|                 |            | Sub                | ject#1 |    |                       |                | Subject#2 | !        |             | Sub               | ject#3      |                 |          | Sı           | ubject#4 |          |          | Sı       | ıbject#5 |          |           | S           | ubject#6 |          |
|-----------------|------------|--------------------|--------|----|-----------------------|----------------|-----------|----------|-------------|-------------------|-------------|-----------------|----------|--------------|----------|----------|----------|----------|----------|----------|-----------|-------------|----------|----------|
| Question        | Voice/Ge   | sture Mouse/Keyl   |        |    |                       |                | ,         |          |             |                   |             |                 |          |              |          |          |          |          | •        |          |           |             |          |          |
| 1               |            | 1                  | 7      |    |                       | 1              | 7         |          |             | 1                 | 7           |                 |          | 1            | 7        |          |          | 1        | 7        |          |           | 2           | 7        |          |
| 2               | 2          | 1                  | 7      |    |                       | 2              | 7         |          |             | 1                 | 7           |                 |          | 1            | 7        |          |          | 1        | 7        |          |           | 1           | 6        |          |
| 3               |            | 1                  | 7      |    |                       | 1              | 7         |          |             | 1                 | 7           |                 |          | 1            | 7        |          |          | 1        | 7        |          |           | 1           | 7        |          |
| 4               | i          | 1                  | 5      |    |                       | 1              | 7         |          |             | 2                 | 7           |                 |          | 1            | 7        |          |          | 1        | 7        |          |           | 1           | 6        |          |
| 5               |            | 2                  | 7      |    |                       | 3              | 7         |          |             | 3                 | 7           |                 |          | 2            | 7        |          |          | 1        | 7        |          |           | 2           | 7        |          |
| 6               |            | 2                  | 7      |    |                       | 2              | 7         |          |             | 5                 | 6           |                 |          | 2            | 7        |          |          | 1        | 7        |          |           | 1           | 7        |          |
| 7               | ,          | 4                  | 4      |    |                       | 4              | 4         |          |             | 4                 | 7           |                 |          | 3            | 5        |          |          | 1        | 7        |          |           | 2           | 6        |          |
| 8               | 3          | 1                  | 6      |    |                       | 6              | 4         |          |             | 1                 | 1           |                 |          | 1            | 5        |          |          | 1        | 7        |          |           | 6           | 2        |          |
| 9               |            | 1                  | 7      |    |                       | 3              | 7         |          |             | 3                 | 7           |                 |          | 3            | 7        |          |          | 1        | 7        |          |           | 1           | 6        |          |
| 10              | )          | 2                  | 7      |    |                       | 1              | 7         |          |             | 2                 | 7           |                 |          | 2            | 7        |          |          | 1        | 7        |          |           | 2           | 7        |          |
| 11              | ı l        | 2                  | 6      |    |                       | 2              | 7         |          |             | 5                 | 7           |                 |          | 3            | 7        |          |          | 1        | 7        |          |           | 4           | 5        |          |
| 12              | 2          | 1                  | 6      |    |                       | 1              | 5         |          |             | 1                 | 6           |                 |          | 2            | 5        |          |          | 1        | 7        |          |           | 4           | 4        |          |
| 13              | 3          | 3                  | 7      |    |                       | 3              | 5         |          |             | 2                 | 7           |                 |          | 2            | 5        |          |          | 1        | 7        |          |           | 4           | 4        |          |
| 14              | ı          | 3                  | 7      |    |                       | 2              | 5         |          |             | 3                 | 5           |                 |          | 2            | 6        |          |          | 1        | 7        |          |           | 3           | 7        |          |
| 15              | 5          | 3                  | 7      |    |                       | 3              | 7         |          |             | 7                 | 7           |                 |          | 3            | 7        |          |          | 7        | 4        |          |           | 4           | 7        |          |
| 16              | 6          | 4                  | 7      |    |                       | 6              | 7         |          |             | 7                 | 7           |                 |          | 2            | 7        |          |          | 7        | 4        |          |           | 1           | 7        |          |
| 17              | , l        | 3                  | 7      |    |                       | 2              | 2         |          |             | 7                 | 7           |                 |          | 2            | 2        |          |          | 7        | 4        |          |           | 1           | 7        |          |
| 18              | 3          | 3                  | 7      |    |                       | 2              | 6         |          |             | 1                 | 7           |                 |          | 3            | 6        |          |          | 7        | 4        |          |           | 3           | 7        |          |
| 19              | )          | 2                  | 7      |    |                       | 2              | 7         |          |             | 4                 | 5           |                 |          | 3            | 7        |          |          | 1        | 7        |          |           | 1           | 7        |          |
| 20              | )          | 5                  | 5      |    |                       | 7              | 4         |          |             | 5                 | 4           |                 |          | 4            | 3        |          |          | 7        | 1        |          |           | 5           | 4        |          |
| 21              | L.         | 2                  | 7      |    |                       | 2              | 7         |          |             | 1                 | 6           |                 |          | 2            | 7        |          |          | 1        | 7        |          |           | 1           | 7        |          |
| 22              |            | 2                  | 7      |    |                       | 2              | 7         |          |             | 2                 | 7           |                 |          | 2            | 7        |          |          | 1        | 7        |          |           | 1           | 7        |          |
| Preferred       |            | Mouse/Keyboard     |        |    |                       | e/Keyboard     |           |          |             | se/Keyboard       |             |                 |          | e/Keyboard   |          |          |          | Keyboard |          |          |           | se/Keyboard |          |          |
| Time            |            | 06:02              | 01:50  |    | 05                    | :15 02:        |           |          | 06:4        | 40 02:            | 00          |                 | 06:      | 06 01:       | :44      |          | 04:      | 30 00:   | 55       |          | 07        | 1:12 03     | :12      |          |
|                 | Voice      | Gesture            | Mouse  |    | Voice                 | Gesture        | Mouse     | Keyboard | Voice       | Gesture           | Mouse       | Keyboard        | Voice    | Gesture      | Mouse    | Keyboard | Voice    | Gesture  | Mouse    | Keyboard | Voice     | Gesture     |          | Keyboard |
| Steps           |            | 27                 | 13     | 10 | 4                     | 24             | 17        | 10       | 4           | 26                | 5           | 15              | l        | 22           | 5        | 10       | 1 :      | 24       | 6        | 5        | 5         | 32          | 20       | 15 8     |
| User errors     |            | 2                  | 3      | 0  | 0                     | 4              | 5         | 0        | 0           | 9                 | 2           | 0 (             |          | 5            | 1        | 3 (      | P        | 5        | 1        | 0        | L         | 7           | 4        | 2 0      |
| Interface error | r          | 8                  | 6      | 0  | 0                     | 6              | 7         | 0        | 0           | 7                 | 2           | 0 (             |          | 8            | 3        | 0 (      | P        | 8        | 1        | 0        | 이         | 9           | 10       | 0 0      |
|                 |            |                    |        |    |                       |                |           |          |             |                   |             |                 |          |              |          |          |          |          |          |          |           |             |          |          |
|                 |            |                    |        |    |                       |                |           |          |             |                   |             |                 |          |              |          |          |          |          |          |          |           |             |          |          |
|                 | Fun        | Easy               |        |    |                       | ng r I know it |           |          | imersive    |                   | rapidity    | efficiency easy | Fun      |              | Already  | known    |          |          |          |          | Switch b  | etween mod  |          |          |
| points          | Exercise   | Responsive         |        |    | Flexible              | Effortless     | 5         |          | kind of fu  | n to use          |             |                 |          |              | quick    |          |          |          |          |          |           |             | Precise  |          |
|                 | Natural    | Quick              |        |    |                       | Precise        |           |          |             |                   |             |                 |          |              |          |          |          |          |          |          |           |             |          |          |
| I               |            |                    |        |    |                       |                |           |          |             |                   |             |                 |          |              |          |          |          |          |          |          |           |             |          |          |
|                 |            |                    |        |    |                       | D II           |           |          | Constant of |                   |             |                 | D h-1-   | data asset   |          |          |          |          |          |          |           | and the     |          |          |
|                 | Slow       | analus             |        |    | Many er<br>To less fe |                |           |          | faulty voi  |                   | not "fle    |                 |          | with gestur  |          | n        | 100 mucr | movement |          |          | Looses to |             |          |          |
| points          | Non-respo  |                    |        |    |                       |                |           |          |             | ess long reactivi | ty less ime | sizing          | Distance | problems (ge | esture)  |          |          |          |          |          | Does not  | ı react     |          |          |
| I               | need to ta | alk with a machine |        |    | Small Fo              | nt             |           |          | pointer d   |                   |             |                 |          |              |          |          |          |          |          |          |           |             |          |          |
| L               |            |                    |        |    |                       |                |           |          | always re   | act immediately   | У           |                 | 1        |              |          |          | 1        |          |          |          | 1         |             |          |          |

