Project Report – User Guide

New Car Buy Recommender System

Masters of Technology in Intelligent Systems

Module: Machine Reasoning

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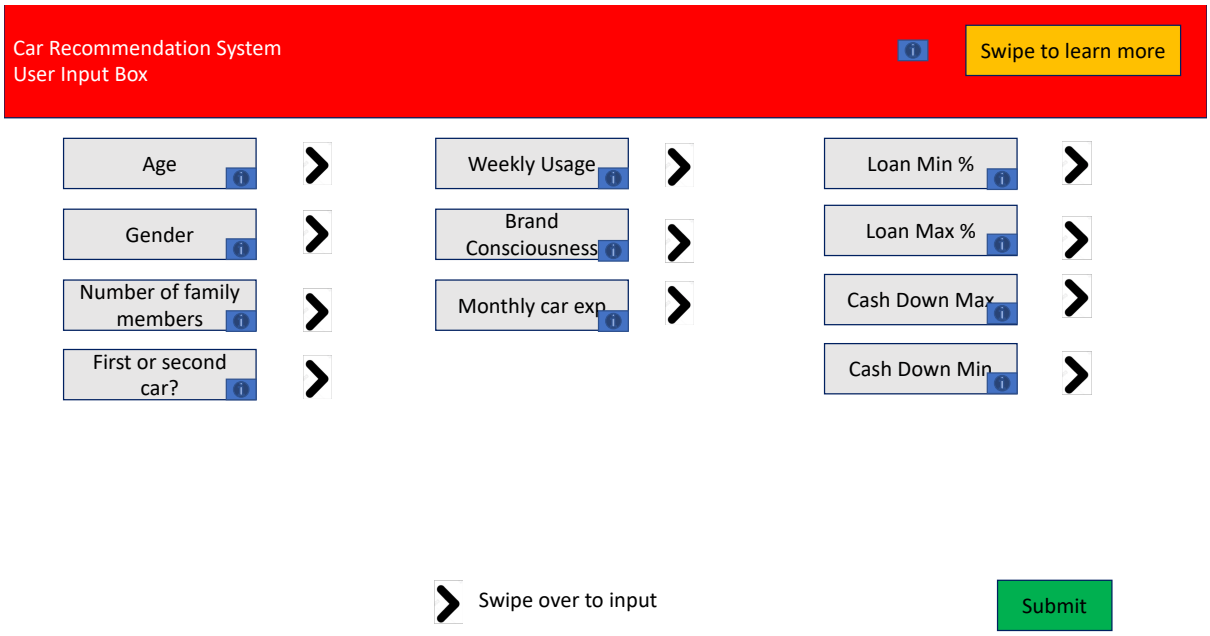
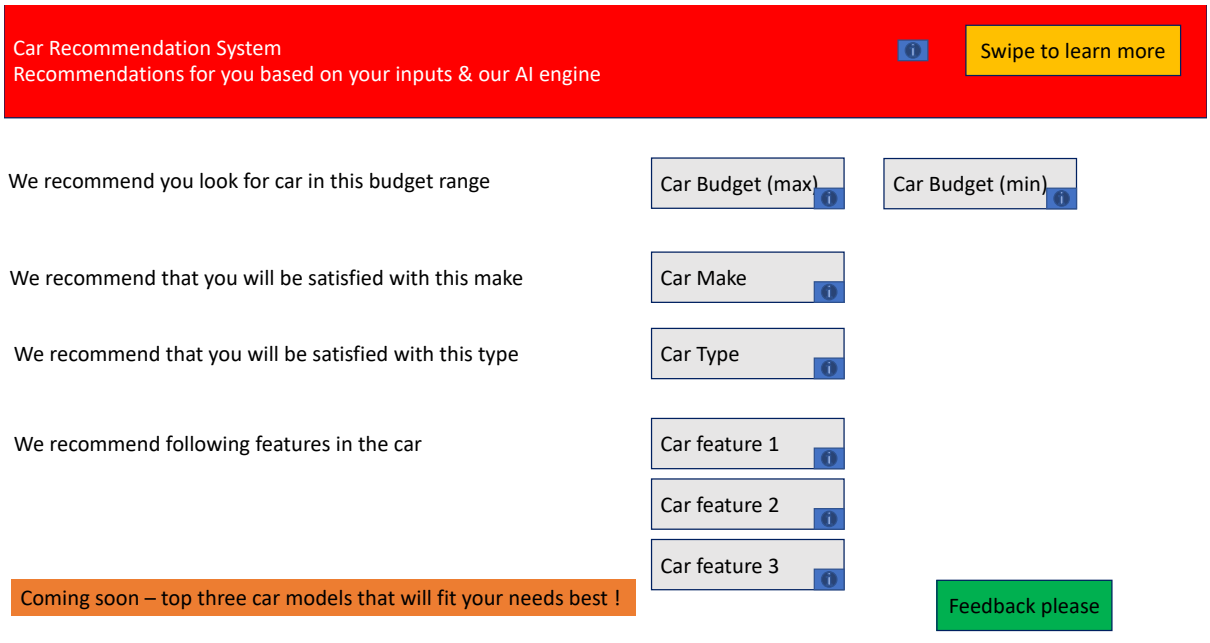
Inputs & Output dialogue screens

