TRACKING HEAPS O’ DATA APP

design docs

--- FRONTEND ---

GUI screens:

* main
  + (screen selection)
* **Weekly Tracking Stats Accumulation Report** settings
* **Weekly Tracking Stats Accumulation Report** navigation
  + A gui representation of the **Weekly Tracking Stats Accumulation Report**, where drill-down reports can be designated and generated.

User Input:

* Regarding **Weekly Tracking Stats Accumulation Report**:
  + email receiver for report receival
  + company id and shipping method for report generation

--- BACKEND ---

Scripts:

* Tracking.py
  + Module for accessing carriers’ (UPS, USPS, DHL, FedEx) APIs to collect tracking data.
* UpdateTracking.py
  + Through daily automation, collect data (using Tracking module) of most recent tracking event for packages that have yet to be delivered from designations of company ids and shipping method. Data is stored in clients.tblArrival.
* GenerateTrackingFreqDist.py (**frequency distribution**)
  + Through weekly automation, generate **frequency distribution** of all packages days-to-deliver data within designated week from designations of company ids and shipping method. Data is stored in clients.tblDaysToDeliverStats.
* WeeklyAccumulationReports.py (**Weekly Tracking Stats Accumulation Report**)
  + Generate and accumulate tracking statistics of all packages for companies from company ids with that company’s designated shipping method.
  + Each generated collection of tracking statistics will be made up of:
    - a **frequency distribution** of each package’s days-to-deliver value
    - the total number of packages shipped
    - the total number of packages not delivered inside the max frequency range (currently 14 days)
    - the mean (average) of the **frequency distribution**
    - the standard deviation of the **frequency distribution**
  + The statistics are accumulated by week. Each week a new row of data is generated and appended to the top of the reports for each designated company.
  + The TOTALS tab collects the statistics from each company’s tab, combines each company’s statistics into groups sorted by shipping method, and displays the results.

Output Functionality:

* Generate **Weekly Tracking Stats Accumulation Report** using company ids and shipping methods from input and emailing report to email receivers from input.