

Designing the User Experience (IN935C)
Final Project

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Google™ The “Digital Wallet”

Google Bank Web application

- Store money in a Google Bank account or link to an existing checking account or credit card
- FDIC-insured for security and customer confidence
- Make payments
- Set up payees and recurring payments
- Transfer funds
- View, filter, sort, and categorize transactions
- View charts, reports, and graphs
- Set up and monitor budgets and other thresholds
- Set up alerts to be sent by email or text message when thresholds are exceeded

New Android-based mobile handset

Device will offer fingerprint recognition and enhanced camera with barcode recognition.

“gMoney” - Android app

Customers can make payments, monitor transactions, and more.

Initial release will be Android-only to boost Android and handset sales, although iPhone app may follow.



“Gaggle” - Android app

Let Google do your haggling! Shoppers can use their phone's camera to take a picture of a product's UPC label. The product is submitted to the Google Shopping database, which displays a list of the best-priced purchase options. Customers can buy immediately through gMoney.

Self-Checkout Kiosks

After the customer scans her products at the kiosk, the kiosk will display a barcode that can be recognized in gMoney using the handset camera. The customer will check out using her mobile device through gMoney's consistent interface. The transaction is secure and the customer does not need to enter any new information. Fast, cashier-less checkout will benefit both Google and the store.

Partnerships with POS merchants

New point-of-sale machines in stores will have the ability to scan gMoney barcodes to process Google payments.

Partnerships with online merchants

Online merchants can offer a “Pay with Google” option to allow customers to pay directly, or customers can use a Google account number like a credit card number.



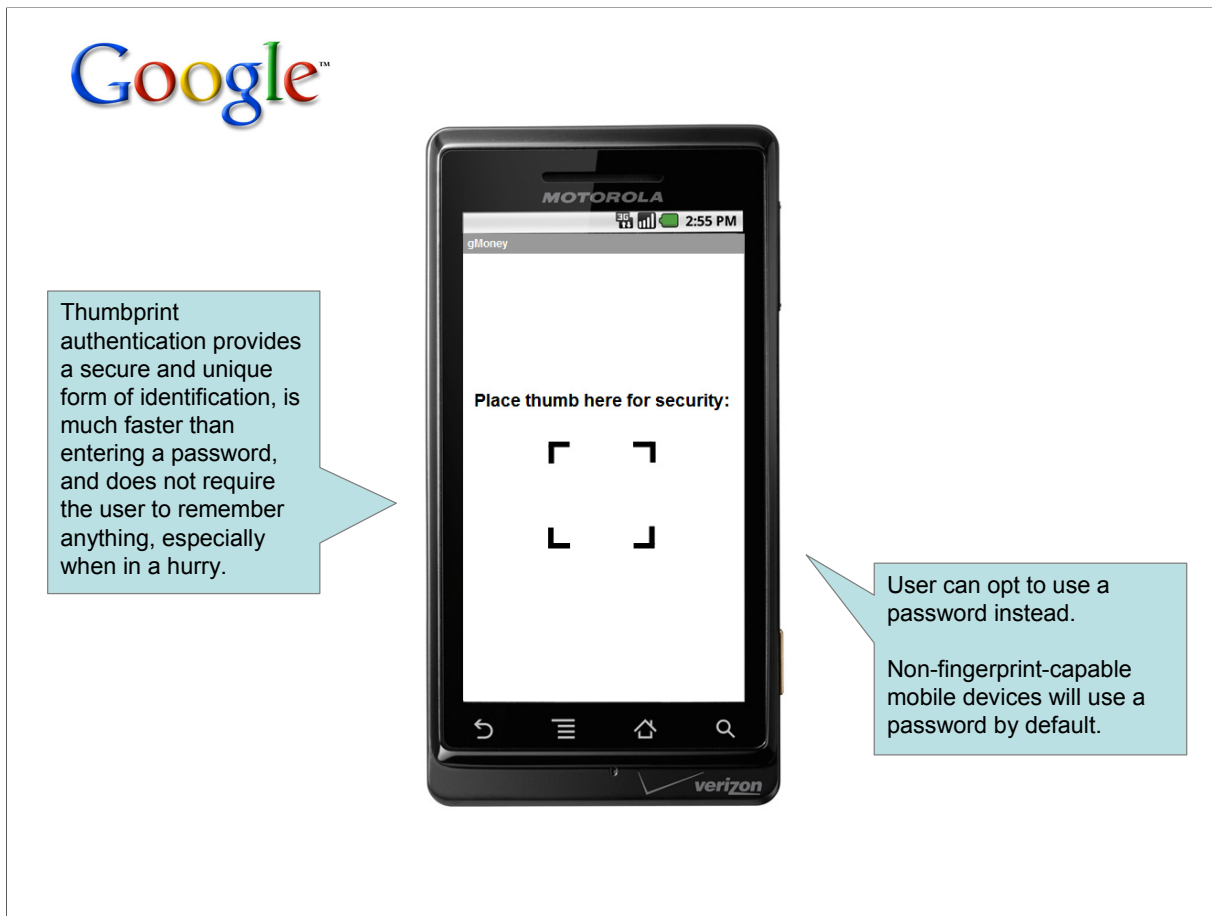
Key Task Scenario #1: Make a Payment at a Google Bank-Enabled Store

