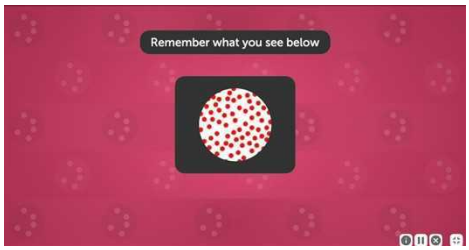
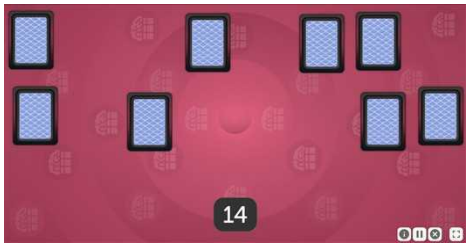
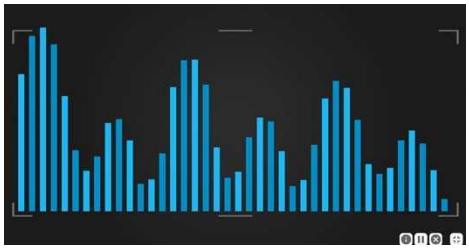
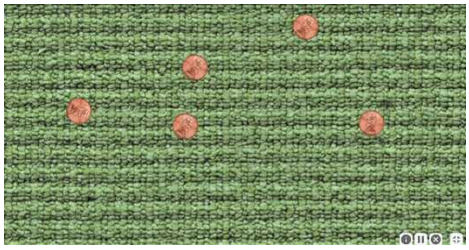
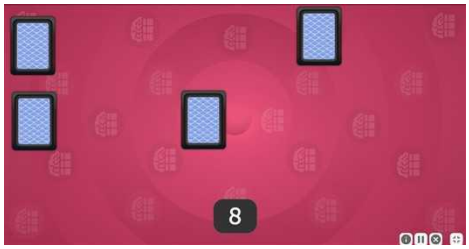
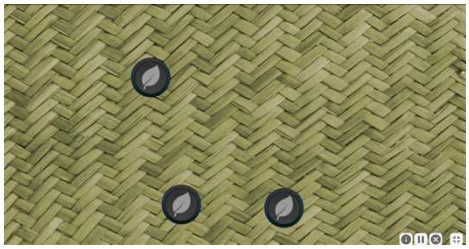
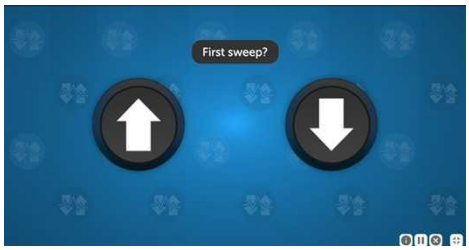
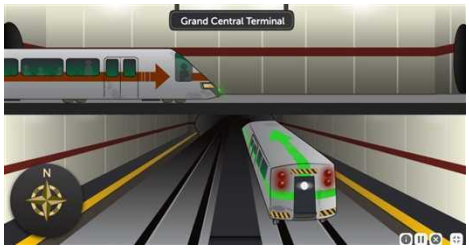
Assessment Descriptions

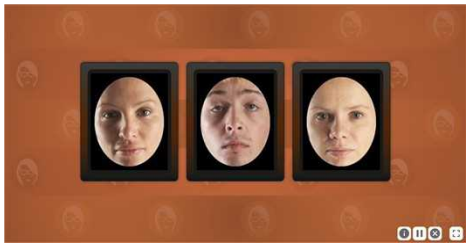
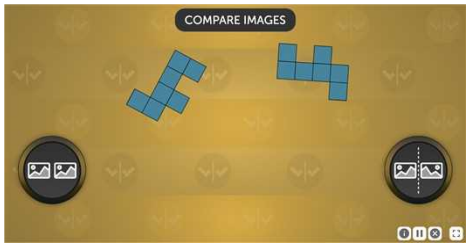
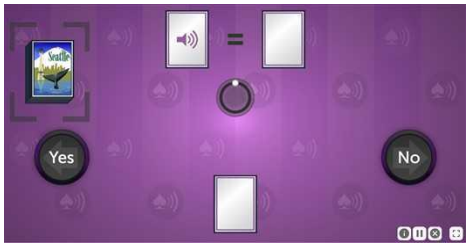
Assessment Name	Description	Cognitive Domain	Everyday Examples	Screenshot
Double Decision [1,2,3,4]	In a dual-task paradigm, users discriminate a visual stimulus presented in the center of gaze while simultaneously locating a target in the peripheral visual field. The adaptive dimension is display exposure duration.	Useful field of view (UFOV): the visual area over which information can be rapidly extracted without eye or head movements.	• Driving safely at intersections while monitoring both central traffic signals and peripheral hazards. • Detecting pedestrians or cyclists in the periphery while walking in crowded environments. • Monitoring instruments centrally while maintaining awareness of peripheral visual cues in aviation or military operations.	