User Input Form



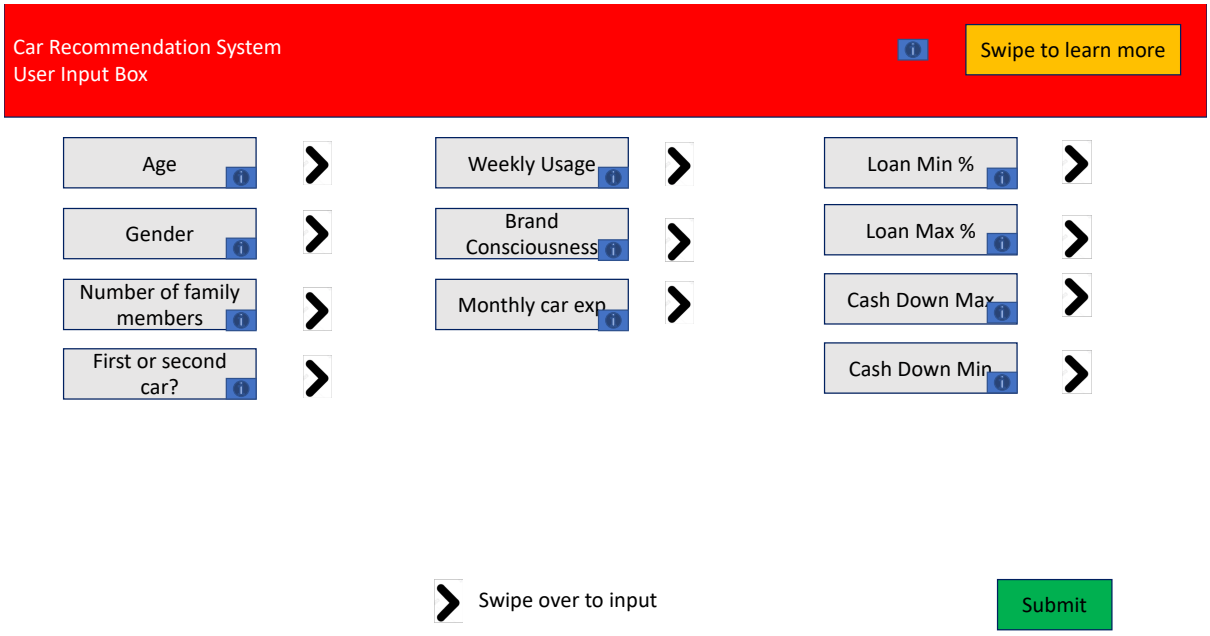
Recommendation Screen



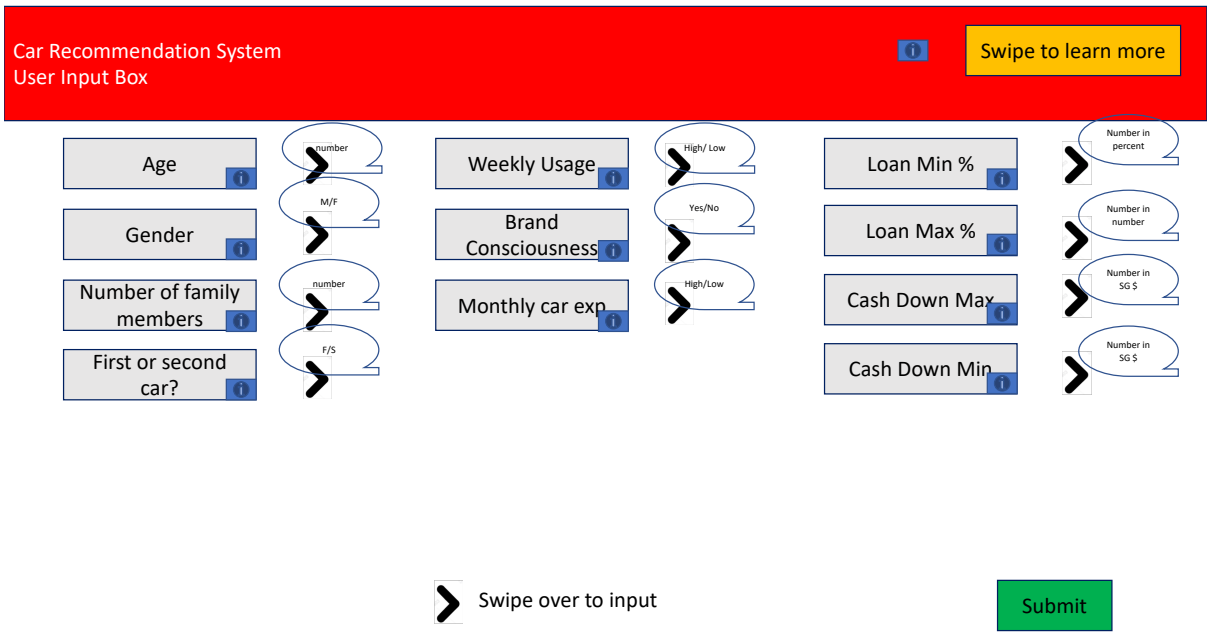
Car Recommendation System Walk through

User is guide to a dialogue box upon open the application on mobile or through a public URL As discussed previously, the MVP is planned for KIE only. Functionality has to be exposed through a web API.

