Preliminary Design of EasyEmail   9/23/2019

Elevator Pitch

EasyEmail is a new email service that is packed with features to make it extremely user friendly and hassle free. It is designed for people that are tired of having to clean out their inbox or sift through tons of old emails to find what they are looking for. EasyEmail has all the features offered by other email services such as a powerful search and filter tool, spell checking, and auto suggesting of frequently used phrases as well as several new unique features. One of which is the 'auto-delete' feature, which might sound scary but is actually very helpful. The user can set a time frame (5-360 days) in which an email will be deleted after it is received thus preventing old emails from piling up in their inbox. If the email is important and should be saved for an indefinite amount of time, it can be placed in a separate folder where it will stay until the user moves or deletes it themselves. This feature along with our other organizing tools will help the user to stay organized and only keep the emails that are important to them.

User Analysis

Our users would be anyone who has a current email address who is looking to move to a service that has more privacy or doesn't want to let their inbox become piled up with old emails, spam, and/or thousands of unread emails. Business people, students, and other users who get lots of emails/spam will find this product useful because it allows them to keep their inboxes organized much more easily in the long run.

Statistics show that most people (three out of four) check their email multiple times a day, and at least once a day using a desktop browser [campaignmonitor]. This email client will be usable from any browser, initially for desktop with eventual compatibility for a mobile app.

Another useful statistic about email use is that currently among the top email service providers, including Gmail, Yahoo mail, AOL, and Outlook, the average inbox size is 8,024 emails with 10% of users having over 20,953 emails in their inbox [pando]. This data is from 2013, so it is reasonable to say those numbers are higher today. EasyEmail focus on an auto-deleting service will attract users to join our email service as they will be able to avoid having a massive and unmanageable inbox.

Most major email services that EasyEmail will be competing with are free, so most users will be unwilling to move to a service where there is some kind of monthly/annual fee. EasyEmail will need to accommodate for this by generating revenue to maintain the service through advertising. Ads will need to be discreet and unobtrusive for the best user experience as pop-ups, slow-loading ads, or ads that take up a lot of screen real-estate might discourage users from using EasyEmail**.**

Task Analysis

This section includes usability goals, defining how the user and system work together to achieve that goal.

The major usability goals identified for this application are :

1. Accuracy and Speed of the system
   This usability goal ensures that the application is fast without compromising the quality/accuracy. The below actions are the major/frequently performed user actions considered to measure this usability goal.

Case 1 :
User Action: Send an email
System Action: Ensure that the recipient receives the email correctly within the expected transfer time. Also, the sender will be notified about the email delivery

Case 2 :
User Action: Perform search and retrieve old email
System Action: Ensure that the user is able to retrieve an old email with content, heading, recipient, sender, etc.

2. Ease of using the application

Case 1 :
User action: Create an account
System action: Users will be able to create a new account with minimal personnel details. There will be only one personnel identification data to ensure the genuinely of the user, either a phone number or link to another email account.

Case 2 :
User action: Login to the system
System action: Users will be able to login to the system with username and password. There will be options to retrieve a forgotten username or password by using the personnel identification data entered by the user

Case 3 :
User action: Compose and send an email
System action: Users will be able to create compose and send emails with ease. There will be spellcheck and grammar checks that the system does while the user composes the email. Once the email is composed user can send the email to any number of the recipient (some recipients can also be kept as hidden from other recipients.) The system will also notify the user of the delivery of the email to the recipient.

Case 4:
User action: Receive email
System action: Users will be notified once they receive the email if the options are enabled by the user

3. User Satisfaction - Measure

This defines how satisfied the customer was by using this email application. The features and usages of the product can be measured in a way to rate the overall success of the product. The areas that can be used for this analysis are :

Case 1 :
    User action: How often the product is being used
    System action: Gather metrics of how often the user logs into the mail application to check the emails and send emails.
Case 2 :
    User action: Create a new email account

System action: Gather metrics of the number of users who sign up

Case 3 :
 User action: Login to the email application and use the features
 System action: Gather metrics of the user engagement and the login and logout time to generate statistics on the time spent by the user.

Case 4 :
 User action: Login to the email application and use the features
 System action: Gather metrics of which features are being used most and ensure that features are error tolerable.

Conceptual Model

Key Objects	Object Attributes	Relationships	Actions on Object	Actions on object Attributes.	Actions on object Relationships.
User	•Email address •Name •Password	• A user object can send email to another user object •A user object can receive email from another user object •A user object can add another user object to its list of contacts. •A user object can mark another user object as a spam sender.	•A user creates an account and logs in. •A user receives notifications when a new email is received in the inbox. •A user makes folder categories A user marks all emails as read •A user deletes unimportant emails. • A user sets a time frame for auto-deleting emails.	•A user may change the email address to which he/she wants to receive emails •A user may change the password, using which he/she logs in	•Emails received from another user can be searched by using the other user's email address or Name. •Email can be sent to a user from the list of contacts. •Users sending spam messages frequently can be blocked.
Email	•Subject •From •Date •Content	•Email objects can be grouped with other email objects and put into a folder based on category •Multiple email	•An email can be marked as read or unread, favorite or important.	•The content within the email can be downloaded. •A reply can be sent to the sender.	•The emails within different categories can be marked as read at once.