Target Tracker [1,3]	In a multiple object tracking paradigm, users track a set of targets (defined by their spatiotemporal onset) among visually-identical distractors. The adaptive dimension is set size (the number of objects tracked).	Visuospatial working memory, the ability to temporarily maintain and update multiple spatial representations while filtering distractors.	• Tracking the locations of moving teammates during team-based sports. • Navigating through a busy environment while holding spatial landmarks in memory. • Monitoring the positions of multiple vehicles when merging or overtaking in traffic.	
Mixed Signals [1]	In an audiovisual Stroop paradigm, users listen to auditory information and determine whether visual information presented on screen is an exact match. The adaptive dimension is display exposure duration.	Audiovisual cognitive control, the ability to flexibly suppress irrelevant information across modalities in order to act on task-relevant information.	• Ignoring a loud conversation on the car radio to focus on reading and responding to road signs. • Concentrating on a zoom speaker's words while ignoring distracting chat notifications that appear on the screen. • Tuning out background chatter and irrelevant images on nearby screens to follow along with the audio instructions in an online lecture.	
Freeze Frame [1]	In a reverse go/no-go paradigm, users remember a target image presented at the start of the trial after which a continuous stream of targets and foils are interleaved with unequal probability. Users give a motor response to all foils, but withhold a motor response to targets. The adaptive	Tonic and phasic attention, the ability to sustain vigilance over time while flexibly engaging or withholding responses to sequentially-presented information.	• Maintaining readiness for infrequent but critical signals while monitoring displays or radar. • Sustaining attention during monotonous activities such as long-distance driving. • Rapidly suppressing an automatic response when unexpected or infrequent events occur.	

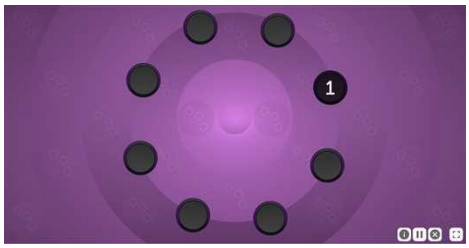
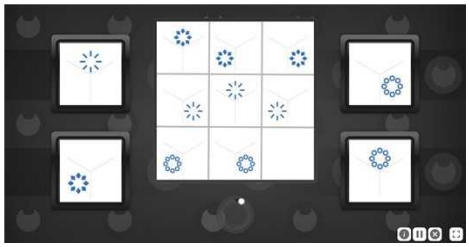
Assessment Name	Description	Cognitive Domain	Everyday Examples	Screenshot
	dimension is target/foil frequency.			
Divided Attention [1]	In a continuous performance paradigm, users rapidly determine whether flashing colors, shapes, or patterns meet a pre-specified rule. The adaptive dimension is display exposure duration.	Inhibitory control, the ability to withhold or stop automatic responses in situations where they are inappropriate. Response inhibition supports self-control, safety, and decision-making.	• Stopping yourself from pressing the accelerator when a light turns yellow because you notice a pedestrian crossing. • Resisting the urge to grab a cookie even though it is right in front of you. • Stopping yourself from interrupting someone even when you have a thought to share.	
Hear, Hear [1]	In an auditory distractor suppression paradigm, users remember a target tone and report whether a set of similar tones presented contain the target. The adaptive dimension is similarity of the foil tones to the target tone.	Auditory distractor inhibition, the ability to focus on relevant sounds while suppressing competing or distracting auditory information.	• Focusing on your friend's voice despite clattering dishes and conversations around you in a busy restaurant. • Concentrating on the sound of a siren in the distance even though the radio is playing loudly. • Following the professor's words even when classmates whisper nearby.	
