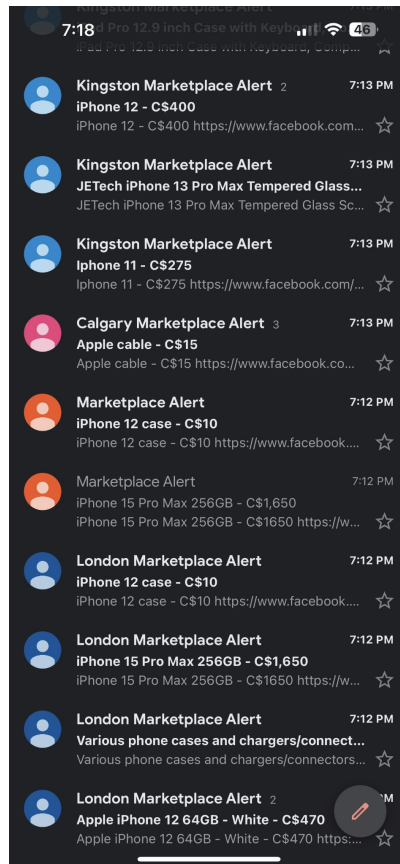


Messenger Bot Project Overview

Background

Currently, I have had a FB Marketplace (future scrapers for offer up and kijiji will be developed) scraper developed that emails me new listings for keywords that I have set, in geographical locations of my choice. This scraper currently scrapes every 6 minutes, and sends me all new listings it detects since it last scraped all at once. Multiple iterations of this scraper are running, to scrape for listings in multiple regions across Canada. An example of what the email inbox looks like is picture below:



These emails contain the listing's title as well as the price in the subject line, and the link to the listing in the body of the email. Based on the subject line, I click on listings I feel have potential, and I open them up. When I open the listing, I look at the pictures, read the description, and look at the geographical location of the listing. Based on these details, I send a first message containing an offer. Once I send this offer, there are a few different things that can happen, and those are described explicitly in the algorithm flow chart. In the end, there are two things that can happen, either the negotiation is successful and the seller accepts my final offer, or the seller declines the offer/never replies. If the seller accepts, I then proceed to coordinate the transaction with my pickup drivers. If the seller declines, the message thread remains until I decide to follow up.

Goal

The goal of this project is to develop a software that handles everything up until the point of an accepted offer, from filtering through the leads to completing the negotiations and follow-ups.

Functionality Requirements

- Software needs to be able to login to my various accounts (facebook marketplace, kijiji, offer-up, lead email account)
- Software needs to be able to select qualified leads based on the subject-line according to keywords and price. A list of qualified leads may need to be stored depending on how the software functions.
- Software needs to be able to open qualified leads, and scrape specific data from the listing including
 - The model of the device
 - The storage of the device
 - The price of the device
 - The quantity of devices
 - The locked/unlocked status of the device
 - Whether the device is scratched or not
 - Whether the device has any cracks on the front or back or both
 - Account Name
 - Listing location (postal/zip code)
- Software needs to store a dynamic list of names as a “No Message List”. I need to be able to manually add names to this list. Will be a list of scammers/stores/other resellers.
- Based on the scraped factors, the software needs to acquire the corresponding price offer from an input spreadsheet of offers
- The software needs to store active leads (meaning leads that have not ended in a yes or no yet) and ongoing leads (meaning leads that have ended in a no but will be scheduled to have follow ups)
- The software needs to be able to negotiate with the seller in accordance with the flowchart provided
- The software needs to be able to repeat this process as simultaneously as possible with all qualified leads. Maybe this can be achieved by having two separate “bots”, one that handles everything up to sending initial messages and one that manages active and ongoing leads (negotiations and follow-ups). Just an idea. If simultaneous is not possible, flow should be according to the following:
 1. Open lead
 2. Scrape necessary data

3. Send initial message to seller
 - a. If no response is received from the seller within 15 seconds, return to email inbox and repeat steps 1-3 in full.
 - b. If a response is received within 15 seconds, proceed with messaging the seller until a response is not received within 15 seconds or the lead closes (succeeds/fails).
 - c. If multiple messages are received from various different leads, respond to each message in the order in which it was received. Continue to message active leads until response not received from any seller in 15 seconds from time last message was sent to a seller, at which time step a is repeated (returning to email inbox), or until all active leads have closed
 - d. If a lead is successful, listing link should be sent to me via SMS or email or other medium (whatever is quickest)
 4. If 2 consecutive minutes pass from time of message on a lead without a response from the seller, return to this message thread and send corresponding message (from flow chart).
- The software needs to follow up with ongoing leads once per day, as well as remove sold listings from ongoing leads, as well as successful leads from ongoing leads
 - I don't necessarily need an interface with the software, but if we could have a display of active lead threads, ongoing leads threads, and qualified leads displayed, that would be cool