Assignment 2 - Hick Hyman's Law:

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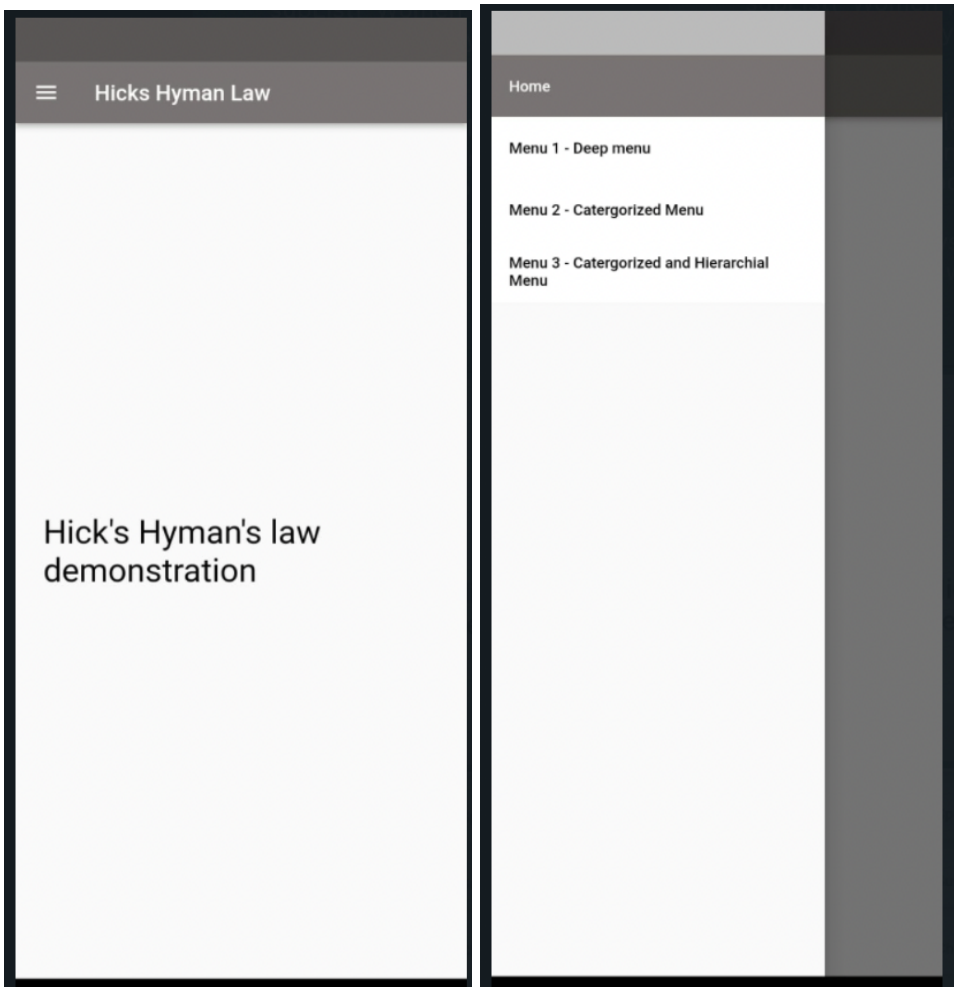
Hick's Law examines the relationship between the number of stimuli present and an individual's reaction time to any given stimulus. The more stimuli to choose from, the longer it takes the user to make a decision on which one to interact with. Users bombarded with choices have to take time to interpret and decide, giving them work they do not want.