Mind's Eye [1]	In a visual distractor suppression paradigm, users remember the orientation of a set of moving dots and report whether a set of similar images presented contain the target. The adaptive dimension is similarity of the foil orientations to the target orientation.	Visual distractor inhibition, the ability to filter competing visual stimuli and selectively attend to important information.	• Focusing on road signs and signals while ignoring irrelevant billboards. • Ignoring unrelated faces and outfits searching for a friend in a crowd. • Concentrating on the numbers that matter on a data spreadsheet without being distracted by unnecessary formatting.	 

Assessment Name	Description	Cognitive Domain	Everyday Examples	Screenshot
Memory Grid [1]	Users visuo-spatially match cards representing auditory syllables. The adaptive dimension is set size (the number of syllable pairs to match).	Auditory spatial working memory, the ability to hold sound-based information in mind and remembering its placement across locations.	• Remembering where different people sat around a table after they introduced themselves. • Keeping track of which rooms in a house different sounds (like music, laughter, or a microwave beep) came from. • Following along in a group conversation and recalling who said what, linked to where they were sitting.	
Rhythm Recall [1]	Users listen to tonal beats played over a melody and later replay how long each beat was played and where in the melody beats changed. The adaptive dimension is set size (the number of beats remembered).	Time estimation, the ability to perceive, encode, and reproduce timing information.	• Remembering and clapping back a rhythm that was played on a drum. • Keeping time while dancing so that movements match the beat of a song. • Estimating how long it takes to boil an egg without checking a clock.	
Scene Crasher [1]	In a change-detection paradigm, users select the item added to a visual scene. The adaptive dimension is set size (the number of non-targets in the visual scene).	Change detection, the ability to notice new or altered items within a visual scene.	• Spotting that a new item has been added to a cluttered desk. • Noticing that a car has entered your blind spot while driving. • Realizing that a colleague has rejoined a meeting after stepping away for a few minutes.	
Syllable Stacks [1]	In a span paradigm, users report the order of presented syllables in a serial memory span task. The adaptive dimension is set size (the number of syllables remembered).	Auditory memory span, the ability to hold and recall sequences of verbal information in the correct order.	• Repeating back a phone number after hearing it once. • Remembering the steps in a recipe that a friend reads aloud. • Remembering the lyrics when learning a new song.	
To-Do List Training [1]	Users see a grid of everyday items and select the items in accordance with spoken instructions. The adaptive dimension is set size (the number of instructions remembered in sequence).	Auditory delayed memory, the ability to retain and recall auditory instructions after a short delay.	• Remembering to grab milk, eggs, and bread from the store after hearing the list from a partner. • Carrying out a set of verbal directions when navigating through a building. • Following a sequence of household chores given verbally.	

Assessment Name	Description	Cognitive Domain	Everyday Examples	Screenshot
Eye for Detail [1]	Users identify which peripheral targets were identical among a variable number of distractors. The adaptive dimension is display exposure duration.	Eye movement speed, the speed and efficiency of scanning visual environments to identify relevant targets among distractors.	• Quickly finding your friend group in a crowded stadium. • Spotting the ingredients you need for a recipe on a packed grocery store shelf. • Detecting peripheral threats in dynamically-changing scenes.	
Fine Tuning [1]	Users indicate which one of two confusable syllables was presented. The adaptive dimension is stimulus similarity.	Auditory phonemic processing, the ability to discriminate between similar-sounding phonemes.	• Understanding the difference between “bat” and “pat” in a noisy environment. • Learning the pronunciation of new words in a foreign language. • Correctly identifying similar-sounding names, such as “Brian” versus “Ryan.”	
Hawk Eye [1]	In a visual search paradigm, users identify the location of a target among distractors. The adaptive dimension is display exposure duration.	Selective attention, the ability to focus on relevant visual information while ignoring irrelevant items.	• Searching for your luggage on a busy airport carousel. • Carefully searching for spelling errors or misplaced punctuation marks while ignoring the bulk of correctly written text in a document. • Concentrating on finding a single item in a complicated “Find and Seek” while filtering out hundreds of distracting items.	