Scenario

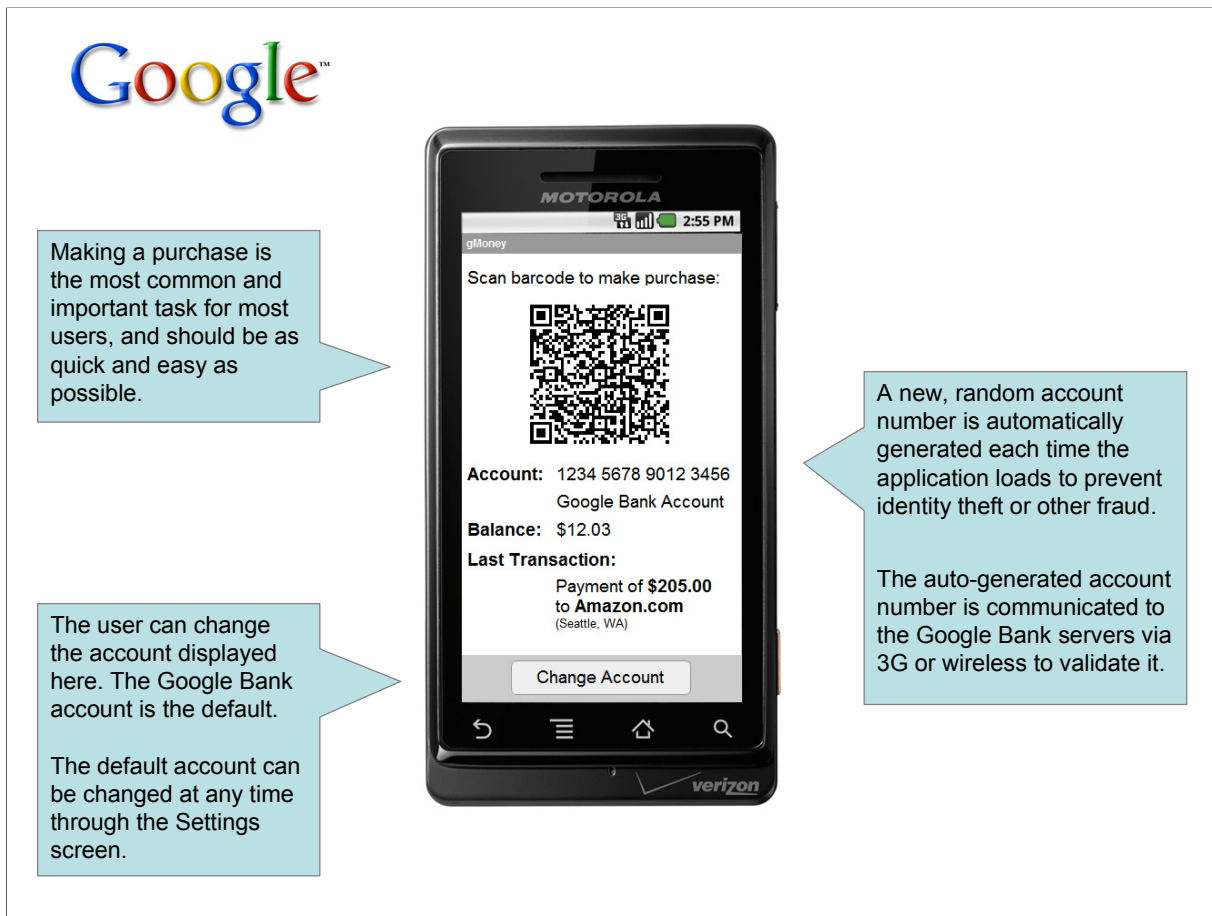
Mary, a lawyer and mother of two, is picking up some groceries on her way home from work. She's in a hurry because she needs to get out of the store in time to pick the kids up from school, so she wants to get in and out of the store as quickly as possible. In fact, she likes this grocery store partially because she can use her mobile phone to pay, which saves time and allows her to leave her heavy purse in the car.

Mary is still paying off college and law school loans, so she is trying to minimize additional debt. She uses her mobile device multiple times a day to read email from both her work and personal email accounts and surf the Web.

After loading her cart with groceries, she decides to use the self-checkout lane as usual; she is a frequent shopper at this store, so she's familiar with self-checkout, and she feels it's faster than waiting for a cashier and bagger. After scanning and bagging her items as usual, she's ready to pay.



