
Rethinking Consumer Email: The Research Process for Yahoo Mail 6

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Abstract

This case study follows the research process of rethinking the design and functionality of a personal email client, Yahoo Mail. Over three years, we changed the focus of the product from composing emails towards automatically organizing specific categories of business to consumer email (such as deals, receipts, and travel) and creating experiences unique to each category. To achieve this, we employed iterative user research with over 1,500 in-person interviews in six countries and surveys to many thousands of people around the world. This research process culminated in the launch of Yahoo Mail 6.0 for iOS and Android devices in the fall of 2019.

Author Keywords

Email; Research Process; Mobile; User Experience.

CSS Concepts

• **Information systems~Email** • Human-centered computing~User studies • Human-centered computing~User centered design

Introduction

The use cases for consumer email are very different than the use cases for an enterprise email service. Personal email accounts are used to receive deals, receipts, travel bookings, concert tickets, and to interact with businesses, and are rarely used for

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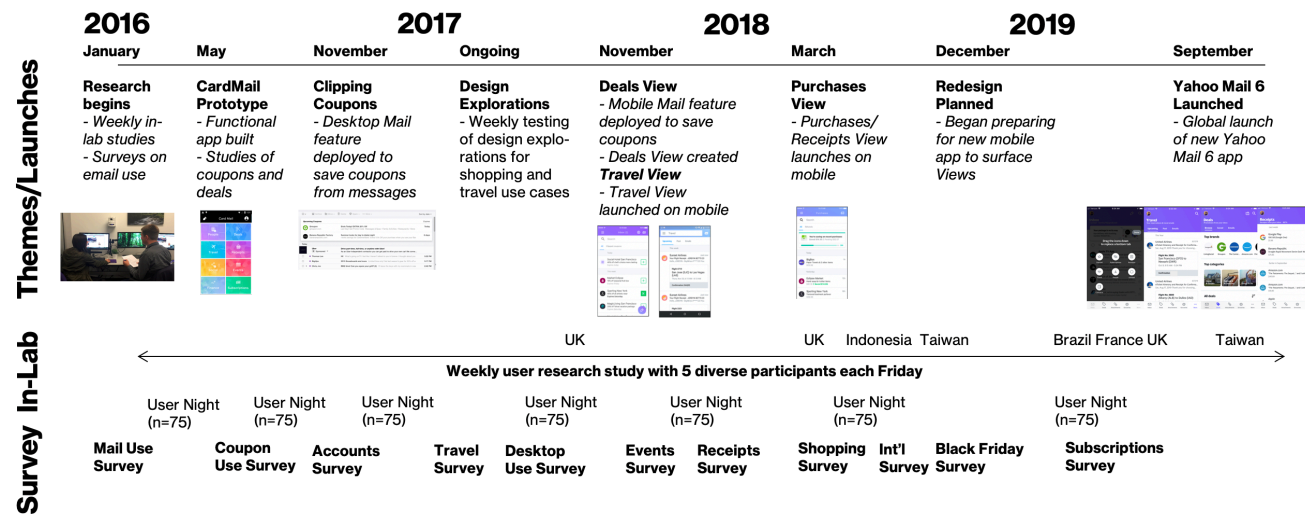


Figure 1: Timeline of Yahoo Mail research leading to the launch of Yahoo Mail 6

person-to-person messages. [1] However the design of personal email applications continues to mirror their enterprise counterparts, with a heavy focus on composing messages, replying, and manual organization into folders.

In 2016, we set out on a research agenda to better understand the use cases of personal email. This process involved weekly in-lab sessions (1-1 interviews with 5 diverse users each week) for three years, dozens of surveys sent out to representative samples of people in a variety of countries, multiple large-scale “user nights” with 75 employees meeting 1-1 with 75 users, and the launching and evaluation of multiple features in desktop and mobile email applications to test hypotheses before arriving at the final application. This

research culminated in the Yahoo Mail app version 6.0, which is a major restructuring of email around the types of content that people receive (deals, receipts, travel itineraries, documents, photos, etc.).

This case study will explore our research process, iterative design and testing method, and key findings that led us to this new way to interact with personal email content.

Defining the Opportunity

When we started in January, 2016 we wanted to more fully understand the role that personal email was playing in the lives of a diverse group of Americans. We knew that the number of emails that an average user

