[redacted]

Preliminary Questionnaire

1. Have you ever taken a course on modeling for 3d computer graphics?

   yes

2. Have you ever followed a tutorial in order to create a 3d model?

   yes

3. On a scale of 1 to 5, how confident do you feel that you could create a 3d model that you have never attempted before using a tutorial? 1 being the least confident, 5 being the most confident.

   1 2 3 4 (5)

Study Questionnaire

Part I. In general, compare the use of a video or static document tutorial to the interactive visualization system.

1. Rate the usefulness of each of the following on a scale of 1 to 5, 1 being the least useful and 5 being the most useful.

   Usefulness for getting a general overview of how a model is constructed

Tutorial Document:	1	2	3	(4)	5
Tutorial Video:	(1)	(2)	3	4	5
Interactive Vis:	1	2	3	(4)	5

   Usefulness for investigating key details and understanding how they were achieved

Tutorial Document:	(1)	2	3	4	5
Tutorial Video:	1	(2)	3	4	5
Interactive Vis:	1	2	3	4	(5)

2. If you had to choose only one way of learning how to make a model, please rank your preference for each type of tutorial/visualization in the order you would choose.

   1st choice: Interactive Vis

   2nd choice: Tutorial Document

   3rd choice: Tutorial Video

3. What did you like about your first choice compared to the others?

   Interactive Vis lets you both get a good quick overview and also drill down to details at the level you need without the time waste of gratuitous information in a video and much easier locating of material of interest

Part II. Compare the tutorial screenshots to the screenshots from the interactive visualization system.

1. Rate the usefulness of each of the following on a scale of 1 to 5, 1 being the least useful and 5 being the most useful.

   Usefulness for getting a general overview of how a model is constructed

Tutorial:	1	2	(3)	4	5
Interactive Vis:	1	2	(3)	4	5

   Usefulness for investigating key details and understanding how they were achieved

Tutorial:	1	(2)	3	4	5
Interactive Vis:	1	(2)	3	4	5

   Usefulness of the graphical annotations

Tutorial:	1	(2)	3	4	5
Interactive Vis:	1	2	3	(4)	5

2. If you had to choose between the two, which set of images better explained how the model was built (tutorial or interactive vis)? Explain what you liked about your choice.

   of these two specifically mostly I thought they were very comparable. If image planes were in the interactive vis I would prefer that one as it addresses more well spaced intervals.

3. How did the use of graphical annotations affect your choice?

   knowing what the graphical annotations are ~~[illegible]~~ consistently does help a lot whereas with the tutorial version there is more guessing.

Part III. Compare the interactive visualization system with and without the ability to cluster or filter changes to the model.

1. Rate the usefulness of each of the following on a scale of 1 to 5, 1 being the least useful and 5 being the most useful.

   Usefulness of for getting a general overview of how a model is constructed

Clustering:	1	2	3	4	(5)
Filtering by types of operations:	1	(2)	3	4	5
Filtering by selecting parts of the model:	1	(2)	3	4	5

   Usefulness for investigating key details and understanding how they were achieved

Clustering:	1	2	(3)	(4)	5
Filtering by types of operations:	1	(2)	3	4	5
Filtering by selecting parts of the model:	1	2	3	(4)	5

2. Would you prefer to have the ability to cluster and filter changes to the model? Explain why or why not.

   yes!! clustering especially is very useful for getting a good overview without extraneous details and mistakes. Not only does it help figure out where and when changes happen it is basically essential - without clustering this would be much less useful

Part IV. Consider the interactive visualization system. Please leave a few comments on each of the following.

1. In general, do you think that the ability to interact with the visualization and change characteristics of what you see helps you to understand how a model was created? How so?

yes. it is helpful to be able to change the clustering as different parts of the modeling process can be understood better at different levels. Additionally even just being able to see each step from different angles helps to understand what actually happened in a particular step.

2. Do the clustering of operations and the graphical annotations help to give you an overview of how the model was created? Do you find this useful? How so?

yes indeed! both seem essential to this way of visualizing the process. seeing the overall steps without the minutia is better enough to understand it and the graphical annotations show exactly what operations you need to focus on.

3. Do you think you would change the level of detail in the clustering often? How important to you is the ability to change this level of detail?

I'm not sure that 10 levels are necessary but yes I would change them between the top few and one or two lower level ones. I think this is essential to being able to find and understand the ~~parts of the~~ steps used in creating some part. both in seeing small detailed steps if it is hard to grasp or some clustered step to get the at a glance simpler steps.

4. Does filtering out types of operations help you to focus on parts of the model creation process that are interesting to you? Please give an example.

I can see how filtering out operation could be useful to see for instance how much undoing happened. but overall I found this feature less helpful that simply clustering

5. Does filtering out operations that affect only certain parts of the model help you to focus on parts of the model creation process that are interesting to you? Please give an example.

yes, this allows you to just see the operations ~~that~~ affect the part you are focusing on specifically what is helpful is seeing parts of the process from very separate areas of the timeline! so on ~~the specific model~~ one of the model edge loops were created in every different part of the timeline and it was helpful to see that.

6. Do filtering out sections of the timeline and using the thumbnail views help you to focus on parts of the model creation process that are interesting to you? Please give an example.

thumbnails definetly were helpful in locating the parts in the timeline that were of interest quickly.

7. In general, please rate the usefulness of each of the following features compared to one another on a scale of 1 to 5, 1 being the least useful and 5 being the most useful.

Graphical annotations:

1 2 3 4 (5)

High level clustering (seeing many operations at once):

1 2 3 (4) (5)

Ability to control the clustering level of detail:

1 2 3 (4) (5)

Filtering by types of operations:

1 (2) 3 4 5

Filtering by selecting parts of the model:

1 2 3 (4) 5

Filtering by focusing on the timeline and thumbnails:

1 2 3 (4) 5