

Tools for human-screen interactions

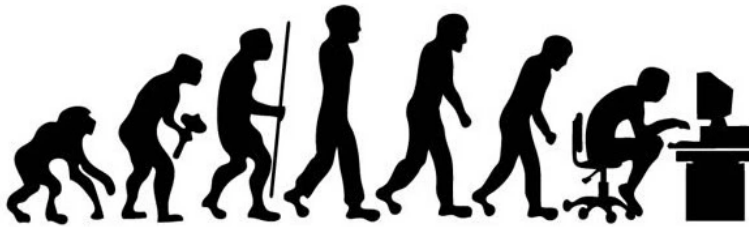
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Chapter 1

Screen adaptation theory



Context

Screens are a portal to information and to one another. Nearly 5 billion people as of 2022 use the internet. Treating screens and digital time only as a pathology neglects the inherent capacity for screens as a tool to promote higher levels of performance and novel approaches to problem solving. Mental models and the associated cognitive architecture that we frame conceptually to decision making is critical for better choices. The screen adaptation theory (SAT) is proposed herein as a heuristic to enable individuals to use evidence and structured thinking in approaching screen time decisions.

Screens are a place. Going to work, visiting friends, visiting the library, and many other key personal tasks and professional functions are done via screens. It can seem trivial, but labeling these choices, explicitly, provides a sense of coherence and purpose. Screens as a place also provides context and ecology. Adaptation is the sum of traits that an individual possesses or develops that promote survival or higher levels of relative performance without those traits. The goal must be to amplify and identify traits that mitigate the real costs of screens and tip the net sum to positive and higher levels of performance. Theory is a set of principles. Many discipline support screens as a place and

an adaptationist programme for screen time use. Source theory and scientific evidence depending the on specific context and choice.

Learning outcomes

1. Develop a new mental model for screen time.
2. Explore and track decisions associated with screen time.
3. Examine individual costs and benefits of screens.

Schedule

Here is an outline of the challenges proposed to explore these principles in this course.

challenge	focus	tasks
1	Screen adaptation theory	read screen adaptation theory, explore a few theories that support
2	Ten simple rules	test interventions, individually for your personal and professional
3	How to do nothing	explore liminal time and spaces to recharge and reframe how you

Citation

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Challenge time

Use Google Scholar and do a few search with screen time and for whatever personal challenge is most urgent. Screen time and memory or fatigue or focus or vision etc. Use the filter tool on the left to return hits from 2018 onwards.

Review slide deck for screen adaptation theory.

Read screen adaptation theory at Ideas in Ecology and Evolution.

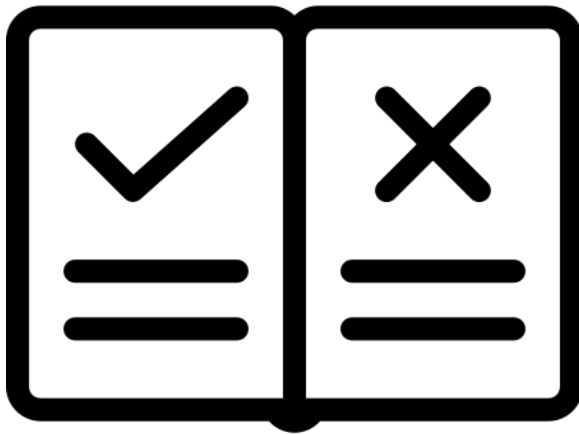
Track screen time use even cursorily. There are digital tools and functions included in the operating system of many devices. Or, go old school and have fun with it using a kitchen timer, stopwatch, or clock.

Reflection questions

1. Did any of the work associated with screen time resonate with your challenge? If so, did the evidence nudge or shift your model and thinking?
2. Do you use mental models for other dimensions of your life such as training, sleep, or performance? Does your employer or team adopt models for performance?
3. Did tracking confirm your assumptions on frequency and duration of screen time?