CHI 2017

Launched 2019

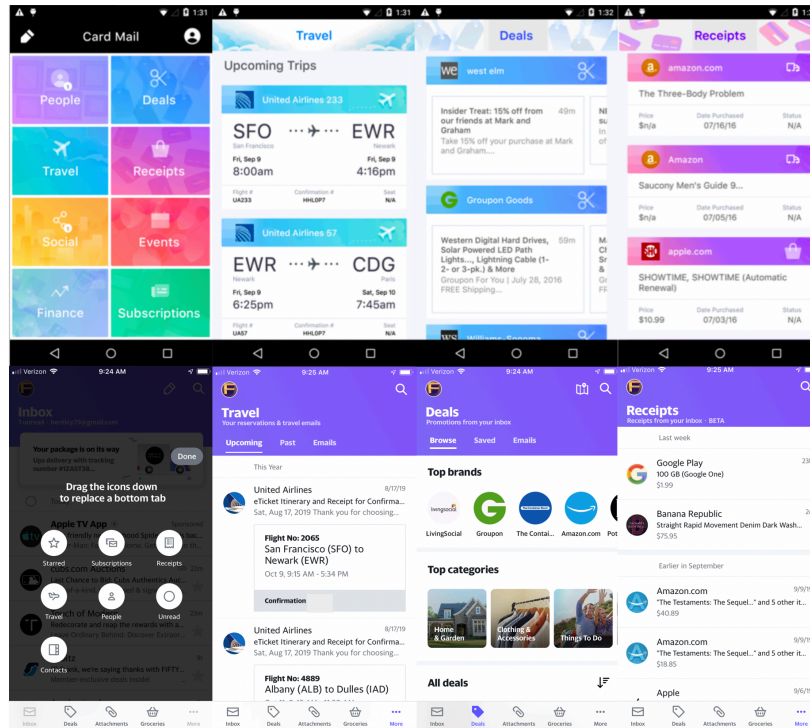


Figure 2: Our CardMail prototype from [1] and the Yahoo Mail 6 application launched in 2019.

composed was decreasing, but users kept coming back to email frequently. What were they doing?

This research began with weekly, in-lab interviews 1-1 with five users each week. These interviews explored the types of content that users received in their inboxes, as well as what types of email they opened and emails that they saw as “important.” As detailed in [1], we learned that coupons and deals made up the

majority of messages received, and that these messages were often quite useful for our participants. Through this process we also found other types of emails that users found valuable, including receipts, travel itineraries, event tickets, and financial information such as bills.

In order to check to see if this held in the broader population, we began a series of surveys to representative samples of Americans, fielded through online panels, to see how they used email, guided by themes from the interview data. We found that 65% of Americans had used a deal from their email in the past two weeks, highlighting the need for solutions that made this process easier, given the large volume of emails in most users’ accounts.

An internal Hack Day event at Yahoo provided the opportunity to create a solution for these needs. Together, a team of researchers and designers created CardMail (as shown in Figure 2), a functional prototype that would separate out email based on type, and provide experiences for email in particular categories. For example, the Travel section showed flight and hotel information in the order that it would occur, not the order the emails were received. A Deals section showed all promotions that a user received, grouped by company. This functional app was then tested in weekly user research in California, Chicago, and rural Illinois with 15 diverse external users and their account data. Users found this functionality “an easier way to sort through email” saying “if you’re looking for a deal, you just go there. You can find things quicker.” This feedback gave us the validation to continue to pursue this line of work in designing experiences for particular types of email content.

The Role of Iterative Research

Over the next few years, we worked iteratively to realize this vision. Throughout this process, we ran weekly design and research sprints with studies in the lab each Friday with five participants. These weekly studies were conducted in 14 cities in six countries. Each week, a meeting would be held on Monday to review findings from the previous Friday's study (which were also emailed to the entire organization) and to share recommendations for the next design iteration. Designers would work until Wednesday on updates to their designs, and create prototypes on Thursday to be used in the study on Friday. Several checkpoints were set up during the week for design reviews and sharing between the design and research team, who were co-located in the same floor of the office for more informal sharing throughout the week.

During this time, we implemented and launched many features that helped to organize email based on categories. This process was fairly slow, as the technology to understand and parse specific categories of messages out of billions of messages per day was being developed and refined throughout this time. As shown in Figure 1, we began by creating an interface in Desktop Webmail for saving coupon-related messages to the top of the inbox. This allowed us to work sender by sender to develop methods to identify deal emails and extract relevant information such as expiration dates and descriptions of the deal.

We then moved to create dedicated Views in the mobile app for Deals and Travel. Through 12 weeks of iterative design, prototyping, and evaluation in the lab we settled on the design that was implemented. This was

followed by a Purchases view to show receipts from online transactions.

Finally, in December 2018 we decided to move these Views front and center and create a new version of Yahoo Mail for mobile devices, Yahoo Mail version 6.0. Through three months of weekly iterative testing of design prototypes, we arrived at a design that users understood and found to be useful. We then tested live builds of this design for another six months as we approached the release so that users could see their actual content in the app. Each week, dozens of recommendations were made to improve the design, content extraction quality, or other technical or interaction aspects of the experience until we were satisfied that it was ready for launch.

Mixing Qual with Quant

Along this process, we checked findings that we observed in the lab with a series of over a dozen surveys that were deployed to representative samples of Americans or other targeted countries. In these surveys, we sized findings from our qualitative work – for example exploring the percent of users who received coupons or deals in their email, travel behaviors, how people use the receipts that they get in their email, how email is used on Black Friday, and what people subscribe to in email compared to Facebook or Instagram.