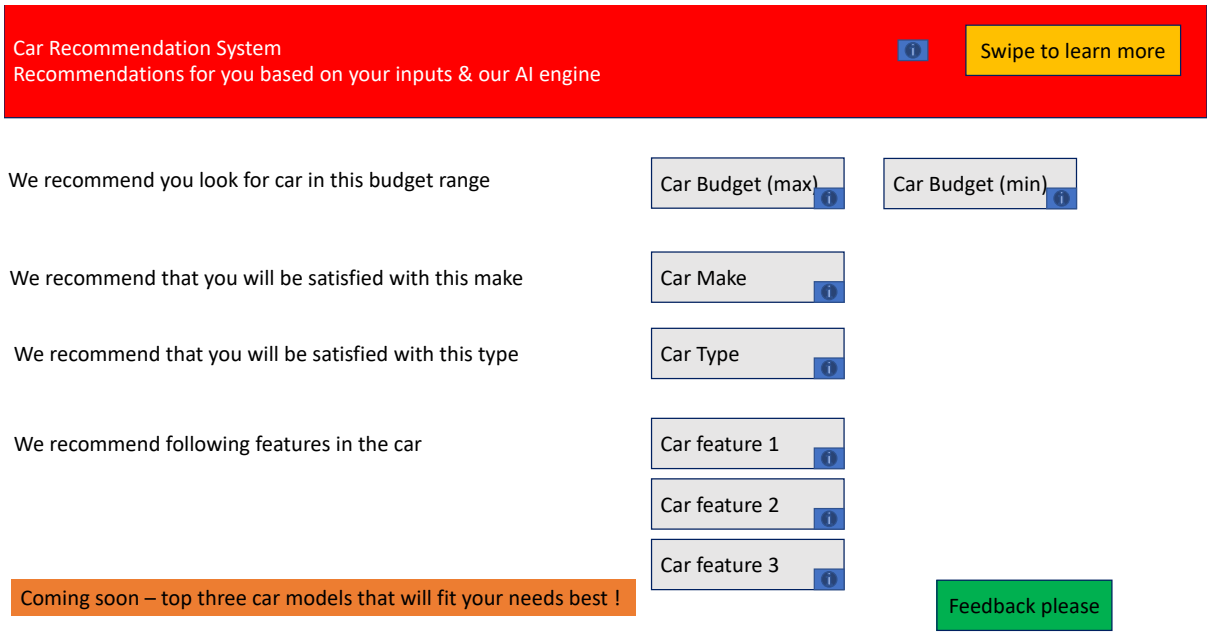
The input screen will appear like below:



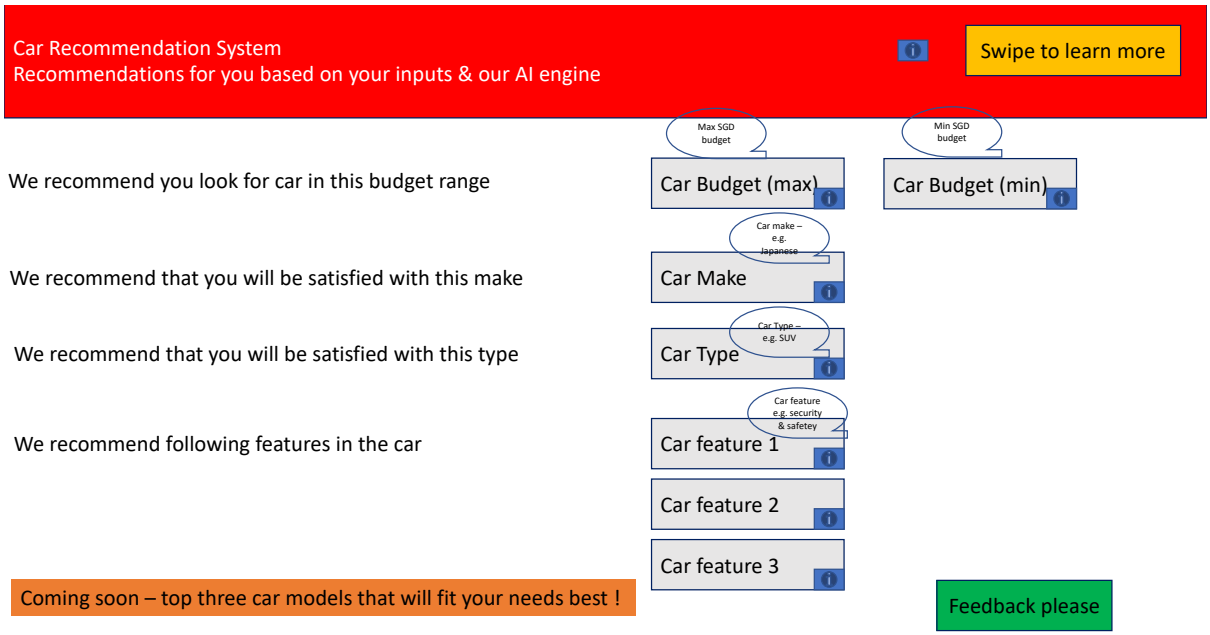
At the input screen, please input all the input fields by swiping on the forward arrow mark. The inputs are either true/false or based on some numeric range, like highlighted below!