Chapter 2

Ten simple rules



Context

Rules help. Individually, simple rules can support emotional regulation and belief. Ten simple rules can be a magic number in science, and this format of paper has been an incredibly successful medium for best practices and sharing expertise. Make, use, plan, and use data were the most common themes in the first 100 papers of work in using this heuristic model published in PLOS Computational Biology. Ten simple rules for more objective decision-making is a compelling and relevant exemplar that supports structured decision making for screen time use. Break into smaller parts, mitigate bias, transparency, be-

ware cognitive dissonance are salient principles for screen time. Here, rules are proposed specific to screen time use using principles for simple rules including have ten, have a vision, and support with research as needed.

Rules

rule	focus	description
1	Set intention	state purpose for every screen time action; never fill time with screen
2	Track time	just a minute never happens; track time with some precision
3	Manage attention	attention and perception are intimately linked; be mindful of how you
4	Block work	label and block work, cognitive task switching is costly
5	Plan breaks	every 20 minutes, take 20 seconds to look 20 feet away
6	Weigh costs and benefits	Transparently assess the potential costs and benefits of a specific task
7	Include collaboration	Synchronous online interactions are more effective in most instances
8	Plan space	Real space matters; some spaces are conducive to deep work, others
9	Experiment	Experiment with your screen time and green time with physical activity
10	Set rules	Set rules for screen time use that work for you, your team, and your

Learning outcomes

1. Explore a checklist of tools or hacks from nature for performance.
2. Challenge your own absurdity and drives.
3. Develop a nature identity that includes active engagement with an outdoor pursuit or place.

Challenge time

1. Review this slide deck and attend discussion.
2. Read ‘The Little Prince’ short tale.
3. Read ‘The Little Prince is an ecologist’ comment paper.
4. Test your creativity using this short test.
5. Reflect on your scores and the radial plot and how connectedness can enhance some of the measures.

Reflection questions

1. Interactions are fundamental to all living organisms. To what extent does interaction theory, very broadly speaking, inform the ecology of your life?

2. Do you have an outdoor identity? If you could change this view, what would you innovate or augment for this self-vision? Even one mountain climbed makes you a climber. Or one bird spotted and identified a small step to becoming a birder.
3. Are there some of the nature hacks proposed (or new alternatives you envision) that can be used to restore, recharge, or rev up your creative performance and cognitive clarity?

Chapter 3

Do nothing



Context

Doing nothing is an active process. It is not easy to ‘do’ at all.

Learning outcomes

1. Explore some of the hacks suggested previously in this course of study.
2. Contrast at least three options for boosted performance from nature ninja thinking.

3. Develop a nature identity.

Challenge time

1. Practice passive ‘how low can you go’ outdoor time. Try for only 12mins total per day outside. Sit outside to recover, and apply a diffuse focus to natural observation.
2. Download iNaturalist app. For one week, identify a single plant, bird, or other animal daily. Alternatively, download any nature ID app such as PictureThis. Do the identifications and just keep track yourself in a notebook.
3. Explore green exercise. Take a meeting outside and walk, take a call outside, walk somewhere new a few times a week, do a short run, jog for 12 mins only, or stretch outside.
4. Read the paper ‘Understanding the transformative aspects of the Wilderness and Protected Lands experience upon human health’. Reflect on small or large changes in how you select where you go or where you engage with natural space. It does not have to be a park or pristine protected area. It has to be special only to you. There is excellent evidence that any space that you call your ‘own’ and feel connectedness to enhances health.
5. Retake this creativity test or try the thirty-circles test, outside with a clipboard, and show the outcome to someone else for fun feedback.

Reflection questions

1. Was there a category of outdoor interaction that most suited your needs and was more easily reconciled with existing routines? Passive recovery time, active natural observation, or green exercise (instead of some of the time you might allocate to the gym or other workout times).
2. Did an identity such as birder, walker, open-air thinker, outdoor meeting person, plant lover, or outdoor reflection seem like a good fit?
3. What impediments or frictions long-term will present challenges to nature ninja hacks - at the fine-grain resolution of daily experiential boosts?
4. Given the evidence presented previously for reciprocal restoration benefits and feedback loops between people and natural systems when we ‘fix up’ nature, how can you consider taking outdoor experiential interactions to this next level? This would not be at the daily level but instead include monthly park or beach cleanups, native planting, weed removal, tending your plants indoors or outdoors weekly, or other processes that demon-

strate and affirm benefits to both systems - you and the other natural systems.