

## Rapport fra «Nevrolens Questionnaire 20.05.2021»

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- Leverte svar: **6**
- Påbegynte svar: **0**
- Antall invitasjoner sendt: **0**



### Med fritekstsvar

This questionnaire is meant to evaluate the Nevrolens application and is a part of the data-gathering and testing phase of a master thesis. No part of this questionnaire is meant for evaluating your abilities when using the application, only your experience and feedback about your usage.

In the questionnaire the term "*platform*" refers to the device type you used, while the "*system*" refers to the application in general.

### Which platform(s) did you try? \*


Select both if you tested both.

Svar	Antall	Prosent	
HoloLens 2 AR headset	6	<b>100 %</b> 	
Android smartphone	4	<b>66,7 %</b> 	

### What do you feel are the advantages of each platform?

- #Greater interactivity during learning and easier to see 3D structures with the larger field of view. Also intuitive to push and pull with fingers in the environment
- Hololens has the advantage of being more interactive and possible to "physically" take apart. The smartphone version was also good but the menu should be able to move.
- Holo is easier to manoeuvre and look from different angles. Android is more accessible
- Phone is easier for reading the labels, but harder to control and rotate the Brain. AR: Very easy to comprehend the 3D structure. Good for seeing how the different regions of the brain belong together, and how they look in relation to other regions. The brain is easy to rotate and moving the brain around feels natural (but sensitivity of hand movement was slightly coarse).
- HoloLens - Interaction and activation of more senses while playing around with the brain anatomy. Android - interaction and being able to puzzle together / pick apart the brain.
- # Interactivity. Mostly easy to use (takes some time to get familiar with the application). Better feeling of how the brain is built up by seeing it and exploring it in 3D.

### Which platform did you prefer? \*

Svar	Antall	Prosent	
HoloLens 2 AR headset	6	<b>100 %</b> 	
Android smartphone	0	<b>0 %</b>	

### Why did you prefer that platform?



- Did not try the other platform
- Physically interactive and the menu is on your hand
- Much easier to understand the 3d structure, as you can see and rotate it at any angle.
- Holo is easier to manoeuvre and look from different angles.
- Did not try the other one
- It was more a more fun way of learning, which again increases motivation for learning.

## System Usability Scale Questions

System Usability Scale (SUS) is a method of measuring usability of a digital user experience.

When answering, please only think about the platform you used the most or became most familiar with.

### Which platform will you answer about? \*

Svar	Antall	Prosent	
HoloLens 2 AR headset	5	<b>83,3 %</b> 	
Android smartphone	1	<b>16,7 %</b> 	


**I think that I would like to use this system frequently. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	0	0 %	
4	2	33,3 % 	
5	4	66,7 % 	



**I found the system unnecessarily complex. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	3	50 % 	
2	2	33,3 % 	
3	1	16,7 % 	
4	0	0 %	
5	0	0 %	




**I thought the system was easy to use. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	2	33,3 % 	
4	4	66,7 % 	
5	0	0 %	




**I think that I would need the support of a technical person to be able to use this system. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	3	50 % 	
2	2	33,3 % 	
3	1	16,7 % 	
4	0	0 %	
5	0	0 %	

**I found the various functions in this system were well integrated. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	1	16,7 % 	
4	4	66,7 % 	
5	1	16,7 % 	



**I thought there was too much inconsistency in this system. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	1	16,7 % 	
2	3	50 % 	
3	1	16,7 % 	
4	1	16,7 % 	
5	0	0 %	

**I would imagine that most people would learn to use this system very quickly. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	1	16,7 % 	
4	3	50 % 	
5	2	33,3 % 	

**I found the system very cumbersome to use. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	2	33,3 % 	
2	3	50 % 	
3	1	16,7 % 	
4	0	0 %	
5	0	0 %	




**I felt very confident using the system. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	1	16,7 % 	
4	2	33,3 % 	
5	3	50 % 	

**I needed to learn a lot of things before I could get going with this system. \***

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	2	33,3 % 	
2	3	50 % 	
3	0	0 %	
4	1	16,7 % 	
5	0	0 %	

## Research specific questions

This part will ask you questions specific to the Nevrolens application.

