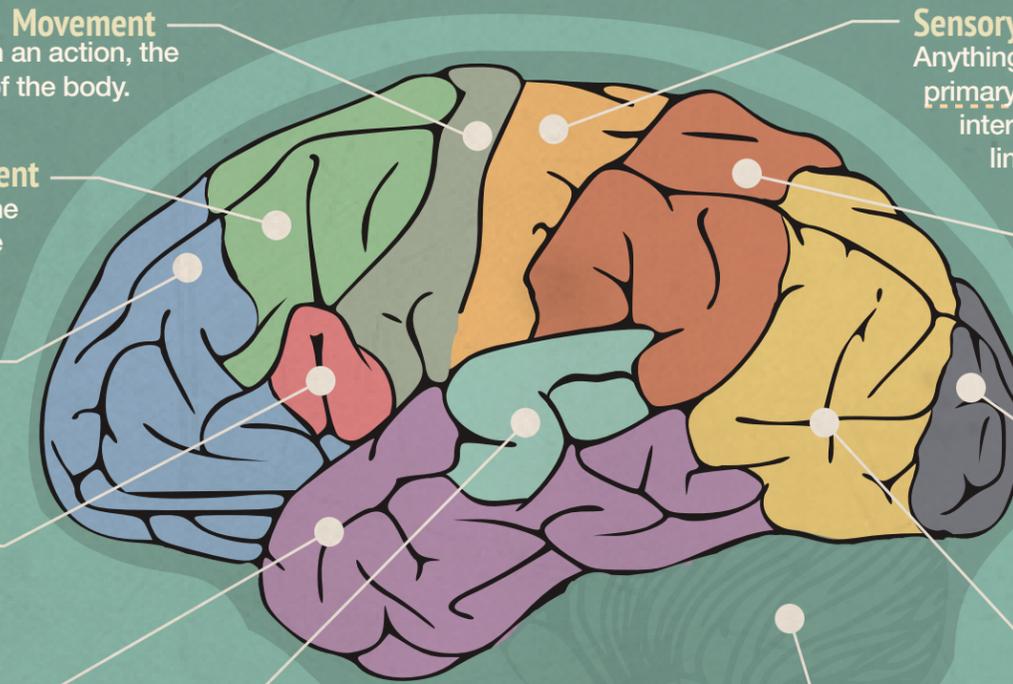


The Brain Behind UX

The brain is where UX takes place. Seeing its structures and functions help us know why UX works the way it does.

The Cerebral Cortex



Movement
Voluntary action is started here. When the user has decided on an action, the primary motor cortex initiates the movement with the right part of the body.

Complex Movement
When complex coordination of the body is necessary, the pre-motor cortex controls how that happens. Things like using the hands and fingers to control interfaces come from this region.

Thought and Reason
What we call “thinking” happens here. When a user is trying to solve a problem, piece together complex thoughts, or use predictive reason, it is powered by the pre-frontal cortex.

Expressive Speech
When it is time to speak, this little area regulates the actual execution of speech through language. Any time an experience involves speaking, the Broca’s area is at work.

Sound Processing
Sound is a complicated thing. When the ears receive input, the auditory cortex processes the information into impulses the rest of the brain can understand. Experiences that involve listening start here.

Receptive Language
Understanding language is a separate region than speaking language. Anything a user hears that involves language is sent here, to the Wernicke’s area, to be interpreted.

The Switchboard
All the input that comes into the brain has to be routed somehow, and the thalamus acts as that switchboard. The torrent of information the body receives is prioritized here, so choosing which areas of the brain you want your experience to engage is critical.

Raw Emotion
Intense emotions are originated here, in the amygdala. When an experience is particularly pleasant or painful, the amygdala helps strongly attach it to a memory or learning experience... sometimes permanently. Involuntary fight or flight is largely initiated here as well. Engaging the amygdala is a key aspect of sticky, powerful experiences.

Sensory Input
Anything that is touched or felt comes through here, the primary somatosensory cortex. When an experience involves tactile interaction, this area processes where it came from in the body and links that to the rest of the experiential information.

Sensory Processing
The senses are processed here, in the somatosensory cortex. Information is taken from the input areas of the brain and combined into the resultant sensory experience. This lets the user’s brain attach the sense experience with the memory.

Visual Input
The eyes are at the front, but the information comes from the back! Visual stimuli is perceived here, in the visual cortex, so any visual design or UI elements have to be noticeable enough to be prioritized and sent on to the rest of the brain.

Visual Processing
All the visual data that is received has to be processed and turned into information the rest of the brain can understand. Almost 30% of the outer cortex is dedicated to visuals! All the visual stimuli is sent here, the visual association area, to be interpreted. Patterns and aesthetic are sorted and turned from neural stimulus to information that can be connected to the rest of the experience.

Balance and Coordination
This is the cerebellum, it’s a base-level area that controls “gait” and makes gross motor movements smooth. It’s more of a feedback area that responds to the user’s proprioception, “where is my body in space.”

Emotion, Memory, Learning
An experience is a combination of emotion and thought. By combining them together, we learn to associate things. The cingulate gyrus is the limbic structure that facilitates the interaction between the limbic system and the outer cortex.

The Pen
When memory is “written” to the brain, the hippocampus acts as the “pen”. A user’s immediate, short-term memory is initiated here, and if not processed into a learned memory, it is discarded. When more brain functions are engaged, it makes writing the experience to memory more effective.

The Limbic System