1. Mary pulls out her Google mobile device running the Android OS, turns it on, and swipes a finger across it to unlock the screen. She presses the icon for the gMoney application, which she has placed on her home screen since she uses it so often.
2. The main screen appears with a box for her to authenticate using her thumbprint.
 - Mary also had the option to set up gMoney to authenticate with a password when she first set up the application (not shown), but she prefers using the thumbprint because it's faster and because she finds it difficult to enter her password accurately using her mobile device's keypad.
 - For security purposes, no account data or other personal information displays until she authenticates.
 - To help protect her personal data and protect her from fraud in case of a lost or stolen phone, she must re-authenticate using her thumbprint each time the phone is turned off or goes to sleep. The app remembers her current state, so that after re-authenticating, she will be at the same point in the application that she was before the phone went to sleep, without lost work.



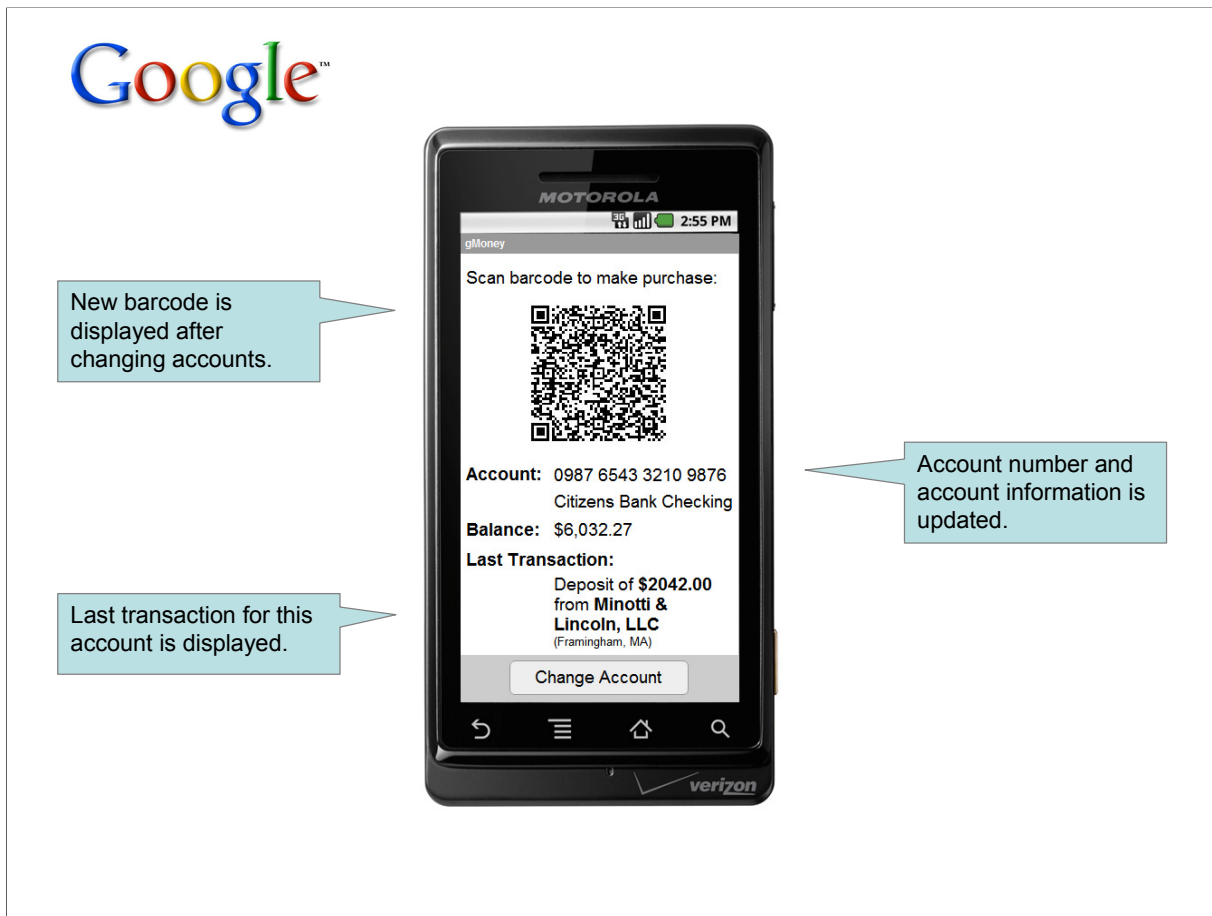
3. The main gMoney screen appears. The screen contains a barcode to be used for purchasing, plus basic account information for the default account, which in Mary's case is her Google Bank account.
 - Mary's Google Bank account works like a typical debit bank account: funds can be deposited, withdrawn, and transferred, and she feels secure knowing that her money is FDIC-insured.
 - Mary had the option to select her default account when she first set up the gMoney application (not shown).
4. Mary sees that the remaining balance in her Google Bank account is rather low. Because she's purchasing over \$100 worth of groceries, she decides she would rather use a different account for this purchase. She presses the Change Account button on the main screen.



