:**

1. Do the proposed data types seem suitable for the proposed software design? If not, what could the group improve?

*I think that .tif files are appropriate for this (assuming this is the original format of the data) – I didn’t see whether you had decided what sort of file to use to save the masks, number of granules in granule marker channel, etc. If you hadn’t planned this, it might be useful to save these files/datatypes as the code runs.*

1. Do you anticipate any computational bottlenecks not described by the group?

*You mention imperfect overlap – I’d like to see a discussion of the range of acceptable overlapping. I would expect that imperfect overlapping of images would be the norm rather than the exception, so if there’s a range of values you’d be OK with, it’d be good to define that.*

1. Does the delineation of the code development between developers make sense or do you anticipate any code conflicts when merging the code? Does an alternative division of labor seem more suitable?

*I didn’t see a discussion of this. It would be useful to outline who will be doing what before beginning!*