# Determined Mail: Your Everyday Email Sight

Group TBD

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# Quick Overview of Determined Mail

Determined Mail is a new email service (a redesigned Gmail) that aims to be more clean, more organized, and less text based than existing email services.

## The Problem We Hope to Solve

Gmail's interface appears to lack consideration towards people with dyslexia and other sight/language-based disabilities.

Dyslexia is a disorder in which reading is difficult due to problems with identifying speech sounds and learning how speech sounds relate to letters and words. When it comes to web-development, there are many ways to make sure that the content and design is accessible to users with dyslexia and other sight/language-based disabilities. Unfortunately, Gmail's interface still lacks such accessibility features.

## Why is the Problem Important?

Email is the most important form of communication in the professional world now. Without email, it is nearly impossible to get a job and equally difficult to keep up in the workplace. However, those with sight/language based disabilities struggle with email. Because of the large amount of text on screen, with few visual aids, those with sight/language-based disabilities struggle to parse the information. Beyond the issues of reading the text itself, it is often difficult for those with dyslexia to keep their place on the page because of the packed format of gmail. It is estimated that 1 in 10 people have some form of dyslexia, meaning that these barriers affect a large segment of the population.

## High Level Overview of solution

Our solution to the problem defined above is to redesign Gmail into our new email service, Determined Mail. Our design will be based on both the previous research that has been done regarding website users with dyslexia as well as the results from our survey (both described in detail below).

Determined Email will be an email service with less formatting options due to the fact that we want our service to be held to accessibility standards for users with dyslexia and other sight / language disorders. The only font options will be Sans Serif fonts, there will be no italics option, and the text will have larger margins to make sure that the text doesn't get too wide. In addition, there will be more space in between lines of text to increase readability of the text. Lastly, the font size has to be a minimum of 14pt to make sure that the text is never too small.

The inbox view of Determined Email will be almost entirely image / icon based rather than text based. In the inbox, each email will be the profile icon of the user who sent the email and a small section of the subject line. This is in contrast to the crowded text that exists within the Gmail box where the sender's name, email address, subject line, and beginning of the email are all included.

# Target Users

## Our Target Users

We aim to specifically help design our email service for people with dyslexia or people with other language / sight based disabilities.

## Not our Target Users

We are not focused on people without issues reading large amounts of text. However, we hope that our email service will improve all users' experiences when utilizing email.

## Why this User Group is Appropriate

This user group is appropriate because email services tend to neglect accessibility features for these groups of people in their design. We hope to resolve this issue by designing our service specifically with these users in mind.

## User Personas

<table>
<tr><td rowspan="3">  </td><td>Jon</td></tr>
<tr><td>Jon has dyslexia. He is a current college student who receives many of his assignments through email. He is always very busy as he is taking 18 units, is in many clubs on campus, and he is TA. As a result, he is often checking his email on the go. He mostly uses his mobile phone to check his email, but he also carries a laptop with him most of the time, so he checks his email on both his phone and his laptop.</td></tr>
<tr><td>User Type: Promotor</td></tr>
</table>

<table>
<tr><td rowspan="3">  </td><td>Daryl</td></tr>
<tr><td>Daryl does not have dyslexia, but she does have a different sight disability (not officially diagnosed). She works full time as a lawyer at a corporate office. Thus, checking her email is extremely important. She is at her office 5 days a week, 8 hours a day, so she mostly checks her email on a desktop computer. However, sometimes she needs to keep up to date on whether or not there is anything urgent going on over the weekend. Daryl also has two young children, so she needs to be able to check her email quickly on the go when she is at home.</td></tr>
<tr><td>User Type: Promoter</td></tr>
<tr><td rowspan="3">  </td><td>Carlie</td></tr>
<tr><td>Carlie has dyslexia. She just began middle school, so she also just started using email since her teachers want them to communicate through email. Carlie is still learning how to go about using email. At Carlie’s school, all of the students receive iPads that they can take home with them, so more often than not, Carlie is checking her email on an iPad.</td></tr>
<tr><td>User Type: Promotor</td></tr>
<tr><td rowspan="3">  </td><td>Dr. Zink</td></tr>
<tr><td>Dr. Zink is a professor in the Business school at Loyola Marymount University. He is also the director of the Honors Program at LMU. As a result, he is on his email almost all of the time. He does not have dyslexia or any sight / language based disability. However, Dr. Zink is often checking his email while on the go and in a hurry, thus he needs a more organized inbox.</td></tr>
<tr><td>User Type: Defender</td></tr>
</table>