### I got new insight about neuroanatomy while using the system. \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	0	0 %	
4	4	66,7 % 	
5	2	33,3 % 	



### I got new insight about neuroanatomy while seeing and manipulating the brain and its structures in 3D. \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	0	0 %	
4	2	33,3 % 	
5	4	66,7 % 	

### I got new insight about neuroanatomy while dissecting the brain. \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5





Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	1	16,7 % 	
4	5	83,3 % 	
5	0	0 %	

Please explain if you learned something or why you feel you did not.

- I learned about the three dimensional placement of structures in the brain and how the structures are placed relatively to each other
- I did learn something. Got a new perspective
- I learned the 3d structural layout that goes along with the regions and labels we use. However, for someone without any prior knowledge of the brains substructures, it would be a lot of information, both visual and names of regions.
- Knew very little before comming, and learned a little bit while watching the other explore and exploring myself. I think it helped having Menno there to point parts out and ask questions.
- I feel I learned more about the anatomy of the rodent brain while picking it apart and puzzling it back together. However I wish I had morr time to read the description of the different brain parts as well.

### I felt like I was collaborating with another person when using the system with others. \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	1	16,7 % 	
2	1	16,7 % 	
3	3	50 % 	
4	1	16,7 % 	

Svar	Antall	Prosent	
5	0	0 %	

### I was aware of what the other person did and had focus on when using the system. \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	2	33,3 %	
3	3	50 %	
4	1	16,7 %	
5	0	0 %	

### The system would be useful for remote teaching of neuroanatomy. \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	1	16,7 %	
4	2	33,3 %	
5	3	50 %	

### Please explain how you feel collaboration was facilitated in the system.

- The ability to see the parts that were moved by the others and their pointer. Also the synchronization was helpful
- It was a bit difficult to see what the other person was doing, but it was very fun when verbally communicating with that other person.
- Due to some bug, I was unable to see the other persons pointer.
- Didn't work very well in our test. I quickly got messy with multiple people manipulating the brain
- Lagged a bit and small difficulties moving the brain around to the position one wants.
- Did not try collaboration that much. Was mostly getting familiar with the system, so did not focus on the fact that it was possible to collaborate to learn together and explore together.

### Do you have other thoughts about the Nevrolens application. Feel free to write any feedback or insight here.

- I think it could be beneficial to have an initial «tutorial» to make it easier for users to get to know the application in the beginning. Maybe also naming of different parts during dissection
- Great Experience. Enjoyable to interact with the 3d Brain
- This is a great system promoting learning.

## AR and peer learning

Peer learning refers to situations where peers support each other in learning processes, for example two students exchanging ideas, giving and receiving feedback and working collaboratively.

### Did you like the approach of peer learning (working with and teaching your classmates) ? \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	3	50 %	
4	0	0 %	
5	3	50 %	

### Why?

- You can share knowledge and discuss facts to further solidify the theory
- Learning alongside others is very fun, especially after having had remote electronic learning.

- Personal preference
- Because it is interactive and communicative.

### Were you more interested in teaching each other and sharing content with your peers and AR tools? \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	1	16,7 %	
3	1	16,7 %	
4	4	66,7 %	
5	0	0 %	

#### Why?

- It was exciting to try the technology with a classmate and it gave a new dimension to the cooperation
- Because it was fun and interesting
- Didn't feel it
- Because this is a great new way of teaching and learning.

### Did this learning approach make you feel more responsible for your learning? \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	1	16,7 %	
3	3	50 %	
4	1	16,7 %	
5	1	16,7 %	

### Do you think it would be useful in other courses / fields of study as well? \*

Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	0	0 %	
4	2	33,3 %	
5	4	66,7 %	

Thank you for participating!

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