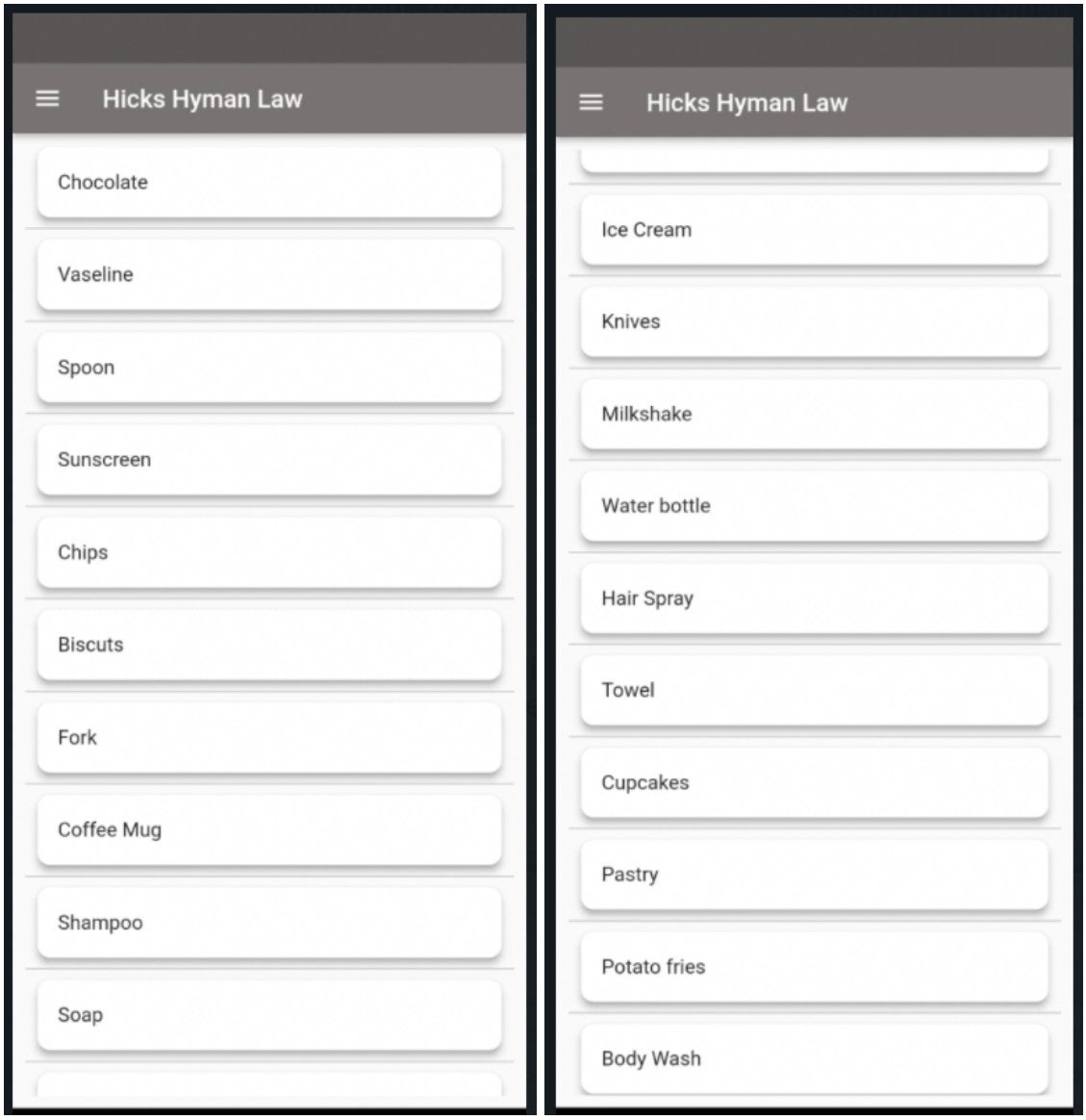
The formula for Hick's Law is defined as follows: RT = a + b. H

H = entropy
a, b are constants that are empirically determined. H = log 2 (n)
N = no. of choices

Home Page: The user has to choose one of the following list items from the menu.