The output, in today's MVP, will appear like this.



Point towards the information icon will provide additional details about a recommendation item.


Car Recommendation System
Recommendations for you based on your inputs & our AI engine
Swipe to learn more
We recommend you look for car in this budget range
Max SGD budget
Car Budget (max)
Min SGD budget
Car Budget (min)
We recommend that you will be satisfied with this make
Car make – e.g. Japanese
Car Make
We recommend that you will be satisfied with this type
Car Type – e.g. SUV
Car Type
We recommend following features in the car
Car feature e.g. security & safetey
Car feature 1
Car feature 2
Car feature 3
Coming soon – top three car models that will fit your needs best !
Feedback please

Sample Scenario

Scenario: Value buyer, aged 30, male

A car buyer with following requirements captured in the user input form, ref appendix B for the user's guide, for user input dialogue box in mobile app/browser.

Input	Description	Data type	User inputs
Age	Age of buyer	numeric	30
Gender	Gender of buyer	Binary	Male
Num_People_family	Number of family members in the hous	Numeric	2
is_second_car	is the car being bought second car	Binary	No
Cash_min	Min cash user thinks has for car buy	Numeric	25000
Cash_max	Max cash user think has for car buy	Numeric	30000
Loan_min	Min loan user think shall need for car bu	percent	50
Loan_max	Max loan user think shall need for car b	percent	80
Weekly_Usage	Weekly car usage	Binary	1
Brand_Consciousness	Is brand consciousness a factor in decisi	Binary	1
monthly_car_expenses	Monthly expense include fuel, maintena	Binary	0

Results in decision process calculation, ref Table 7, flowchart for the rule definition engine to calculate CF

Input	Description	Data type	User inputs	Basis CF calculations
Age	Age of buyer	numeric	30	
Gender	Gender of buyer	Binary	Male	CF_SS == 1
Num_People_family	Number of family members in the hous	Numeric	2	CF_Type_SUV/CF_Type_MPV == -1
is_second_car	is the car being bought second car	Binary	No	not relevant for CF influence in this case
Cash_min	Min cash user thinks has for car buy	Numeric	25000	$83,333
Cash_max	Max cash user think has for car buy	Numeric	30000	$100,000
Loan_min	Min loan user think shall need for car bu	percent	50	CF_30_loan == -0.5
Loan_max	Max loan user think shall need for car b	percent	80	CF_70_loan == 1
Weekly_Usage	Weekly car usage	Binary	1	CF_features_economy == 1
Brand_Consciousness	Is brand consciousness a factor in decisi	Binary	1	CF_European == 1, CF_Jap == 0.8
monthly_car_expenses	Monthly expense include fuel, maintena	Binary	0	CF_European (updated) == -1, CF_Jap == 0.8

The car recommendation system, as defined in Appendix B, user guide will make following recommendations. With these recommendations, the budget is narrowed down, the car make, type and features narrowed down as well.

Ouput	Output bracket	Possible values	Recommendations
Price	Price Min	Minimum car pric	$83,333
	Price Max	Maximum car pric	$100,000
Car country make	Country of car make	Japenese	Japanese
		European	No
		Korean	Does not matter
		American	No
		Malaysian	No
Car Type	Type of car	Sedan	Yes
		SUV	No
		MPV	No
		Hatchback	Yes
		Stationwagon	
Car Features	Recommended car features	Safety and securit	Yes
		Fuel Economy	Yes
		Engine	Does not matter

Once we link the app to current market models and pricing, we can zero down to best 2-3 options available (future enhancement captured in Section Future Project Enhancements)