

ChipIn

Product Backlog - Team 2

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Problem Statement:

Running a household with several roommates is difficult; one major challenge is maintaining an accurate inventory of shared items. Whether it's personal or shared groceries, cleaning supplies, or pet items, keeping track of what products need to be bought, replaced, or discarded prevents unnecessary purchases and reduces trips to the store. Splitting costs on top of bookkeeping for many housemates presents even more of a struggle. Unlike traditional financial management tools like Splitwise and shared grocery list apps like AnyList, ChipIn not only tracks expenses, but also offers useful insights into the actual shared products within households, streamlining both cost-sharing and inventory management.

Background Information:

Targeted Users

ChipIn targets users living in one or more households with roommates, who want a platform to easily track shared items and expenses within their communal living spaces.

Similar Platforms

There are existing platforms for finance management and group transactions, like Venmo and Splitwise, as well as apps for logging grocery items, such as AnyList. With ChipIn, we aim to serve housemates by combining both functionalities, along with a range of other useful features for those who regularly share resources and expenses.

Limitations

Many existing finance management apps, such as Venmo, allow users to easily request and send payments within groups, while others like Splitwise automate the splitting of shared expenses. However, these apps focus solely on transactions and do not address the ongoing needs of managing communal items or maintaining an accurate inventory of shared resources. On the other hand, apps like AnyList let users create shareable grocery lists but lack financial management features. ChipIn combines both functionalities and more. It not only handles the financial aspect by automatically splitting expenses for each purchase but also logs the actual purchases and tracks the usage of shared items like groceries and household supplies. By doing so, ChipIn serves as a comprehensive platform for housemates managing shared spaces. Allowing users to log purchased items, rather than just their price, ChipIn has customizable

features like sending notifications when items are low in inventory, need to be repurchased, or are nearing their expiration date.

Requirements:

Functional:

1. As a user, I would like to be able to register for a ChipIn account.
2. As a user, I would like to be able to log in and manage my ChipIn account.
3. As a user, I would like to be able to log in via Gmail and connect associated accounts.
4. As a user, I would like to be able to change/reset my password.
5. As a user, I would like to be able to create a user profile.
6. As a user, I would like to be able to change my name, username, and profile picture on my profile.
7. As a user, I would like to be able to delete or log out of my ChipIn account.
8. As a user, I would like to be able to choose to receive notifications for low inventory and nearing expiration dates of household items.
9. As a user, I would like to be able to modify default user settings involving display, accessibility, when to give payment reminders, and notifications.
10. As a user, I would like to be able to create and/or join a household.
11. As a user, I would like to be able to invite people to my household in-app, via an invite link, or email.
12. As a user, I would like to be able to leave a household I'm no longer part of.
13. As a user, I would like to be able to view my grocery list and list of purchased items.
14. As a user, I would like to be able to view cards with an item's name, price, shared/unshared, and expiration date.
15. As a user, I would like to be able to select the category of items (e.g., groceries, cleaning supplies, pet items) when adding them to the grocery list / purchased list.
16. As a user, I would like to be able to search for a product in both the purchased items list and the grocery list.
17. As a user, I would like to be able to sort purchased items by their expiration dates.
18. As a user, I would like to be able to filter purchased items based on the housemates they are shared with and by category (e.g., groceries, cleaning supplies, pet items).
19. As a user, I would like to be able to have an AI automatically categorize the items in my grocery list.
20. As a user, I would like to be able to view what items are about to expire or are expired.
21. As a user, I would like to be able to add items to my grocery list.
22. As a user, I would like to assign myself as the purchaser for a grocery list.
23. As a user, I would like to be able to select which roommates will share an item with me.