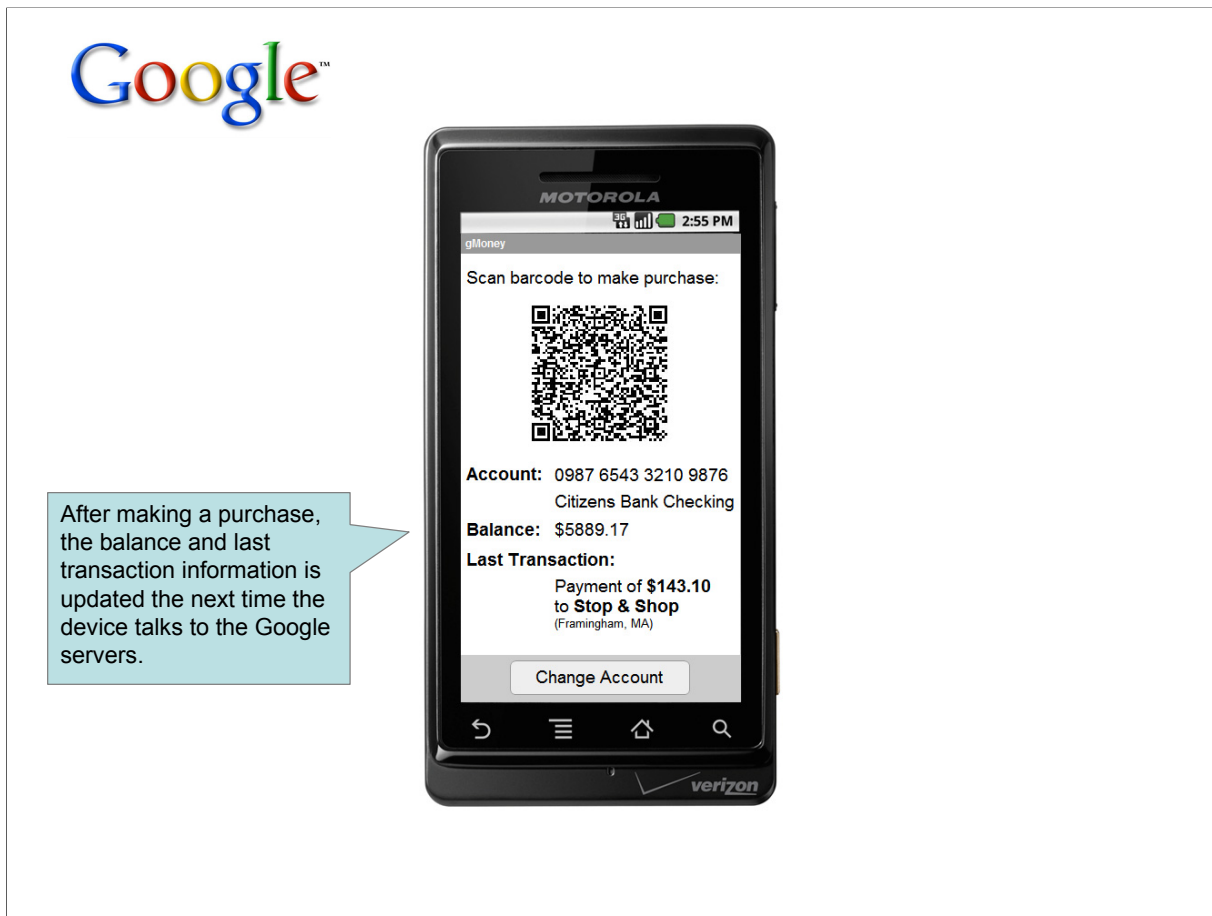
5. Mary sees a screen listing all of her accounts. She configured these accounts using the Google Bank Web application when she first set up her account. Accounts set up in the Google Bank Web application automatically appear in gMoney.

Mary currently has three accounts available: her Google Bank account; a Visa account, which is linked to her Citibank Visa card; and a checking account, which is linked directly to her Citizens Bank account.

- Mary chose these account names when she initially set up the accounts in the Google Bank Web application. Google Bank offered a default name for each account based on the bank or provider name and the type of account; although Mary could have entered a different name if she liked, she chose to use the defaults, since they were logical and saved her data entry.
6. After surveying the balances, she decides to use her Citizens Bank account (she prefers to avoid using her credit card as much as possible to minimize any additional debt). She presses the account name to select it.



7. Mary returns to the main screen. A new barcode and account number are displayed, and the account and balance information reflects the new account. The last transaction (in this case, Mary's last paycheck deposit) is also updated.
8. Since the point-of-sale system in the grocery store is Google-enabled, Mary can use the displayed barcode directly. She swipes the phone across the barcode reader the same way she scanned the UPC codes of her groceries.
 - If Mary were purchasing at a store or Web site that did not have direct Google Bank support, she could use the displayed account number just as she would use a credit card number.
9. Mary completes the remainder of the transaction using the point-of-sale system, which processes the payment according to the type of account used. In this case, since Mary used a debit checking account, the payment is processed as a debit payment.
10. While completing the sale, Mary chooses to get \$40 cash back, since she's running low on cash and doesn't have time to stop at an ATM on the way home.
11. The point-of-sale system completes the sale and spits out a receipt and Mary's \$40 cash.



