I2.03 Neurodiversity AId

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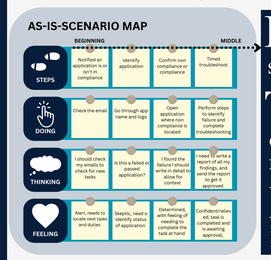
NEURODIVERSITY AI

BACKGROUND & DEFINITIONS

Neurodiversity, often used in the context of autism spectrum disorder (ASD), as well as other neurological or developmental conditions, describes the idea that people experience and interact with the world around them in different ways. These differences are not viewed as deficits. It is important for workplaces to foster an environment that is conducive to neurodiversity, and to recognize and emphasize each person's individual strengths and talents while also providing support for their differences and needs. Since approaches to interventions cannot be one-size-fits-all, generative AI may offer solutions to improve NDIs overall performance.

PROBLEM STATEMENT

NDI in the technology enterprise encounters communication, focus performance challenges and experiences anxiety while processing an application in non-compliance procedure. With the help of different integrated Generative AI tools, NDI may overcome the challenges faced.



IF Prototype is further developed and is integrated to NDI user enterprise working system with the appropriate consent.

THEN NDI user's task management, communication in groups, and overall mental health would be improved, resulting in a more productive team member.

ELSE Status quo is maintained and user is responsible for task without AI tools leaving challenges unattended.

PURPOSE

Inclusive Innovation: Allows for taking advantage of talent

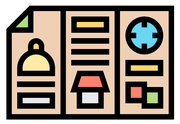
Communication As Innovation: Extracting ideas from diverse minds

Enhancing Human-Machine Interactions: Inclusion of neurodiverse individuals

Positive Impact: Improving NDIs lives through AI interactions

Transformational Potential: Impact on NDI with Generative AI Utilization

OBJECTIVES



Literature Review Poster

Interview Report of NDIs (Autism)

Prototype Interface For Further Evaluation

DELIVERABLES

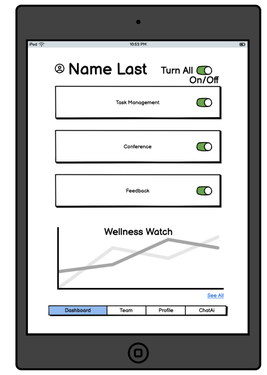
Literature Review & Poster

- Literature research review paper submission for the IISE Annual Conference & EXPO 2024 in Montreal, Canada, accepted.
- Literature review poster for presentation during IISE conference or any other conventions including SXSW and Human Factos

Interview Progress Report

- Approved IRB
- Defined interview questions
- Interview recruitment in progress with digital flyer distribution
- Qualtrics pre-eliminary survey active

Prototype Interface for Further Development

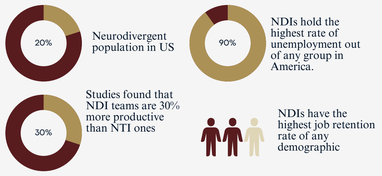


- Prototype interface with 3 targeted plugin modes
- Mode 1 uses *motion task management AI*, to generate organized schedules.
- Mode 2 uses *Poised AI tool* to communicate effectively
- Mode 3 uses *aiberry* for comprehensive screening of five major anxiety disorders

METHODOLOGY

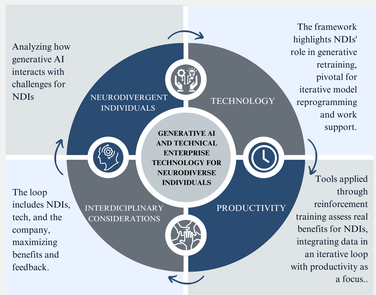
Problem Definition

- Conduct a Design Thinking Workshop to identify challenges.
- Formulate a clear problem statement.



- Despite advancements in workplace technology, individuals with neurodevelopmental disorders (NDIs) face significant challenges in navigating digital interfaces effectively.
- Conditions such as autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), dyslexia, and others affect approximately 20% of the population.
- Existing interfaces often lack the flexibility and customization needed to accommodate their unique needs.
- This leads to barriers in communication, task management, and emotional well-being.

Literature Review



This iterative loop methodology integrates tools through reinforcement training, assessing benefits for NDIs while emphasizing productivity as a key factor.

- Identified existing research
- Understanding of NDI challenges
- Highlighting gaps
- Initiating design decisions

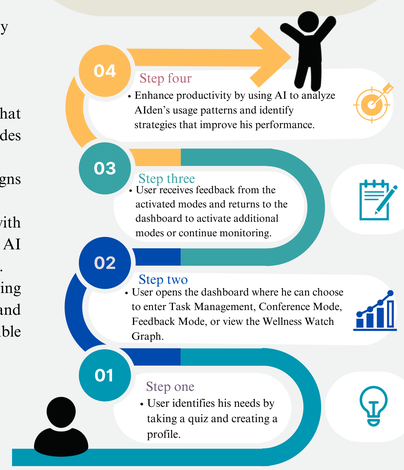
User Research

- Review existing literature on neurodiversity and AI technologies.
- Identify a prototype user interface solution.

AI tools are designed to address challenges faced by neurodiverse individuals and enhance their productivity

Grammarly: AI-powered writing assistant that identifies writing styles, corrects errors, and provides suggestions.
DALL·E: AI tool for generating images and designs based on textual descriptions.
Notion: Integrated workspace platform with customizable layouts and organization, including AI features like Notion AI for personalized assistance.
Poised: AI-powered assistant for meetings, offering personalized suggestions, real-time feedback, and progress tracking. It provides private feedback visible only to the user.

AIden's Interface Guide: Designed for AIden, an individual with autism in a tech enterprise, this dashboard prototype offers task management, conference mode, feedback mode, and a wellness watch graph. AIden can activate modes addressing specific challenges like anxiety monitoring, communication support, and emotional guidance. Utilizing AI and real-time monitoring, the dashboard enhances AIden's well-being and productivity at work.



DALL·E poised aiberry

HUMAN FACTORS

To improve and enhance the lives of users, including those struggling with generative AI, our goal is to create a product ensuring utmost comfort and usability in both preliminary and final designs.

- **Paper Writing:**
  - Appropriate language within literature paper.
- **Interviews:**
  - Voluntary interviews with NDIs.
  - Anonymity, full disclosure, and contractual agreements to ensure ethical conduct.
- **Product Design:**
  - Empathy map
  - As-is scenario Map
  - Impact vs Feasibility map to prioritize unknowns
  - Big ideas selection
- **Human Computer Interaction:**
  - User feedback implementation.

Impact - Feasibility Chart