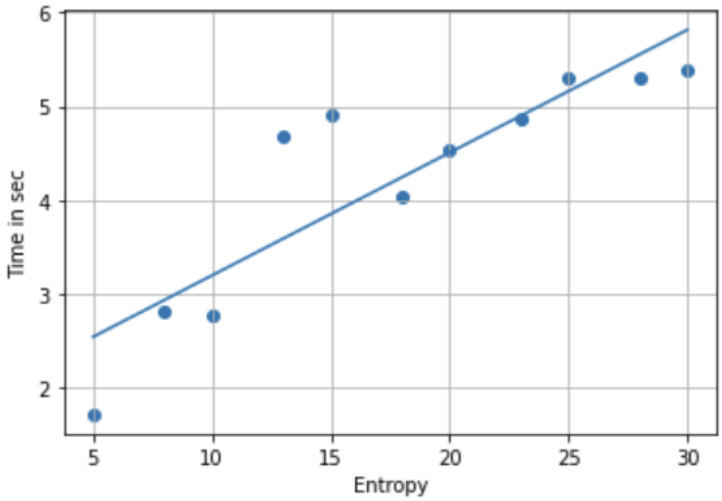


Unsorted Uncategorized Menu or Deep Menu:



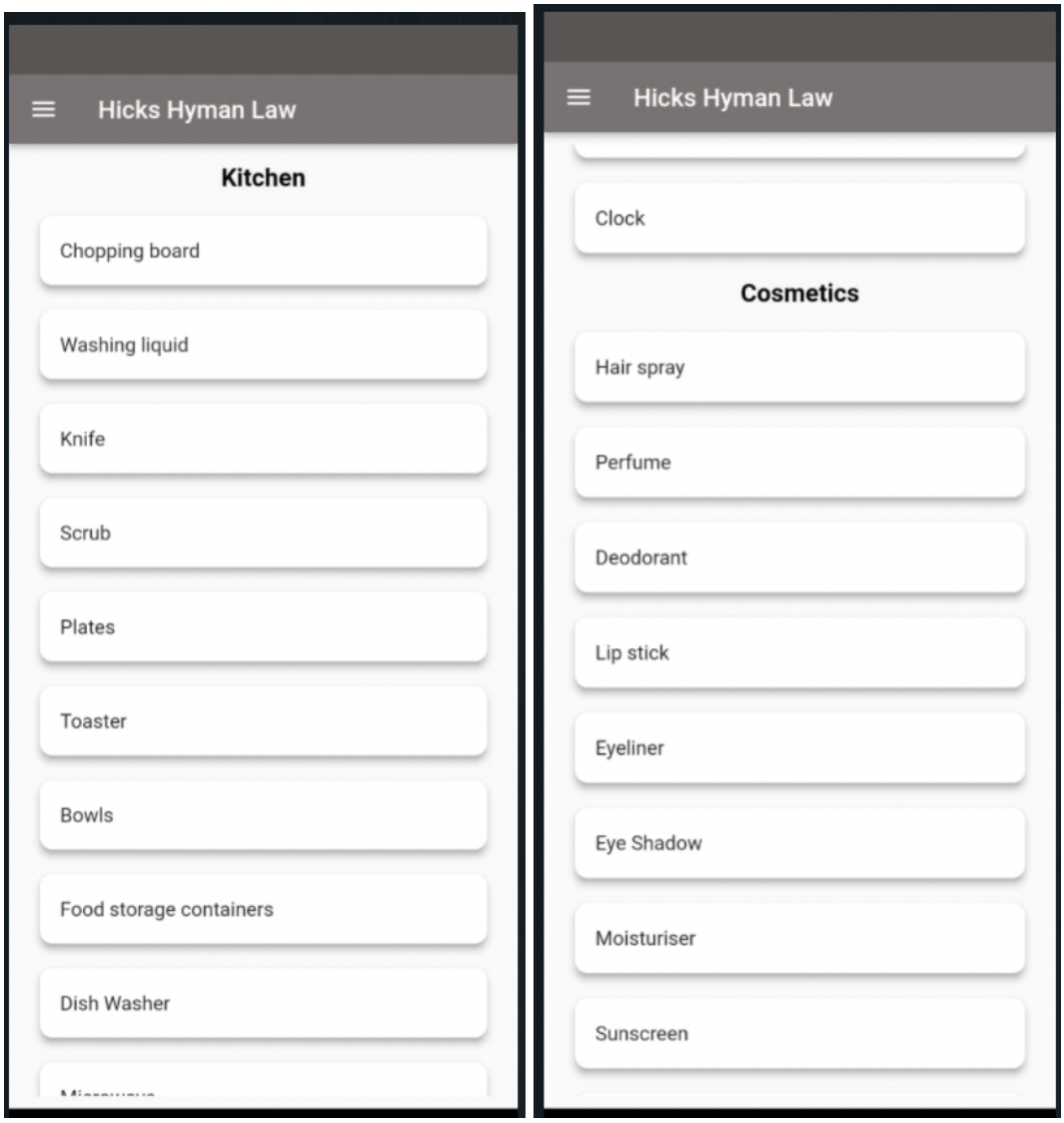
This is not a suitable form of user interface. All of the products are listed on the same page and are not sorted or grouped. To select a desired item, the user must go through each and every option. When there are numerous possibilities, this takes a long time.