12. The next time gMoney talks to the Google servers to get updates, the current account balance on the main gMoney screen is updated to reflect the grocery purchase and the cash back, and Mary's grocery purchase is displayed as the last transaction.
13. Mary pockets her mobile device, receipt, and cash, loads her groceries in the cart, and leaves the store, happy that she has completed her transaction with no purse, no wallet, no cash, and no credit cards!



Key Task Scenario #2: View Transaction History

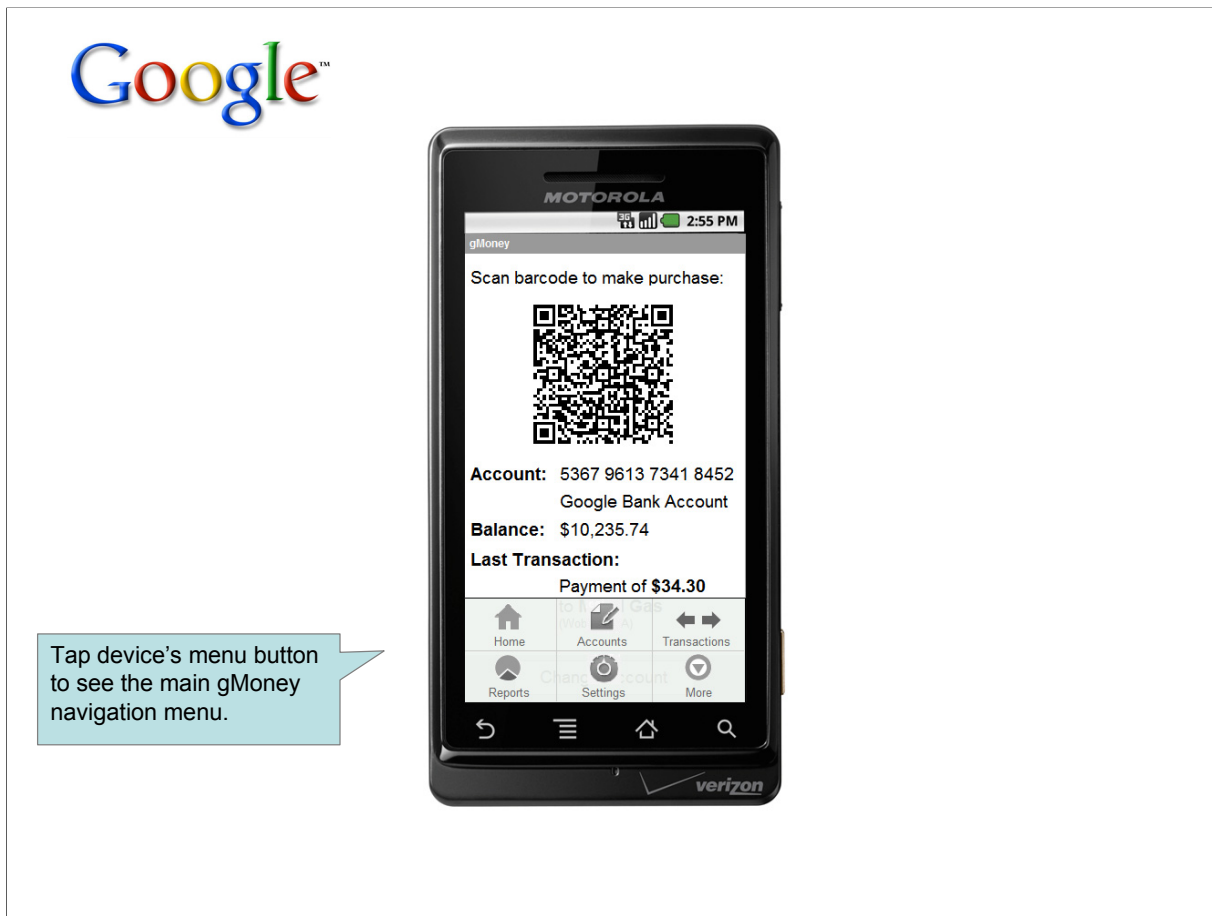
Scenario

Diego and his wife Sofia recently got married and bought their first house in a suburb north of Boston. With the new mortgage payment they're finding it more important to keep a close eye on their finances. Both are relatively new to household budgeting.