# Background

## Current Research

- In 2004, the UK's Digital Rights Commission attempted to study the usability and accessibility among blind, partially sighted, dyslexic users. The participants (50) completed two tasks on different websites. The common issues people with dyslexia experienced are included below (Disability Rights Commission, 2004).
    - Confusing page layout
    - Confusing navigation
    - Color selections
    - Small text and graphics
    - Complicated language

- In 2005, Jakob Nielsen, a web usability consultant who holds a Ph.D. in human-computer interaction, did a study on how low-literacy readers experience websites. From the results of his study, Nielsen made a few recommendations on designing for users with dyslexia. His recommendations are laid out below (Nielsen, 2008).
    - Making Text Size Selectable
    - Using Sans Serif Fonts
    - Using Colors to Highlight Important Information

- A 2009 study by —--- examines existing research that looks at dyslexia and web accessibility. In their conclusion, they explain that most accessibility efforts in tech tend to focus on blind and visually impaired users. However, they also discuss the fact that within these efforts, little has been done to address users with dyslexia. They also claim that there is a great deal of evidence that websites that forgo accessibility features for users with dyslexia can have impacts on the esteem and success of both dyslexic users and non-dyslexic users (McCarthy & Swierenga, 2009).

## Interpretive evaluation of existing interface

Gmail allows for customization of its interface (typeface options, size of text, etc.), but the settings are text-heavy and can be overwhelming to navigate. For example, below some settings options there is a brief parenthetical description which would be unnecessary if the icon and title representing the setting were clearer. Consequently, the learning curve for Gmail encompasses not only navigation, but also familiarizing oneself with the terms. If a user wants to alter something about their Gmail interface, but is then

stumped by the terminology they may choose a setting that makes the interface more confusing than before or give up and not change their settings.

### Existing Solutions to the Problem

- Sans serif typefaces (e.g. Arial) are easier to read for those with dyslexia. There is a sans serif typeface called “OpenDyslexic” that also reduces the letter spacing and increases word spacing and increases readability for those with dyslexia.
- There are apps that “speak your email” inbox. They will read your emails to you and are even able to detect and avoid cluttered areas of emails (ex: signatures) so that the email is read to you as it is meant to be read.
    - One such app is called Speaking Email. This app does all that is listed above, but it also includes the ability to skip reading out emails with voice commands. You can action your email by voice command, such as flag, archive, trash, etc. It also allows you to compose emails that can be read back before sent. The speed of speaking can be changed at any time with a simple command of “faster” or “slower”.

# User Analysis

### Strategy of Gathering User Data

Due to the impacts of COVID-19, our team found that employing the strategy of utilizing a questionnaire would be more effective than conducting interviews. In addition, because our team lacks the resources to specifically find people who may be dyslexic, using a questionnaire allowed us to reach a wider audience that included people who have dyslexia and other sight / language based disabilities.

Our questionnaire consisted of three parts:

1. Use of Gmail - does the respondent utilize Gmail?
2. Dyslexia or Other Sight / Language based disabilities - does the respondent have dyslexia or a sight / language based disability
3. Readability of Gmail - a 16-item measure of whether or not Gmail is readable / easy to navigate

### Demographic Information

Demographic information, beyond disability, was not gathered in the questionnaire. The reasoning was two fold. First, we wanted to ensure that the data we did collect was as accurate as possible. When participants have to divulge their information, they tend to

feel scrutinized more, even when the survey is anonymous. And, because of the stigma around neurodivergence, this perception could lead to participants lying or otherwise skewing the data.

Second, if the questionnaire is longer, fewer participants would be able or willing to finish it. While this effect is normal in questionnaires, it is especially important when surveying those with reading or sight disabilities. Since we are specifically trying to study those with reading or sign disabilities, a questionnaire that is difficult for them to complete is counterintuitive. Ideally, we would interview participants in person, but as mentioned this was not a possibility in the timeframe given. Therefore, we elected to simplify the survey as much as possible by removing questions that were not essential to our design.