These surveys gave us greater insight into broader population-level behaviors. For example, we found that 65% of Americans had actually used a coupon from their email in the past two weeks. Or that the most

	United States	UK	India	Indonesia	Canada	Australia	Brazil	France
Viewing a receipt from a purchase	80%	75%	82%	76%	73%	74%	86%	72%
Receiving deals or offers from stores	78%	77%	73%	69%	82%	79%	81%	77%
Registering for online accounts (e.g. Facebook, LinkedIn, etc.)	76%	69%	85%	86%	72%	70%	79%	57%
Sending files between phone and computer	61%	53%	63%	76%	53%	63%	76%	65%
Writing to a friend or family member	63%	68%	64%	39%	80%	67%	52%	71%
Applying to a job	65%	52%	67%	78%	54%	58%	66%	56%
Communicating with the government	57%	59%	72%	47%	64%	67%	47%	73%
Getting tickets to events	57%	57%	67%	73%	55%	58%	47%	56%
Communicating with a school	41%	33%	54%	41%	40%	36%	56%	44%
Getting updates from friends on social networks	41%	44%	38%	31%	52%	46%	42%	50%
Communicating with a doctor/nurse	43%	36%	41%	31%	41%	37%	34%	47%

Table 1: Uses of email across countries.

common reason that people looked at receipts in their email was to track a package, followed by wanting to make a return. These surveys gave us important insights as we created the Views to make sure that they were relevant for the largest use cases for the largest number of people.

In addition, we looked into product analytics, such as open rates for particular senders in certain categories (e.g. restaurant deal emails, receipts, etc.) and the composition of inboxes [2]. We found that over half of the messages that people receive are related to commerce (coupons, deals, receipts, etc.), highlighting the need for solutions in this area. Travel was also a common category, supporting the creation of a dedicated View in this area.

Our marketing and consumer insights team held a number of focus groups during this time to test key positioning and marketing. Strong findings from this work were that a focus on organizing email and helping people manage the chaos in their inboxes (e.g. through unsubscribe) were positions that large segments of the population reacted positively to.

User Nights

Another activity that was performed regularly throughout this process was User Nights. These events paired 75 employees (designers, engineers, product managers, marketers, etc.) from the product team one-on-one with 75 external users who visited the campus in the evening for one hour. Employees were able to see their features in action with real users and real user data. This allowed us to rapidly collect detailed feedback from many real users on systems that were not yet released.

In particular, the final user night before launching the updated Yahoo Mail app was able to identify several significant issues in the design and performance of the app on a variety of Android handsets that we did not have access to. We were also able to identify issues in the automatic email classification and extraction prior to launch. In addition to the purely practical outcomes of these nights, it served to make the entire engineering and product team aware of our research activities and the benefits of regularly listening to users.

Global Research

Yahoo Mail is a global product, with the majority of its users outside of the United States. We conducted several studies to explore email use in a variety of countries as well as ran in-lab studies of the new Yahoo Mail app in five countries prior to launch.

We first wanted to validate that the main themes from US research were valid in other countries. We deployed a survey to existing Yahoo Mail users in eight countries,

with a total of 4,271 responses. One question asked about uses of personal email accounts. As shown in Table 1, in all countries surveyed, the use of email for Receipts, Deals, and Subscriptions/Registrations on other websites were primary uses of personal email accounts. This strengthened our confidence that our proposed solution could work globally.

In addition to surveys, we conducted on the ground exploratory research in the UK, France, Indonesia, Taiwan, and Brazil to see the inboxes of users first-hand and have discussions with them about their frustrations with personal email and our proposed solutions. Here, we discovered specific cultural aspects of email use in different countries, and how items such as deals or receipts are acquired and used in different regions. This helped us to prioritize which Views we would launch in different countries and identify changes needed to localize the functionality of each View for particular countries. The timeline of these studies can be seen in Figure 1.

Discussion

Getting to Yahoo Mail 6.0 was a long process, but one where users were included at every step of the process. Our weekly iterative research sessions allowed quick feedback on each new concept from designers every week, so that after a few weeks we'd arrive at a design that was both understandable and seen to be solving real needs of our users. This allowed us to work at the cadence of the product team's weekly sprints and iterate quickly to solutions we felt comfortable would be worth the engineering effort required to create.

Performing research on the ground in a variety of cities and countries allowed us to understand regional

differences. Some regions have different types of stores, or different ways of receiving deals or receipts. Some countries have different types of receipts that users receive as well, which are seen as different types of documents. Getting these insights was key to localizing and launching our designs around the world. Our international surveys also helped us to quantify trends we were observing in the US in other countries.

We see this as a successful example of understanding a domain, defining a solution, and then working iteratively towards this vision as the technology is matured to support it. This research process of weekly design and research sprints, sizing surveys, user nights, and international research is a process we are working on for other products as well. We hope to make this process standard across our product line to encourage regular, rigorous feedback that identifies new product opportunities as well as ensures that new product features are both usable and useful to broad bases of users around the world.

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