Data/Result Visualization Tool / Simulator

We have a complex negotiation-based system which takes many parameters from outside world and negotiates a deal in automated way. Currently we are testing all results/ data inputs by creating Excel file and putting formulas, but it will be nice to have visual website-based tool for our testers as well as for demo to real world sellers. UI/UX is most important and ability for seller to see things visually and adjust it (what-if scenarios) are most important.

**We finished developing Phase 1 and code/ feature is available on** [**http://simulator.robonegotiator.com**](http://simulator.robonegotiator.com) **and code uses Vue.JS/jQuery I believe. I will be sharing that code which you need to use as a foundation. We are not re-writing Phase 1 features but building on top of it.**

**Phase 1 Done –   
Phase 2 – In Yellow highlights – Time Limit 7 days – Budget: $30-$150 (Foundation is there, now we need to add two options on top and fix few things from phase 1)**

**Phase 3-5 – In future. Ignore.**

This project will be multiple phase approach/ project and we are starting with a weekend R&D project which will evolve into additional requirements in coming weeks. We will also need to refine visualization aspects – better and better GUI/ outputs for demo purpose

It will be a **web-based tool** – which should be responsive and should work across all major/latest browsers - where a seller is expected to visualize what-if scenarios if s/he uses our system. Naturally, he wants to make sure that if he is using our system, how would we match a buyer matching seller’s needs/ deals so we can find win-win solution to buyer and seller both

**Most Basic Case** - Seller may want to see what happens at the most basic level where there is no discount or seller charges added for a product. For any given car or a product, seller may give us two price points (ideal sale price) and lowest sales price for a product and now wants to see what will happen if buyer enters different ranges (ideal offer and highest purchase price). There are two possibilities – match occurs, or match doesn’t occur. If match occurs, we will show result as calculated in Excel.

As a start of the project, we will ask seller to define some general configuration parameters which will help us make sure we can support negotiation options in all their capabilities. Currency, Negotiation Mode, etc. will be configured. Some configs we will use in Phase 1 and others will be used in future phases.

**Option 1** - Now, seller is given a choice to define special charges he wants to pass on to buyers. Buyers must pay those charges at the end to seller. We want to show seller how final price will change based on different charges seller is imposing on buyers for a given product.

**Option 2** - Now, seller is given a choice to define special discounts/ coupons/ rebates totaling $X amount. If a buyer is qualified and given that discount/coupon/rebate, final price will change accordingly. We want to show seller how final price will change based on different discounts/coupons/ rebates

**Option 3** – Assuming seller is a car dealer, we will offer him a chance to see if he wants to see how lease negotiation will take place through our system. We will ask seller to define the range of their parameters (6-7 parameters will have range now). Based on chosen parameters, we will calculate monthly lease amount for a car/product. We will give 7 knobs to the seller. For each knob, he changes the value and output changes for net monthly value. For example:  
  
Knob A: He has kept price A and Price B separate and we will show final lease amounts for two range points. For example: $19000-$20000 in $645-$700. This will be controlled by configuration parameter.  
  
Knob B: could be change in Interest Rate (money factor) which also results in different lease amount as shown in formula. We will show lease amounts for different money factors now.

APR = money factor \*24 or money factor\*2400 by the way so excel shows more input but seller enters only 1 if we are selecting Knob A.

Seller will use one auto price and 2 money factors (or APRs) if seller selects to use knob B in general configuration.

For example: Money Factor = 0.00013 vs. Money Factor = 0.0032 results in $630-$680 range

Buyer will select 6-7 input similar way and we will do reverse calculation and show horizontal bar with two auto values which results based on buyer’s input.

**Result:** Will show Match/No Match and Mutually Agreed Monthly Installment will show a value based on second formula I will pass

**General Requirements:**

1. We should be able to precisely select and enter input data for all sliders/ parameters so we can test. Currently it works but UI/UX doesn’t allow user to enter data and it is hard to select specific auto price, seller deal price, etc. We can also explore +/- click option to change selection in baby steps.
2. When we select a range, we should be able to clearly show range on slider even though they are very close to each other. May be, we use arrow to show them separately even when closed. Currently, it overlaps.
3. Some minor text changes in Phase 1
4. Make sure formula uses precise numbers, float, decimal points etc. so value on left side (seller side) and buyer side are comparable
5. Currently we show Result Tabs (Green/Red Color) in middle above all options. We will move the position of results below the options so it acts as master result no matter what option is applied (we may also apply multiple options in future in phase 3)
6. You may run out of time as I am strict on quality, proper finish and everything should be accepted by me in my final testing. I will need a day. So, don’t bother me to release milestone until this is done. Make sure you host the code on my site before we finish the project and I release the payment. You can show me development/ progress on your site though.