Despite this, it is likely that the results came mostly from direct connections to our team members: friends, family, and acquaintances. Our timeline for distribution of the survey was limited, so we had to prioritize the quantity of results over a large, diverse spread. Moreover, without the ability to meet in person, we were limited to our online circles. From this, we can infer that the majority of participants will fall within similar demographics to ourselves. Likely, then, they are college educated young adults or college students living in a major urban area. From this inference, we can further conclude that those taking our survey were able to overcome the challenges presented by a reading or sight disability to reach the college level.

## What We Learned

After looking at the results / responses from our questionnaire, we see that some people who have dyslexia and other sight / language based disabilities appear to have been able to adapt to the way Gmail has been designed in such a way that they are able to get tasks done. However, for those who have been able to adapt, they still find parts of Gmail's design to be difficult. For example, many of our respondents who self-identified as having dyslexia or other sight / language based disorders still feel as if the inbox view is extremely cluttered (even if they have organized their inbox). These respondents also struggle with the amount of text in the Gmail inbox view, and the colors of the Gmail inbox make it hard for them to easily see what is going on.

In addition, one interesting finding was that many of our respondents who self-identified as not having any sight / language based disabilities also had trouble with Gmail's design. For instance, many respondents feel that their Gmail inbox is hard to organize. They also think that there are too many words and not enough pictures or icons within Gmail.

# Task Analysis

## Mobile Users

Mobile users are typically in a hurry or multitasking and need to check their inboxes within a few minutes. The user is interacting with a touch screen that's about 4-6 inches long diagonally. In some cases, they may be checking their phone while walking, so the text needs to be readable with clear cues about what is in the inbox. Users will be of all ages, but their age range may affect their setting. For example, some users are young adults and checking their emails while at parties, out with friends, etc. Another age group will include parents who are checking their emails briefly after dropping their kid(s) off at school or in the middle of parent-teacher conferences. Age groups and their professions/identities will intersect, so the interface will need to accomodate for all circumstances.

## Desktop Users

By definition, desktop users will be at a desk, either with a laptop or desktop computer, and possibly an extra monitor. These users will have allotted productivity time and can be more thorough while reading through their inbox. Desktop interfaces may have more on-screen information than the mobile interface, because of increased screen size and time spent on their email service. Since desktop users will be spending more time at their computers, we need to take into account mind wandering, so the interface needs to provide cues and direction about what the user is doing/needs to do.

## Task environment characteristics

As an email service, our product needs to be available in any location on any device. Therefore, determining a given environment is difficult. Physically, the user could be anywhere. For the software environment, most users access their email via web browser or mobile app. For those on the web browser, the most common web browsers are Chrome, Safari, Firefox, and Microsoft Edge. On the mobile side, the app would have to be developed in-house for both Android and Apple operating systems. Since the product is primarily the UI design, an API is unnecessary.

Since the user can access the product from any location, we must design for the worst possible location / scenario. Designing for sight / language based disabilities entails designing for the worst possible location in terms of being able to see the email service. A physical environment with glare, erratic, strong ambient lights, high sound level, and many distractions is, therefore, our design environment. If the user is able to use the app in that situation, they can use it anywhere. Based on those characteristics, we decided to

design for a user who could be attending a large rave/concert, who is checking their email on a small screen like a phone.

## Simple structured task analysis

1. Create email
    a. Click ‘New Message’ (various names, in gmail ‘Compose’)
    b. Type email recipient(s)
    c. If CC/BCC, click CC/BCC and add names
    d. Type subject
    e. Type body
    f. Hit send
2. Read email
    a. Click on email from inbox
    b. Scroll
        i. Click and hold scroll bar
3. Archive email
    a. Open email by clicking on email in inbox
    b. Click on the archive button. On gmail, itis a box with a downward arrow
4. Delete email
    a. Open email by clicking on email in inbox
    b. Hit trash can
5. Put in folder
    a. Open email by clicking on email in inbox
    b. Click Move To icon (On Gmail, folder with sideways arrow)
    c. Select folder from list

    d. OR
    e. Select email with box next to it in box
    f. GOTO b-c
6. Snooze
    a. Open email by clicking on email in inbox
    b. Hit snooze button (on Gmail, clock icon)
    c. Select time
    d. OR
    e. Click ‘pick time and date’
    f. Click day, type time in calendar view popup

# Works Cited

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Nielsen, J.: Lower-literacy users. In: Jakob Nielsen's Alertbox. http://www.useit.com/alertbox/20050314.html (2005). Accessed 29 Sept 2008.