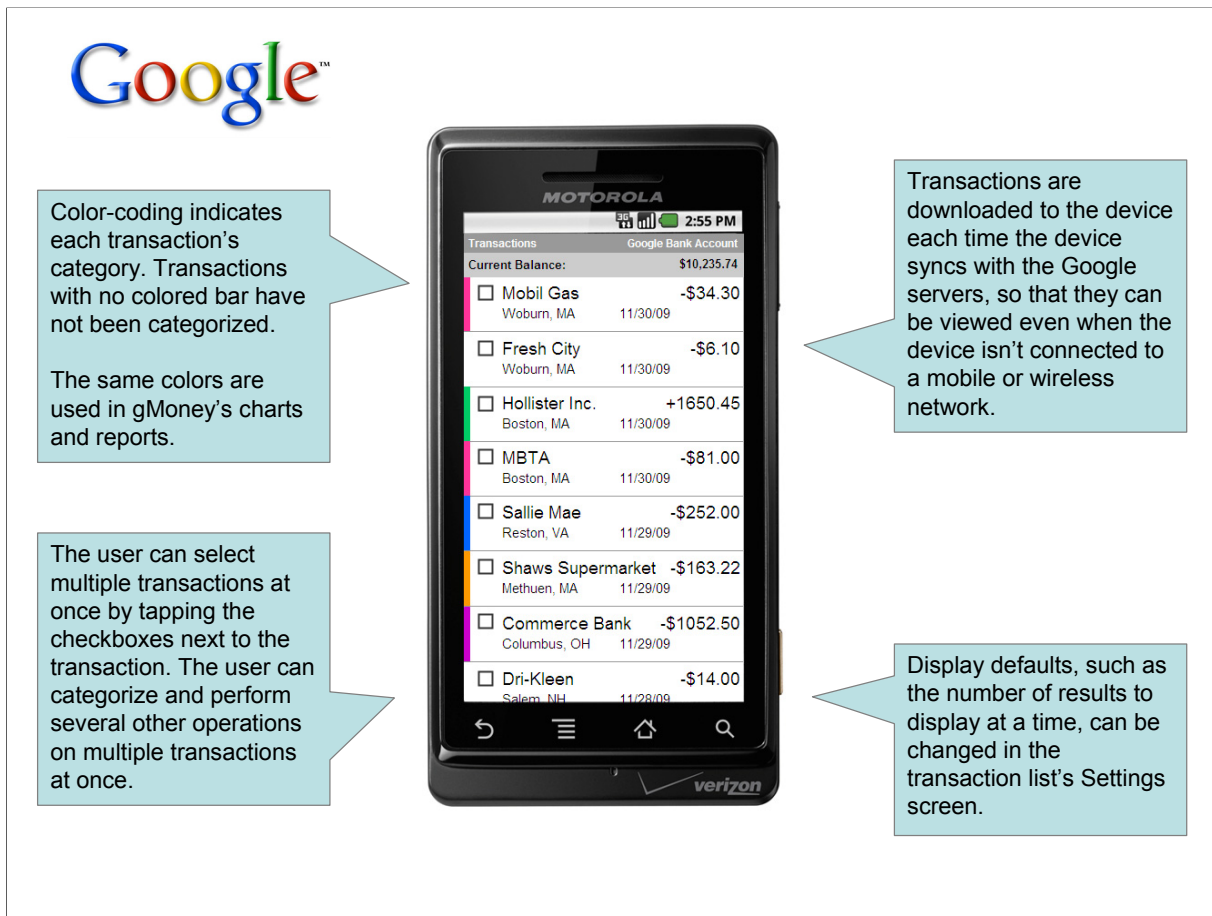
Diego bought a Google mobile handset two months ago, partially because he had been using Gmail and Google Maps for some time and was impressed by the ease-of-use of Google's applications. He also liked what he heard about the Google Bank integration, which was especially appealing due to his household situation.

Diego and Sofia also recently set up a joint Google Bank account. They established a household budget and have set up categories of expenses in their Google Bank account. Each month they go through that month's transactions, categorize them, and compare their spending against their budgets for different categories. They also use Google Bank's Web application to view reports and spending suggestions. Diego and Sofia both use the Google Bank web site more often than they use the mobile application, although they have set up text message alerts for when their Google Bank spending exceeds their budget.

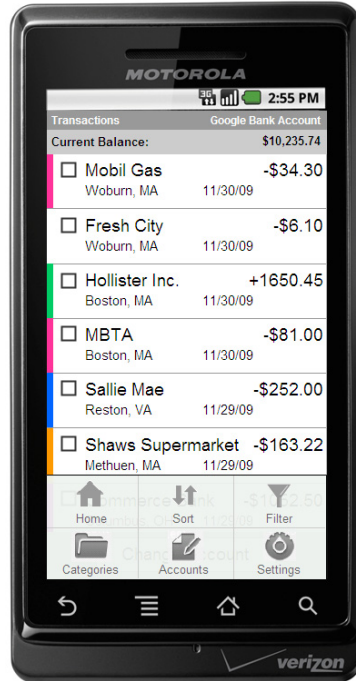
Diego works at a recruiting firm in downtown Boston. During his work day, Diego receives a Google Bank text message on his mobile device stating that he and Sofia have exceeded their budget for transportation and gas for the month. That evening on his long train ride home he decides to investigate why they're over budget.



1. Diego opens his Google Android device, swipes a finger to unlock the screen, pulls up the app menu, and presses the icon for the gMoney app.
2. Diego uses his thumbprint to authenticate, and gMoney displays the main screen.
3. Diego presses the device's menu button to bring up the main gMoney menu bar.
4. He taps the option labeled "Transactions."



