1. Already implemented in Excel
   1. Track all expenses in one filterable location
      1. Filter to interrogate data (i.e. “Where am I spending so much on food?”)
   2. Transactions are categorized based on bucket
      1. Income has separate labels for convenience and splitting (i.e. always split “Salary”, never split “Income – other”)
   3. Transactions (income or expense) can be split to apply over multiple days
      1. Use cases:
         1. Bi-weekly salary gets divided amongst 14 days
         2. Rent gets divided amongst 30 days
            1. Ideally, this would be averaged across the entire year so that length of months doesn’t create inconsistencies
   4. Buckets are refilled based on income
      1. Buckets can have a maximum refill per period, or be unlimited
   5. Refilling is weighted based on current state
      1. Currently implemented: Weighted based on how full/empty the bucket is
      2. Other option: Evenly distribute available money (i.e. if 30 available, bucket A has 50/100 with 20 max monthly and bucket B has 80/100 with 15 max monthly, put 15 in B and 15 in A. Current implementation would put more in A because it’s emptier)
   6. Certain buckets are always filled before others
      1. Use cases:
         1. Refill rent and car payment first, then groceries, then games
   7. Can manually add or modify transactions
      1. Use cases:
         1. One transaction fell into multiple categories
         2. Something was done with cash
            1. Should deduct from the correct category, and credit ATM category to balance out
   8. Allows manual or automated changes to bucket size or max contributions between periods
      1. Use cases:
         1. Max size increases if a particular bucket is usually full
         2. Savings accounts that get larger over time
   9. Provide at-a-glance overview of amount available and percentage of maximum
   10. Older data can be locked in, even if methodology changes for more recent periods. This preserves the data as it was available when decisions were made in the past.
       1. Past calculations can be intentionally/explicitly recalculated with current methodology, though
   11. Can accept input from multiple sources (bank, venmo, cash, paypal, etc.)
2. Needs
   1. Easy way to generate a checksum for comparison with bank records
      1. Likely means that any adjustments, splits, etc. will need to be tracked so they can be undone or the checksum created from “upstream” data.
   2. Categorization and amounts are loaded from a user settings file rather than hard-coded
   3. Easily expandable with new features (this is one of the reasons I’m leaving Excel)
   4. Transactions can be input manually for either predictive purposes or if they haven’t officially posted yet. Auto-detects when the “official” version gets added rather creating a duplicate
      1. Stage 1: detect possible duplicate and flag for user review
      2. Stage 2: merge semi-identical transactions, flag possible duplicates
3. Wants
   1. Can inspect and graph trends in:
      1. Spending
         1. Total spending
         2. Spending relative to manually input expected values
         3. Spending relative to average across all days/months/years or a subset
      2. Refilling
      3. Bucket size
      4. Initial/final values
      5. Total account
   2. Can make predictions based on current, average, or manually input values
   3. Automated way to pull new data from various sources
      1. Acceptable to manually download data to a csv, then script loads csv contents into properly formatted database
      2. Auto-labels known expenses but gives the option to overwrite (ex. Commonly used restaurants, rent, salary, Netflix, groceries, etc.)
      3. Format should be defined per-user, since different users will have different banks with different output formats
   4. Mobile viewing and transaction input, either through an app or web-viewer
      1. Stage 1: just view current bucket amounts and percentages
      2. Stage 2: create simple transactions (amount, date, category)
      3. Stage 3: full functionality
   5. Can have different types of refilling
      1. Things that are supposed to be kept filled (rare expenses like Big Fun or Unexpected Fund)
      2. Things that are supposed to be used (groceries, food, games, etc)
   6. Alerts on consistent over- or under-spending, which means the monthly values may need to be re-evaluated