Response Time vs Entropy Graph:



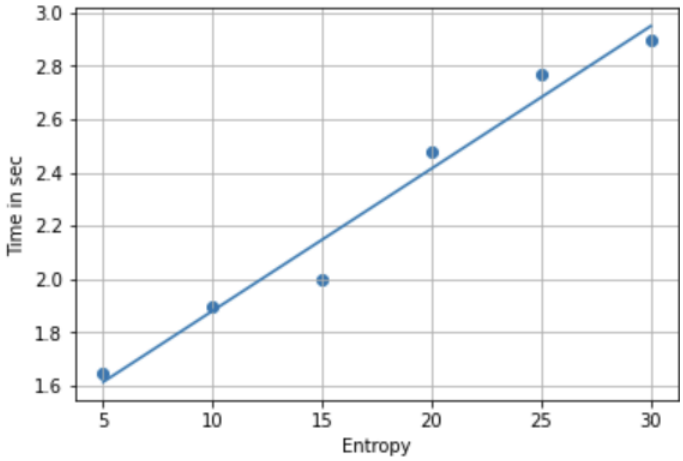
Slope: 1.672316

Categorized Menu:



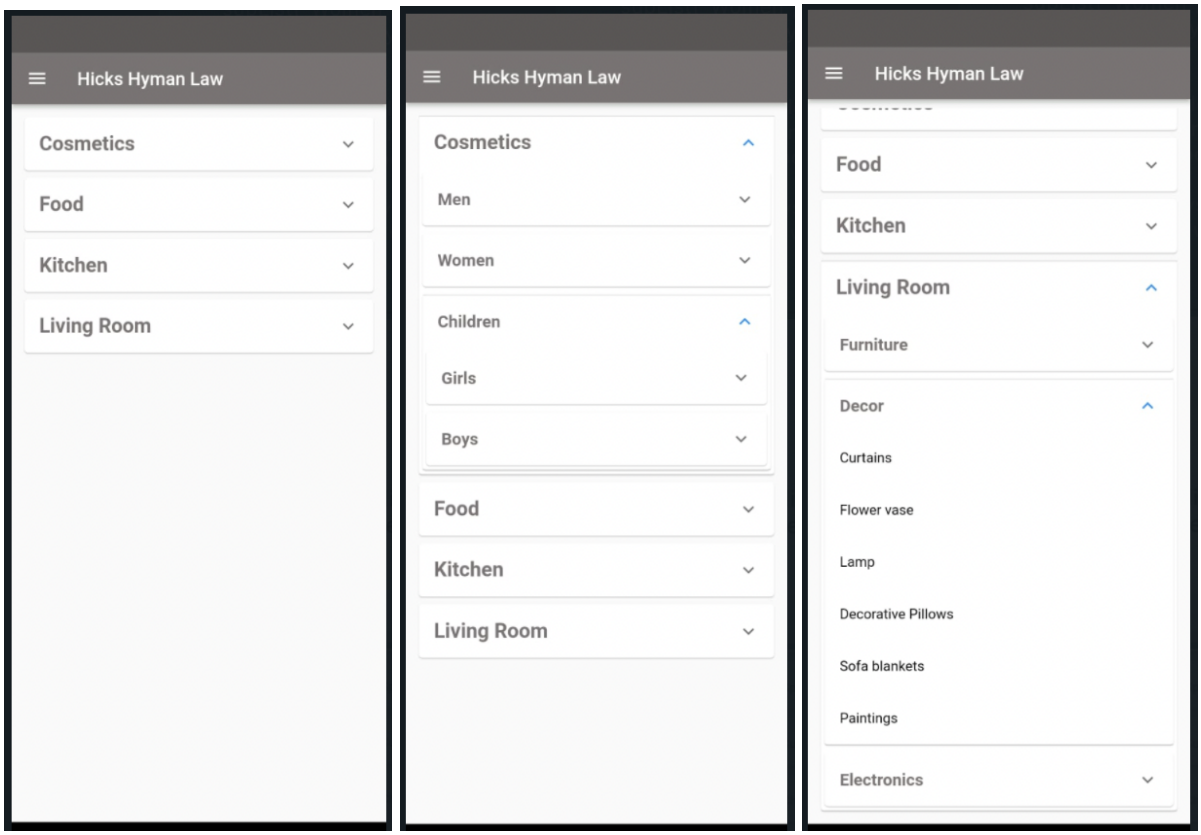
This UI is superior to Menu 1. All of the objects are classified here. If users knows exactly what they want to purchase, they can go straight to that subcategory and pick the product.
However, all of the products remain on the same screen. If there are several products, the user must scroll to discover that specific category.

Response Time vs Entropy Graph:



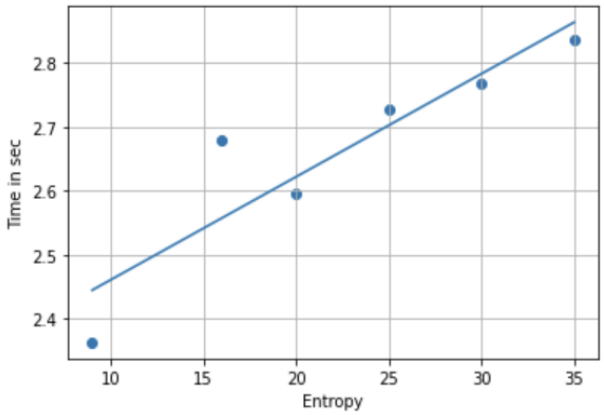
Slope: 0.6333570575611429

Categorical and Hierarchical Menu



This is the best user interface. All of the items are categorized and sub-listed here. Everything is simplified for the user here. When the user knows what they want to buy, this is the best UI. However, if the user is unsure about what to purchase, it may be time consuming for surfing through the items.
However, in most scenarios, this is the best UI.

Response Time vs Entropy Graph:



Slope: 0.3136

Menu Type	**N**	**Response Time**	**Hick's Law Response Time**
Deep Menu	30	5.387	5.8102
Categorical Menu	30	2.9012	2.9532
Categorical and Hierarchical Menu	30	2.7692	2.7753

RT = a + b. H

Conclusion:

In **Deep Menu**, the Response time increases with increase in no. of choices i.e., very time consuming.

In **Categorized Menu**, the Response time increases but less when compared to **Deep Menu**.

In **Categorical and Hierarchical Menu**, the Response time is almost the same (not much difference) even if the no. of choices increases because the items are placed in sub and sub-sub menus.

From above Graphs, the response time is less in **Categorical and Hierarchical Menu** when compared to other types of menus.