

USABILITY DOCUMENT

FOR

IMMERSIVE HUMAN DIGESTIVE TOUR VR APPLICATION

Group-12

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To improve the usability of an application it is important to have a well designed interface. Shneiderman's "Eight Golden Rules of Interface Design" are a guide to good interaction design.

Corresponding design details are enlisted below that satisfy the Eight Golden Rules of Shneiderman:

1. Strive for Consistency -

- ❖ There is specific gyroscope movement for each of the functionalities, like showing connected glands, playing video of working of organ, which stays consistently same at all locations in the 3D world.
- ❖ Identical terminology has been used in prompts, and help screens that pop-in throughout the tour.

2. Design for universal usability -

- ❖ There are frequent help screens popping in to support novice users go through various functionalities available.
- ❖ Universally used VR gestures for common functions like play, pause, move forward, move backward have also been integrated.

3. Offer Informative Feedback -

- ❖ Related features of interest show up and change according to the direction in which the user is facing. (F1.2 Build Description)
- ❖ Loading+progress screen appears in the delay of extracting any information related to the organ from the database. (e.g loading video of organ working)

4. Design dialogues to yield closure -

- ❖ Indicative pop-ups regarding initiation as well as the closure of various processes occurring as we move forward in the digestion tour. E.g 'Ingestion Begins..', 'Ingestion Completed! Motility Begins..'

- ❖ There are query screens after a user uses some function related to an organ, asking whether to continue the tour.

5. Offer error prevention and simple error handling -

- ❖ Boundary alert if the user tries to move ahead of coordinates where there are no models placed.
- ❖ Unrecognized VR device movements lead to voice alerts informing 'gesture unrecognized'.

6. Permit easy reversal of actions -

- ❖ Option screen provided at the closure of every digestive process, asking whether to reset the position back to the beginning of the process.
- ❖ Commonly used hot-gestures for VR devices for reversing the actions just taken are integrated.

7. Keep users in control -

- ❖ There is no restriction in moving forward/backward in the tour. The user can freely move as much forward or backward in the digestive system as he wants, without any form of interruptions.
- ❖ The user is free to rotate around the model at any point in time and at any location throughout the tour.

8. Reduce short term memory load -

- ❖ Functionality screens, descriptions, and extracted information are flushed out of memory as soon as the user changes its current coordinates or starts another function.
- ❖ Only the 3D organ models remain in short-term memory throughout the activity of the VR Tour Application.