24. As a user, I would like to be able to click a 'purchased' button to move an item from the grocery list to the household's purchased items list, as well as a 'repurchase' button which will add the item back to the grocery list.
25. As a user, I would like to be able to add purchased items directly to the shared inventory display.
26. As a user, I would like to be able to delete purchased items directly in the shared inventory display as items will not be automatically removed.
27. As a user, I would like to be able to scan a receipt that will automatically populate additional item cards and add them to the purchased items list.
28. As a user, I would like to be able to edit any item card in the purchased items list in the case that the scanned receipt yields incorrect items.
29. As a user, I would like to be able to remove an item from the purchased list if I choose to return a product and recalculate owed amounts accordingly.
30. As a user, I would like to be able to expand a card to view more detailed payment/item information.
31. As a user, I would like to be able to do uneven splits for specific items.
32. As a user, I would like to be able to view a separate dashboard of how much money I owe each member of my household.
33. As a user, I would like to be able to have the owed amounts updated automatically with every purchase.
34. As a user, I would like to be able to see how much each person sharing an item contributes to the price.
35. As a user, I would like to be able to click a 'paid all' button that will clear the amount owed to one or more roommates, a 'paid custom amount' button that will allow me to pay back part of my debt, and a 'paid' button that will log that I paid someone back for a specific item.
36. As a user, I would like to be able to use the item function for expenses like water/electricity bills.
37. As a user, I would like to be able to select ingredients and items I currently have for the AI recipe suggestion tool.
38. As a user, I would like to be able to add additional ingredients and items to the AI suggestion tool.
39. As a user, I would like to be able to view different meal ideas suggested by the AI.
40. As a user, I would like to be able to click on the specific meal idea and have the recipe expanded in a pop-out card.
41. As a user, I would like to be able to add a meal idea and its respective recipe to a 'saved meals' page.
42. As a user, I would like to be able to enter a specific item into the AI deal finder tool.

- 43. As a user, I would like to be able to view the best deals for that item.
- 44. As a user, I would like to be able to view the store name, proximity, and more product information.
- 45. As a user, I would like to be able to export expiration dates as a csv file to upload to calendar apps that accept imports e.g. Google/Outlook.
- 46. As a user, I would like to be able to view statistics on frequently purchased items and prices.
- 47. As a user, I would like to be able to use ChipIn on a mobile browser.
- 48. As a user, I would like to be able to send nudges to my roommates when I want them to pay me back.
- 49. As a user, I would like to be able to add notes to a shared corkboard for special requests on grocery trips, allergy reminders, etc.
- 50. As a user, I would like to be able to view a leaderboard displaying who pays everyone back the fastest. (if time allows)
- 51. As a user, I would like to be able to message my roommates through the app. (if time allows)
- 52. As a user, I would like to be able to customize the theme of my dashboard. (if time allows)
- 53. As a user, I would like to be able to receive badges if my household doesn't let items expire. (if time allows)

Non-Functional:

Response Time

Since ChipIn will be web app based, the response time will be under 600 ms for all features. Logging into the web app and navigating the households to get to the dashboard should take no more than 200 ms. In addition, viewing the shared inventory and total balance should also take 200 ms. There could be some minimal lag when it comes to the ChipIn recalculating the total balance and recalculating the individual prices that each person owes to other roommates. The process of viewing each item card should also be smooth and if there are too many items in the purchase list, there also might be minimal lag when it comes to scrolling through that list.

Scalability

ChipIn should be able to support a baseline of around 100 users simultaneously without performance issues. This ensures that for small to medium sized households, our platform can handle activities like updating multiple users' grocery lists, sending reminders about shared bills, or splitting shared expenses without any noticeable slowdowns. Our goal is for ChipIn to

eventually be able to serve thousands of users. We plan to build the app's frontend and backend separately to avoid compatibility issues and ensure ease of development. Additionally, using MongoDB to manage our database will allow us to easily scale our database both vertically and horizontally.

Usability

ChipIn's dashboard will be designed so users can easily view important information and statistics in one centralized space, such as the amount owed to each housemate and the inventory/status of shared/personal household items. The web app will be compatible with all browsers and screen sizes.

Security

To ensure users can safely upkeep their grocery lists, ChipIn will use password hashing and Json Web Tokens for user authentication. This will not only maintain the stateless nature of the app, but also reduce the number of database queries with information stored in the tokens themselves. Additionally, sanitizing user input with mongo-sanitize will help prevent database injection so each household can only view their own details.