**Option 4 – Setting up Negotiation Rules/Parameters**

Only Seller Side Section will unroll which will allow seller to select and enter value for various parameters under this. 6 parameters for now (0—10) and we will add 3 more in future phases.

There will be 9 parameters under this. 4 Pro Buyer, 2 Pro Sellers, 2 Depending on AI/ML input (this will come in phase 3) and one more neutral parameter which will also come in Phase 3)  
4 Pro-Buyers  
[ ] Apply Repeat Customer Discount – 0----------10  
[ ] Apply Additional Quantity Discount 0----------10 (this will be effective only if buyer buys more quantity than 1 so we will ask for buyer’s quantity too).  
[ ] Apply Out of fashion/ older product – Sell Aggressively 0---------10  
[ ] Apply Excess Inventory Parameter 0---------10

2 Pro Sellers  
[ ] Apply Hot Item / Item in Demand Rule 0-------------10  
[ ] Apply Additional Cost 0---------------10

Other Three Parameters in Phase 4/5

**Option 5 – Offering Financing/ Loan – Monthly Installment**

As soon as user selects an option to apply this option on current simulator following visual features will come in front of the user. We will have two sides here like Lease Negotiation option (Option 3) above.

This option will use one of our general configuration parameters (Finance/Loan Negotiation) and selection will decide which knob (which slider) will have two markers.

We have Excel based formulas/calculations and it does same thing as Lease Negotiation. It will open two sides input with multiple sliders.   
Seller Side (left side):  
Slider will be based on following parameters which will be used to take input from seller

1. Term in months – 24/36/48/60/72/84 months – 6 potential stops
2. Credit Score History – Excellent, Very Good, Good, Average, Very Poor – 5 Stops
3. APR Range – Slider with two end points - Lower and Higher if Knob A is configured in General Configuration Parameters otherwise one point/data point.
4. Auto Value – Slider with two end points – if Knob B is configured. Otherwise one value.

We will provide formula based on input/markers on 1-4 and that will be shown in a horizontal slider below which be show potential monthly installment range (low and high) based on selected input.

Similarly, we will have following inputs from buyer (Right side)

1. Term in months – 24/36/48/60/72/84 months – 6 potential stops
2. Credit Score History – Excellent, Very Good, Good, Average, Very Poor – 5 Stops
3. APR – This will be a single point for both knobs/configuration. If Knob A, it will be set automatically to higher range from seller side. If knob B, it will be same as what seller shows on his side.
4. Down Payment – Default to $0 – can go upto $15000 in increment of $50
5. Trade In Value Estimation – Default to $0 – can go upto $25000 in increment of $100.
6. Monthly Installment Value – Slider with two end points – Lower and Higher.

We will provide formula based on input/markers on 1-6 above and that will be shown in a horizontal slider below which be show potential Automobile Value range (low and high) based on selected inputs from buyer.  
  
Result: Will show match and Mutually Agreed Monthly Installment will show a value based on second formula I will pass

Option 6 – Phase 4 – Apply Market Data Adjustments”  
Clicking on it shows “Coming Soon – Our product supports this feature, but simulator is not yet available. Ask for a real demo”

Option 7 - Phase 4 – Apply Artificial Intelligence/ Machine Learning

Clicking on it shows “Coming Soon – Our product supports this feature, but simulator is not yet available. Ask for a real demo”

**Adjustment Abilities:** (**Phase 3 Requirements)** - Now we want to give a playing tool to the seller so he can decide if he wants to enable only 1 knob or two knobs or three knobs. Now we are aggregating the net effect of combining knobs

In example above: If knob A and knob B both with two ranges are enabled, we will have two ranges so we will ask seller to choose inner range ($$645-$680 range) or outer range ($630-$700).