Comments: Voice/Gesture would be useful with a much bigger screen. With a PC / Notebook you are to far away to control it with ge

| Quantitative | averages:           |             |                      |        |
|--------------|---------------------|-------------|----------------------|--------|
|              | Average Time for ta | sk          |                      |        |
|              | Mouse / Key. Voice  | e / Gesture | Total of user errors |        |
|              | 02:01               | 05:57       | Voice / Gesture      |        |
| max          | 03:12               | 07:12       | Mouse / Keyboard     |        |
| max - moy    | 01:10               | 01:14       |                      |        |
| min          | 00:55               | 04:30       | Average user errors  |        |
| moy-min      | 01:06               | 01:27       | Voice / Gesture      |        |
|              |                     |             | Mouse / Keyboard     |        |
|              | Total steps         |             | Total of recognition | errors |
|              | Voice / Gesture     | 221         | Voice/gest           | 75     |
|              | Mouse / Keyboa      | 94          | Mouse/key            | 0      |
|              | Average steps       |             |                      |        |
|              |                     |             | Average recognition  | errors |
|              | Mouse / Keyboa Voic | e / Gesture | Voice 1              | 2.5    |
|              | 15.67               | 36.83       | Mouse                | 0      |
| max          | 23.00               | 52          |                      |        |
| max - moy    | 7.33                | 15.17       |                      |        |
| min          | 10                  | 27          |                      |        |
| moy - min    | 5.67                | 9.83        |                      |        |

| Qualitative average | es                  |
|---------------------|---------------------|
|                     | Global appreciation |
| Voice / Gesture     | 2.46                |
| Mouse / Keyboard    | 6.21                |
|                     | Usefulness          |
| Voice / Gesture     | 1.13                |
| Mouse / Keyboard    | 6.83                |
|                     | Ease of use         |
| Voice / Gesture     | 2.30                |
| Mouse / Keyboard    | 6.13                |
|                     | Ease of learning    |
| Voice / Gesture     | 3.96                |
| Mouse / Keyboard    | 5.21                |
|                     | Satisfaction        |
| Voice / Gesture     | 2.71                |
| Mouse / Keyboard    | 5.29                |