Inclusive Design for Cognition:
Case Studies

Stories that bring cognitive inclusion to life.

Introduction

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Diversity fuels innovation

Some of the greatest inventions of our time have come from humans adapting to overcome exclusion.

Pelligrino Turri created the typewriter to communicate with a lover who was blind. Deaf actor Emerson Romero made the first captions for film. Each of these stories have something in common: they were all born from a constraint or mismatch, and then distributed at scale.

01

Unlocking new ideas

Product

Microsoft Developer Tools - Visual Studio Intellicode

Scenario

A team focused on developer tools had two big questions. How might we balance discoverability with an interruption? How might suggestions be presented to developers in the most helpful way?

Key insight

The product team used inclusive design principles to work with existing users, understand motivations, and identify the primary type of cognitive demand encountered by these users, Focus. (These users were individuals with and without ADHD that have trouble focusing). This was a new way of working and a shift from recruiting developers who code with X language or have Y background.

Focus
The UX's many intrusive qualities within the tool made it hard to support concentration

■   The code suggestions appear too fast automatically.

■   The hint bar took a lot of work to find.

Solution & impact

Co-designing with users, the team developed a feature to give more control to when intelligent suggestions surfaced providing a less cognitive heavy experience.

- Improvements to "inline code insertion suggestions" led to a 3.5x increase in regular users of the feature.

- Testing on the enhanced "inline single-line code change suggestions" experience led to a 176% increase in code change suggestions accepted by users and a 29% increase in regular users.

02

Shipping features that matter

Product

Focus across Outlook and Windows

Scenario

The tools employees use to manage their time—like Outlook and Windows—are optimized for connecting with others rather than carving out deep-focus time for work.

Interruptions, on average, occur every three minutes and can take twenty-four minutes to cognitively recover from. These distractions are increasing in our hybrid-work world, and the inability to make focus a priority to make progress is negatively impacting productivity, mental health, and our ability to achieve more.

Key insight

After meeting with customers to understand their motivations and identify the primary cognitive demands they encounter when creating their schedules, they found that people with and without anxiety struggle with focus and recall.

When working in Windows, constant messaging and other reminders make it difficult to stay on track and make progress, which negatively impacts morale and makes them feel less in control of their time in and out of their working day.

Focus

- Non-urgent interruptions and messages from others are distracting.

- People struggle with understanding and establishing boundaries, or cross-app integration, when in a focus session. Specifically, when booking a focus session in Outlook, Windows had no connection to help users achieve during that focus time.

  In our research, users wanted cross-app understanding and respect of their focus time.

- Inability to customize the Windows OS experience for unique needs and preferences (timers, music, breaks) makes it harder to get work done.

Recall

■ Minimal or no preparation for a focus session (notes or to-do tasks) made it more difficult to orient and get started during focus time.

■ People need reminders to prioritize focus during the day.

Solution & impact

The team developed new features and functionalities to reduce distractions, encourage focus time, and improve recall when context-switching between meetings and work.

These improvements helped people customize their schedules and workflows, allowing them to feel more in control of their work and their time. Specifically:

- Updated visual aesthetics for focus events reduced anxiety around having back-to-back blocks on their calendars. Reminders helped people recall they'd dedicated this time to focus on specific tasks between meetings.

- Delayed notifications throughout a focus session improved productivity, and the ability to customize "breakthrough messages" ensured urgent messages were not missed

03

Ideation across industries

Product

Whitestar Real Estate Management App

Scenario

Whitestar needed to create a new app to replace outdated and isolated digital tools and processes.

The app is required to process data from various sources like banks, government entities, and real estate owners. Some of that data was highly structured, and some not at all. But all of it needed to be integrated quickly to provide fast due diligence of prospective properties, support bidding situations, and allow efficient data entry and verification.

Existing processes didn't allow employees to quickly gather and enter data to support real-time efforts like simultaneous property bids or critical information for property managers overseeing as many as thirty properties.

Key insight

The consulting team used Microsoft's Inclusive Design Principles to understand motivations and determine the types of cognitive demands their employees encounter. They discovered that focus and recall are the top two concerns impacting productivity.

Focus

- Interruptions from customer calls and newly obtained documents.

- Multitasking during high-stress bidding periods and extended working hours.

- Poor PC performance on critical tasks, resulting in too much time for completion or frequent crashes.

Recall

- No way to easily document information from phone calls or customer conversations.

- No consistent file storage locations and systems.

- No way to track and inform the team of decisions made by phone.

Solution & impact

The team developed an app with features and functionalities to address these distractions, enable focus, and reduce the need to context switch.

Tracking tools and data sharing allowed their employees to spend less time and effort memorizing and more time on their jobs to be done, and wellness. Specifically:

- An in-app task manager showing all upcoming work (including work split across the team) helped employees keep track of the work to be done.

- Text recognition to extract data from unstructured documents saved time on tedious tasks.

- Work tracking to recall recent documents and pick up where you left off and in-app notes and comments allowed employees to use their time more productively.

- Data entry tracking and sharing, automatic state saving, and AI-supported, cloud-based rapid calculation capability.

The result was an app that enabled greater Focus by reducing interruptions and the need for context-switching between incompatible data sources.

In addition, tracking tools and data sharing allowed employees to spend less effort on memorization and more time on the things that brought the most value to the company and themselves.

We want to hear how you're using Microsoft's Inclusive Design for Cognition Toolkit, and the impact it's had on your business and customers.

Share your stories with
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