5. A list of recent transactions appears. By default gMoney shows the last week's worth of transactions, sorted by date with the most recent at the top.
 - Diego or Sofia have already categorized some transactions using the Google Bank Web application.
 - Transactions from repeat vendors that already have categorized transactions are automatically categorized the same way as the most recent previous transaction. As users use the software over time more and more transactions will be from "repeat" vendors and categorization will get faster and faster.
 - Users can also override categorizations on a case-by-case basis by longpressing a transaction to bring up its details.
6. Diego looks at the transactions displayed. He notices today's relatively large charge from the MBTA (he bought a new commuter rail pass) and several recent gas purchases, but he isn't sure from just these transactions why they're over budget for this month. He'd like to get a better view of just the transportation, parking, and gas-related expenses.

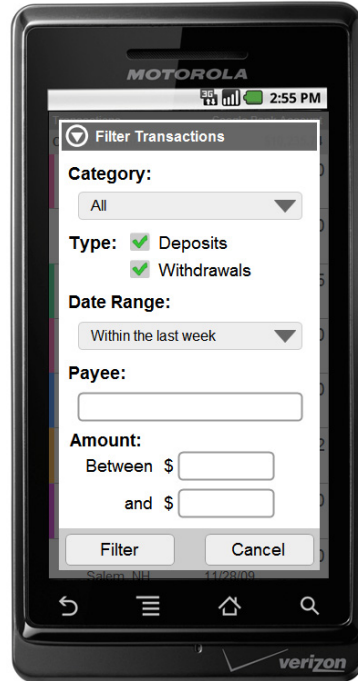


Tap the device's menu button to view the transactions menu.

The Home button takes the user back to the main (barcode) screen.

Tap the Filter button to change what transactions are displayed.

7. He presses his device's menu button, which displays a menu of transaction-related functions at the bottom of the screen, and taps the Filter menu option.

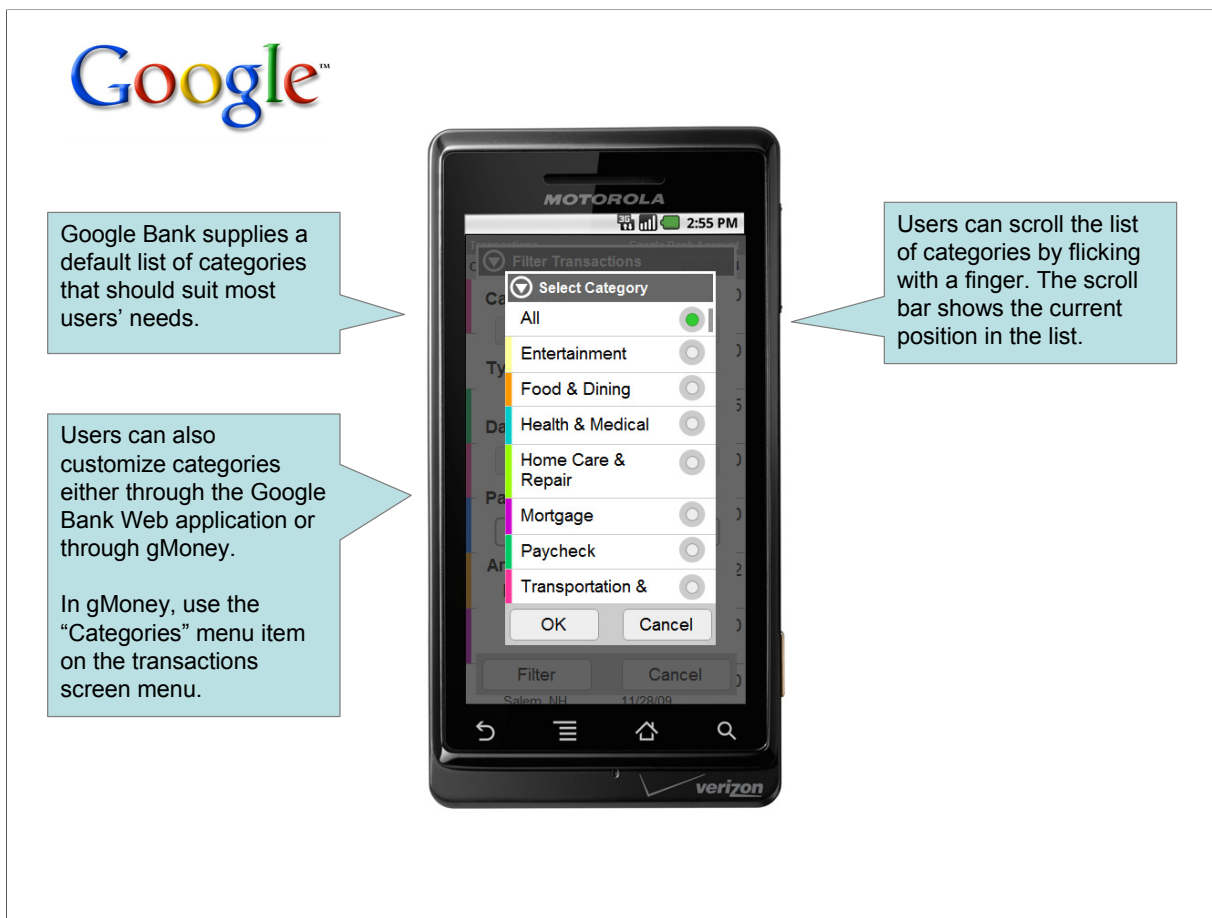


By default the Transactions screen shows all transactions in the past week.

