# Capstone Project Proposal

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## Objective

[Describe the overall objective of the project. If necessary, explain the context and motivation.]

I want to create an app that can scan an item of clothing at a flea market and take in some basic inputs (brand, condition, etc) and then pull from online marketplaces such as eBay, Mercari, Depop, etc to see if it can find a fair value based on the same or similar sold items. It would use an API such as Google Vision for the search, and perhaps use the image + inputs to generate a description for the item that could be used to search for the product on the various websites I am pulling information from.

## Impact

[In a few sentences, delineate the potential impact of the project]

## Flea and thrift markets seem to be notorious for seemingly random pricing, where the sellers can usually get away with charging whatever they want and the buyer needs to hop they’re getting a fair price. I know at least for myself, I do not like the feeling of not knowing whether or not I’m buying something at a reasonable price, and I think this would give peace of mind to a lot of shoppers at flea markets.

## Dataset(s)

[List your data sources with links to them. If you have already uploaded them to your capstone repository on GitHub, please mention the location. In addition, briefly discuss the datatypes and the reliability of the data.]

Google Vision - <https://cloud.google.com/vision?hl=en>  
Mercari - <https://www.mercari.com>

eBay – ebay.com

Depop - <https://www.depop.com>

*(Of course, more to come as project gets more built out if approved)*

## Approach

[Talk about how you plan on approaching this capstone through several steps. List the steps below.]

This project would likely begin as a web interface just to be used as a proof of concept.

I would host it on my computer so that I can avoid paying for a hosting service.

I would need to develop the front end, which would allow for inputs such as an image (or images), and inputs to enter brand and condition of the item

I would need to use google vision or other vision API to derive additional details from the item

I would need to combine this information using an algorithm to generate a description of the item that could be used to search across various platforms

I would then use scrapers to search for this information on sites such as Mercari, eBay, and Depop to find the same or similar items

I would then return the prices of these items, and list what the sources/ items used to find the arrived upon price were

## Timeline

This is a rough timeline for this project:

- (3 Weeks) Understand Google Vision API and how to create pulls, Build basic UI

- (3 Weeks) Get consistent text descriptions of clothing from vision API

- (2 Weeks) Combine user inputs with API text description in a way that aligns with typical searches on various marketplaces

- (4 Weeks) Consistent and accurate search results for price across various websites; returns reasonable and evidence backed prices

- (1 Weeks) Compiling results

- (1 Week) Writing up the report

- (1 Week) Poster and Final Presentation

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## Possible Issues

[List some of the prospective challenges and issues and discuss how you envision overcome them]

Doing this for free – I really want to avoid costs if possible, and am hoping that as long as I am only doing API calls when testing the app, I do not go over any free limits from the sources I am using

Working vision API – a lot of this relies on the accuracy of Google Vision or another vision software, and I need to prove that it can consistently return accurate descriptions of items

Figuring out how to bring data together – I have never worked with vision software before, and learning how to combine it with inputs into a usable description that can be searched on eBay, Mercari, Depop, etc will require me to learn how to transform the data into a normal search

Scraping marketplaces – I need to make sure the search terms I am generating are pulling accurate and similar items from online marketplaces, which will likely require trial & error and some studying of how search results are returned on these websites.