		objects can be selected to mark as read or delete •An email object may be formed using the composer object by a user object. •Received emails can be stored in inbox object.	•An email can be moved to the spam folder. •Email can be auto-deleted if it fits in the time-frame set by the	•The date can be used to sort the emails •The email can be searched for using the subject.	•The emails within the spam folder can be deleted together at once to free up space.
Email Composer	•Subject •To (receiver's email address) •Email body	•A user object can compose multiple email objects at a similar time. •A user object can insert attachments within the composer object.	•Generating the content of the email •Changing the font-style, font-size, type of the text within the email. •Attaching external documents by clicking a button or by drag and drop. •Adding external links in the content.	•The receiver field auto-suggests a list of receivers matching the pattern that user types. •The email body will auto suggest phrases as a user writes and check for incorrect spellings.	•Many receivers can be sent the same email via the email composer. •Many attachments can be added to the email composer using drag and drop or insert option
Inbox	•Emails, •Read/Unread Starred Flag.	•Sorting emails based on date, read or unread an email or starred •Inbox shows Email objects to users when selected. Needs to correctly display the email content.	•"Clear all unmarked email" option to force cleaning of inbox •Inbox can be filtered to show just "starred" email	•Emails are automatically changed to 'read' once their content is shown for 3 seconds through the inbox. (or manually toggled) •Unstarred+read emails can be automatically set to be deleted	•Emails can be moved between folders and Inbox. •Emails can be deleted en masse via the Inbox. Multi-email manipulation.

The key actions include:
    a. Create.
    b. Send
    c. Delete
    d. Select all
    e. Forward
    f. Download

    g.   Mark as read/unread, spam, favorite.

    h.   Update email address.

Functionality and usage scenarios

- Functionality Use Case 1: Creating and logging into an account
    - Alice, 20 years old, clicks on create an account link on the home page. The system prompts to enter the desired username and password. If that is available Alice gets that user name and password for future use. Alice also provides her phone number for personnel identification
    - Bob, 35 years old, creates an account by clicking "Log in with Google" or "Sign in with Facebook." Bob no longer has to remember another set of log-in credentials to access his account.
    - David 60 years old, who is a driver, click on 'login' on the home page. But as he forgot his password, he clicks on the forgot password link on the page and receives a password reset link in the recovery email account. He resets the password and login to his account
- Functionality Use Case 2: Send/Receive email
    - Mary, 35 years old, wants to send an email to her friend. She clicks on the 'compose' email button and the recipient email address and adds the content of the email and clicks on the send button. She will get a notification about the mail is delivered.
    - Jim, 46 years old, wants to reply to a business email that he received from his boss. He presses the "reply" button which automatically adds a "Re:" to the subject line and attaches the email he received below his reply.
    - Michelle, 15 years old, receives a funny chain mail she wants to send to her mother. She hits the "forward" button and "Fwd:" is added to the subject and Michelle can add a message along with the chainmail she forwards.
    - Lucy, 8 years old, wants to send an email to her friend. She clicks on to compose an email and starts typing her message. She gets suggestions from the composer while she trying in any spelling mistakes or grammatical mistakes. With this help, she is able to compose a grammatically correct message to her friend.
    - Jacob, 19 years old, receives an email from his university. As he has enabled his desktop notification, he quickly gets notified when the email reaches his inbox.
- Functionality Use Case 3: Auto-archive feature
    - Jessie, 40 years old, works as a doctor and is using EasyEmail as her work email. She often works with sensitive patient information. Jessie is able to let any emails with patient information go to a specific archive/folder after 30 days and delete them whenever she wants to. This helps her keep her inbox tidy and patient information safe.
    - Brian, 23 years old, receives 3 emails from his university. He only needs to keep 1 of those emails in the long-run and the other two he might need to reference over the coming week. Brian flags (or stars) the email he wants to keep, and 30 days later the emails he doesn't need anymore are moved to a temporary archive because that is the setting he chose.
- Functionality Use Case 4: Search for an old email
    - Peter, 80 years old, need to retrieve a password that was sent to him for one of his user accounts. Even though he forgets the send email address and the title of the email, he is able to retrieve the password with any of the content details (eg, company name that send him the password) Eg : he typed in "Netflix username" and retrieved the username.

Sources Cited

1. 7 Mobile Stats for Your Email Marketing Team to Consider. (n.d.). Retrieved from https://www.campaignmonitor.com/blog/email-marketing/2019/07/7-stats-that-will-make-you-rethink-mobile-email/

2. Troy, D. (2013, April 5). The truth about email: What's a normal inbox? Retrieved from https://pando.com/2013/04/05/the-truth-about-email-whats-a-normal-inbox/

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