Sound Sweeps [1,3,4]	In a time-order-judgement paradigm, two successive frequency-modulated tone sweeps are presented and users indicate whether the frequency increased or decreased within each tone. The adaptive dimension is sweep speed.	Auditory speed, the ability to rapidly discriminate between sounds that vary in frequency (higher vs. lower pitch).	• Quickly understanding what someone says even if they speak very fast on the phone. • Immediately detecting changes in pitch between the notes while listening to a new song. • Recognizing the difference between the higher-pitched sound of an ambulance siren and the lower-pitched sound of a truck horn.	
Face to Face [1,3,4]	Users select the face with the same emotional expression as a target face presented previously. The adaptive dimension is display exposure duration.	Emotion recognition, the ability to quickly and accurately identify facial expressions that convey emotional states.	• Recognizing that your friend is upset even before they say anything. • Noticing that a colleague looks confused during a meeting and adjusting how you explain your idea. • Identifying characters’ emotions in a movie by their facial expressions when the volume is low.	

Assessment Name	Description	Cognitive Domain	Everyday Examples	Screenshot
In the Know [1]	Users listen to a conversation and recall facts through a series of multiple-choice questions. The adaptive dimension is set size (the number of sub-topics discussed).	Episodic memory, the ability to encode, store, and recall meaningful verbal information.	• After hearing a friend tell a funny story, you can retell the main details to someone else later in the day. • When you hear a news report on the radio, you remember the key facts well enough to discuss them later with a colleague. • After listening to instructions at a meeting, you recall the important points when completing the task hours later.	
Mental Map [1]	In a spatial mental rotation task, users remember the relative location of objects in a grid and then reconstruct the grid from memory after it has been rotated, flipped, or translated. The adaptive dimension is complexity of the scene transformations.	Spatial working memory updating, the ability to hold multiple visual items in mind while continuously updating their positions as they change.	• Remembering landmarks to find your way back when hiking on a trail. • Using the layout of streets and buildings to keep track of where you are when exploring a new city. • Continuously tracking the positions of nearby cars as they change lanes.	
True North [1]	In an allocentric spatial rotation task, users remember directions while the cardinal orientation of the scene is manipulated. The adaptive dimension is set size (the number of directions remembered).	Allocentric spatial orientation, the ability to use visual and spatial cues to orient oneself and navigate through environments.	• Using a compass to return to your car after a long hike. • Keeping track of where your teammates and opponents are on the basketball court as they move. • Remembering where the entrance in a large shopping mall is so you can return to the parking lot.	
Mind Bender [1,3,4]	In a task-switching paradigm, users make decisions on competing stimuli based on changing rules. The adaptive dimension is display exposure duration.	Cognitive flexibility, the ability to flexibly switch between rules, categories, or strategies in response to changing demands.	• Quickly switching from following GPS directions to taking a detour when you encounter road construction. • Substituting the ingredients in a recipe as needed based on availability. • Smoothly shifting from a work-related topic to a social topic when the context changes.	
Visual Sweeps [1]	In a time-order-judgement paradigm, two drifting gratings are presented and users indicate the direction of drift for each grating. The adaptive dimension is drift speed.	Visual speed, the ability to rapidly detect and process visual information to support accurate perception of motion and fast-changing environments.	• Quickly tracking the ball as it moves rapidly across the court during a tennis match. • While walking through a busy street, you process the entire scene quickly enough to avoid unexpected collisions. • When driving, you identify motion patterns in your peripheral vision that signal	

Assessment Name	Description	Cognitive Domain	Everyday Examples	Screenshot
			approaching vehicles.	
Face Facts [1]	Users remember a set of facts associated with a person. The adaptive dimension is set size (the number of person-factoid associations remembered).	Face-name associative memory, the ability to link a person's appearance with relevant facts or contextual details in order to recall them later.	• Remembering that the woman you just met at a social gathering is named Sarah and that she works as a teacher. • Linking a new colleague's face with the detail that he recently joined the finance department. • When bumping into a neighbor, recalling both their name and the fact that they own a golden retriever.	
Recognition [1]	Users select the face with the identity of a target face presented previously. The adaptive dimension is display exposure duration.	Face recognition, the ability to identify and distinguish between individuals based on facial features, even when contexts or conditions change.	• Spotting a friend in a crowded airport and recognizing them immediately despite the large number of people. • Distinguishing between two colleagues who look similar at work. • Recognizing your child's teacher outside of a school setting.	