This default can be changed in the transaction list Settings screen.

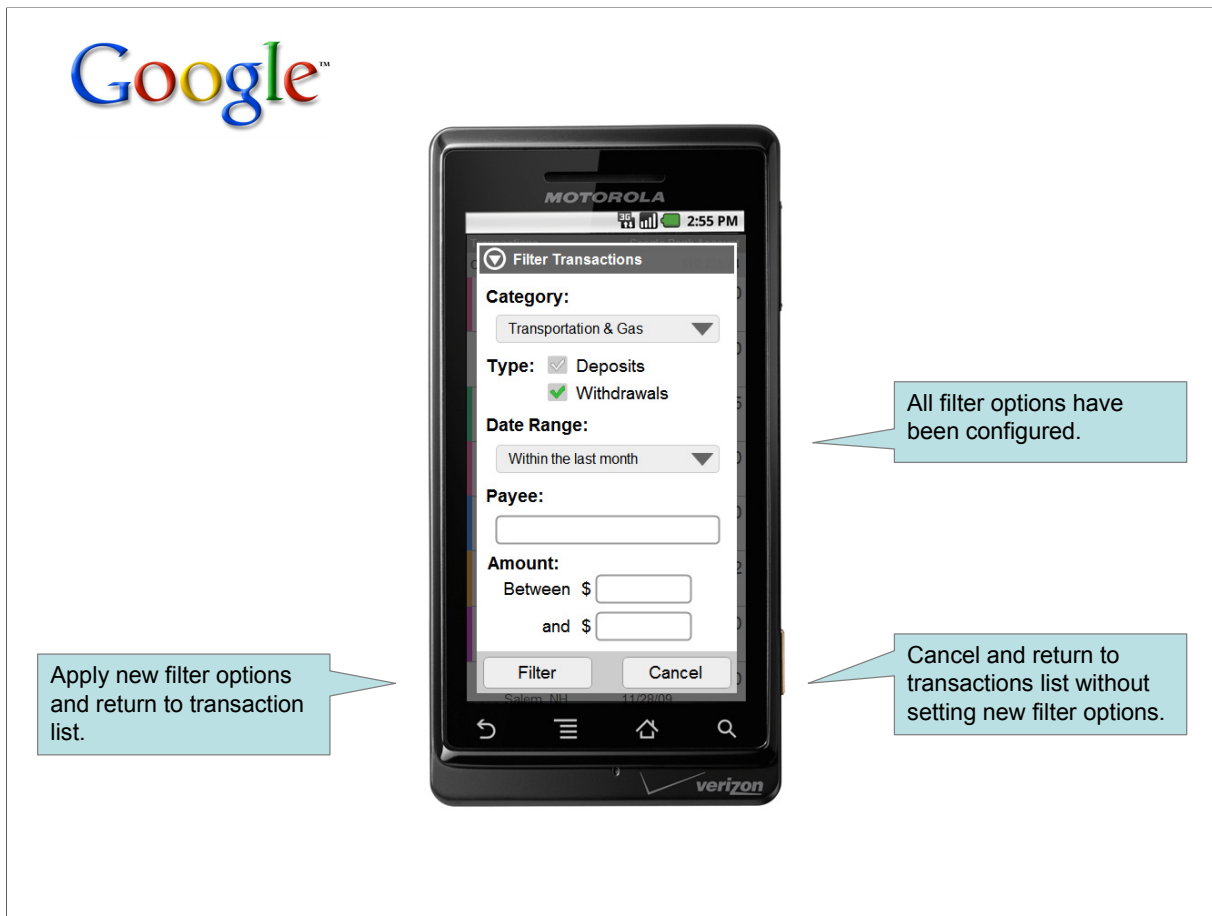
8. A popup menu of filter options appears.

9. Diego presses the Category dropdown menu.



10. A secondary popup appears and displays the list of categories that Diego and Sofia have defined, together with their associated colors.

11. He selects "Transportation and Gas" and presses OK.



12. Diego unselects the checkbox for “Deposits,” since he only wants to see transactions that have deducted money from his account.
13. Diego presses the Date Range dropdown menu. A secondary popup appears and displays various date ranges (“Within the last week,” “Within the last month,” “Within the last year,” etc). Diego selects “Within the last month” and presses OK.
14. On the Filter popup he leaves the Payee and Amount filters blank, since they are not necessary to find the data he’s looking for.
15. Diego clicks the Filter button to apply his filters.



16. The Filter Transactions popup menu closes, and the transactions are filtered to show only those in the Transportation and Gas category.

By surveying the list of transactions, Diego sees that the culprit is probably the expensive Boston parking charges. He decides he'll try to take the train more and drive to work less in the following month to stay within budget.

Although he's somewhat disappointed to have gone over budget for the month, Diego has learned something valuable about his spending habits, and he's happy to have a plan of attack!