# Usability-Test for Forna_Clustering
Demographic Questions

Age          _____

Sex          male          ☐

             female        ☐

Profession          _____

Please not your thoughts while doing the tasks, sucht that we can evaluate your thought process which helps us to identify confusing parts of the application and improve on them.
Should any of the task descriptions be unclear or you are not sure how to accomplish the task please ask the test personnel.
Please do not talk to other subjects during the test such that there is no bias introduced to the results.

**Description**
The Forna_Clustering app serves to visualize the results of different RNA secondary structure visualizations produced by Forna according to their properties, in order to find similarities between visualizations. These similarities could be input parameters as well as the penalty scores calculated in a previous step before the clustering.
*The goal of the application is to facilitate the selection of appropriate parameter settings for future visualizations of RNA structures of a particular length.*
*Do you know any similar products?*

        yes    ☐        Which ones? _____

        no     ☐

What would you expect of a visualization software described above?

_____

_____

_____

Please don't forget to note the thoughts you have while processing the task. Write down steps that you take, and even steps that you attempted to make but that did not lead to successful completion of the task.

## Task 1:

You have a dataset containing thousands of visualizations with their corresponding penalty values . Please upload the dataset (penalties.csv) and cluster the data by choosing the penalties overlaps, position and stretches. Then go ahead and upload (results.csv) to look at the visualization. Try to find groups of visualizations that are particularly good according to their penalty values using the different graphs.

Which graph(s) have you chosen to complete your task?

_____

Did you find the steps you chose intuitive, did they make sense?

      yes    ☐

      <u>no</u>    ☐

Did the app help you to accomplish your task successful?
Did the app make any of the steps difficult for you to accomplish?

      yes   ☐         Which steps did you find to be difficult?

                            _____

<u>no</u>

☐

## Task 2:

You have a dataset containing thousands of visualizations after clustering over the penalty values . Please upload the dataset. Then chose appropriate weights for the penalties, such that you would see something you find interesting. Select a cluster which contains good visualizations.
Try to use the heatmap-matrix and the parallel coordinates diagram to find one or more visualizations that you find qualitatively good. Look for visualizations that satisfy your requirements in terms of the parameters (friction, etc.).

Did you find the steps you chose intuitive, did they make sense?

yes

☐

<u>no</u>

☐

Did the app help you to accomplish your task successful?
Did the app make any of the steps difficult for you to accomplish?

yes            ☐            Which steps did you find to be difficult?


_____


<u>no</u>

☐

**Task 3:**
You have a dataset containing thousands of visualizations after clustering over the penalty values.
Please load the dataset. This time set all weights for the penalties to be the same.
Select any cluster of your choice to filter the data. Maximize one of the heatmaps. Possibly one that
you find interesting. Select the x-axis of a input parameter of your choice and one penalty value for the
y-axis which are contained in the selected cluster. Find out which value of the input parameter would
be optimizing a particular penalty.
Filter the parameters, such that the best possible penalties remain. Search the filtered dataset for a
suitable visualization.

Did you find the steps you chose intuitive, did they make sense?

    yes     ☐


    <u>no</u>     ☐


Did the app help you to accomplish your task successful?
Did the app make any of the steps difficult for you to accomplish?

    yes     ☐        Which steps did you find to be difficult?


                                      _____


    <u>no</u>     ☐

☐    ☐    ☐    ☐    ☐

### Concluding questions on the app

|  | I agree fully | I agree somewhat | I am indifferent | I somewhat disagree | I disagree completely |
|---|---|---|---|---|---|
| The app is easy to use. | | | | | |
| The app is easy to understand. | | | | | |
| The memory load on the user is minimal. | | | | | |
| It is apparent what the app was supposed to do. | | | | | |
| The GUI is appealing. | | | | | |
| The app makes sense. | | | | | |

Would you use this app?

yes ☐          no ☐          Why? _____

Was it easy to navigate?

yes ☐          no ☐          Why? _____

What did you like best?

_____

_____

What did you dislike about the app?

_____

_____

Which function do you think is missing?

_____

_____

What improvements would you suggest?

_____

_____

If you know any comparable apps:

Do you like the app better than the one you already knew?

yes ☐          no ☐          Why? _____