Optic Flow [1]	In a visuomotor paradigm, users view a road scene and make rapid visual discriminations in the center of gaze while staying alert to potential hazards in the periphery. The adaptive dimension is display exposure duration.	Psychomotor speed, the ability to integrate sensory input with rapid motor responses in order to react efficiently to changing conditions.	• Quickly braking when another car suddenly swerves into your lane. • Reacting immediately to catch or avoid a ball that unexpectedly rolls toward you. • Coordinating your movements rapidly in response to a fast-changing game environment like soccer.	
Right Turn [1]	In a mental rotation paradigm, users report whether a set of images are identical or mirror-images. The adaptive dimension is display exposure duration.	Mental rotation, the ability to mentally visualize, manipulate, and compare objects or shapes in space.	• When assembling furniture, imagining how the pieces should fit together by rotating them in your mind. • Mentally flipping a jigsaw puzzle piece to see if it will fit in the correct spot. • Mentally rotating a map to align with the direction you are walking.	
Auditory Ace [1]	In an auditory n-back paradigm, users report whether the current stimulus matches the stimulus presented n steps earlier in the sequence. The adaptive dimension is set size (the number of n back).	Auditory executive function, the ability to update, monitor, and manipulate information held in auditory working memory.	• When listening to a phone number, keeping the digits in mind and updating them as the person corrects themselves. • Keeping track of your most recent steps ("turn left in two blocks, then take the second right") and updating your working memory as each new instruction is	

Assessment Name	Description	Cognitive Domain	Everyday Examples	Screenshot
			provided. ● Flexibly adapting your responses as the other person adds new details in a conversation.	
Card Shark [1]	In a visual n-back paradigm, users report whether the current stimulus matches the stimulus presented n steps earlier in the sequence. The adaptive dimension is set size (the number of n back).	Visual executive function, the ability to manage, monitor, and update visual information while adapting to changing task demands.	● Keeping track of where images appeared and adjusting accordingly as cards are turned over in a card game. ● Updating your strategy in response to rapidly changing visual cues on the screen while playing a video game. ● Visually monitoring each sentence and adjusting your focus when spotting inconsistencies while proofreading a document.	
Juggle Factor [1]	In a visual span paradigm, users report the order of highlighted discs as they spatiotemporally move in concentric rings. The adaptive dimension is set size (the number of discs remembered).	Visual memory span, the ability to hold and recall sequences of visual items in their correct order.	● Retaining the correct order of movements in a sequence of dance steps. ● Tracking the order of a set of cards being manipulated as a magician shuffles the deck. ● Recalling the order of ingredients shown in a recipe video without needing to replay it.	
Auditory Paired Associates [3,4]	In this associative memory paradigm, users recall the word that was associated with a cue during the learning phase. The adaptive dimension is set size (the number of word-pair associations).	Word-pair associative memory, the ability to form and retrieve links between words so that recalling one word cues retrieval of its pair.	● While learning a new language, you remember that the Spanish word “mesa” is paired with the English word “table.” ● In school, you recall paired vocabulary terms such as “photosynthesis” and “sunlight.” ● When introduced to a new game, you remember that a particular move is paired with a specific name or command.	
Pattern Detective [3,4]	Using a visual matrix reasoning paradigm, users are presented with an incomplete pattern and must choose the correct image from four available options. The adaptive dimension is pattern complexity.	Visual matrix reasoning, the ability to detect, analyze, and apply logical rules to complete or extend patterns in visual information.	● Recognizing and applying logical patterns to fill in the missing numbers in a Sudoku puzzle. ● Detecting visual trends in data graphs and predicting what should come next. ● Noticing patterns in tiled flooring and mentally completing the design if a section is missing.	

Assessment Name	**Description**	**Cognitive Domain**	**Everyday Examples**	**Screenshot**
GradCPT [5]	In a go/no-go paradigm, users remember a target image after which a continuous stream of targets and foils are interleaved with unequal probability. Users withhold a motor response to all non-targets. The adaptive dimension is sensitivity.	Sustained attention, the ability to maintain consistent vigilance over extended periods of time.	● Remaining vigilant and noticing when a car brakes suddenly ahead on a long highway. ● Monitoring a child playing at the park and staying attentive for safety. ● Maintaining concentration and catching errors while proofreading a long document.	