OPERATION MANUAL RMDATA

APPLICATION: RMDATA

ABSTRACT
Procedure for operating Application 'RMDATA' on www.sashonapp.com

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Contents

1.   Introduction:

Technology development has always played an important role in the field of Engineering from the early Industrial Revolution till date. For any project, time is an essence and cost of project is directly impacted by time. With advancement of technology, time taken for a project can be optimized and greater control over cost be achieved. In project Engineering, repetitive type of work is usually involved with variable parameters and time & manpower is required to complete the work. A customized application development can reduce the time & manpower requirement by efficiently calculating and displaying the output parameters from input parameters.

2.   Aim:

Our main aim is to understand the requirement of a project, study input and output parameters, design an application, provide support & training till application is optimized and upload on our website www.sashonapp.com and use it from anywhere in the world.

There are many applications available for different fields which are window based and have license requirement. The license is usually perpetual / annual rental basis and initial investment cost is high and is not affordable to many Clients. If it is installed in a particular System, we may not be able to access from other places.

We offer a web based customized application which can be operated from anywhere in the world 24 x 7 and Client can use it on pay per use basis, which will be very less compared to the initial investment and how many times it is being used.

3.   RMDATA Application:

This application is developed for pipeline surveying domain. Usually the pipeline traverses from start point to end point and depending upon the route constraints, it may not be a straight line and have turning points. This program can be used for calculating turning points, intermediate points, chainage, bearing and deflection angle for pipeline route. Input will be the coordinates of the points of pipeline route in UTM coordinate system taken from field in csv format.

<p style="text-align:center;color:red;font-weight:bold;">Figure 1: Input Data Format</p>

SN	Easting	Northing	Elevation
1	313540.7	2414096	29.889
2	313436.4	2414008	29.944
3	313329	2414002	30.468
4	313337.6	2413982	30.335
5	313359.7	2413950	30.694
6	313385.9	2413913	30.624
7	313427.3	2413853	30.314
8	313463	2413792	30.014
9	313489.2	2413738	28.423
10	313510.2	2413679	28.178
11	313519.7	2413633	26.612
12	313502	2413607	26.457
13	313491.1	2413582	26.284
14	313485.1	2413542	26.441
15	313485.7	2413532	26.258
16	313496.8	2413522	26.564
17	313511.9	2413512	26.779
18	313512.5	2413503	26.985
19	313510.4	2413482	27.124
20	313506.9	2413460	26.867
21	313501.7	2413434	26.567
22	313500.6	2413433	25.326
23	313514.6	2413408	25.253
24	313517.6	2413389	26.246
25	313518.8	2413358	27.923
26	313517.7	2413311	29.638
27	313518.5	2413241	29.715

Route-1

4. Programming Process:

Figure 2: Programming Process
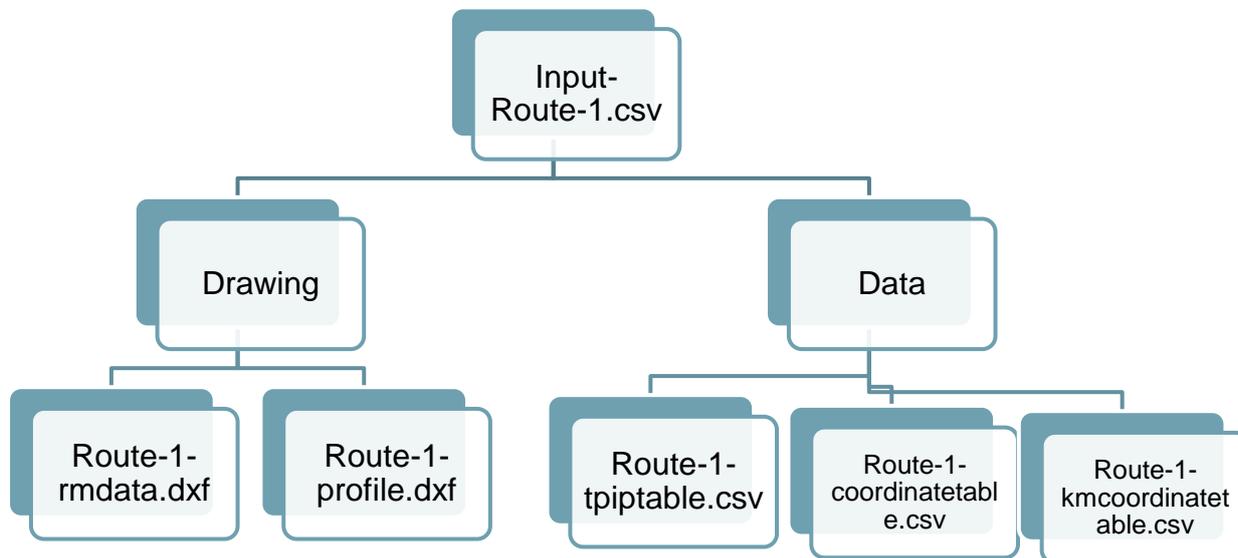
5. Output Format:

Figure 3: Output Format tpiptable.csv

	A	B	C	D	E	F	G	H	I	J	K	L
1	Point_ID	Easting	Northing	chain_fina	def_ang	dir_ang	bearing	Feature_c	def_ang_d	bearing_d	chain_delta	
2	TP0	313540.7	2414096	0			229.8725	TP		229 ° 52' 2	0	
3	TP1	313436.4	2414008	136.42	36.82135	R	266.6938	TP	36 ° 49' 16	266 ° 41' 3	136.4159	
4	TP2	313329	2414002	243.99	109.2885	L	157.4054	TP	109 ° 17' 1	157 ° 24' 1	243.9872	
5	TP3	313337.6	2413982	266.22	12.44564	L	144.9597	TP	12 ° 26' 44	144 ° 57' 3	266.2189	
6	IP3/1	313359.7	2413950	304.81	0.06864	L	144.8911	TP	0 ° 4' 7.1"	144 ° 53' 2	304.806	
7	IP3/2	313385.9	2413913	350.34	0.392662	R	145.2838	TP	0 ° 23' 33.(	145 ° 17' 1	350.3377	
8	TP4	313427.3	2413853	422.9	4.432882	R	149.7166	TP	4 ° 25' 58.4	149 ° 42' 5	422.9043	
9	TP5	313463	2413792	493.77	4.323354	R	154.04	TP	4 ° 19' 24.:	154 ° 2' 24	493.7703	
10	TP6	313489.2	2413738	553.62	6.395911	R	160.4359	TP	6 ° 23' 45.:	160 ° 26' 9	553.6156	
11	TP7	313510.2	2413679	616.52	7.900552	R	168.3365	TP	7 ° 54' 2.0'	168 ° 20' 1	616.5241	
12	TP8	313519.7	2413633	663.25	46.27045	R	214.6069	TP	46 ° 16' 13	214 ° 36' 2	663.246	
13	TP9	313502	2413607	694.35	11.52001	L	203.0869	TP	11 ° 31' 12	203 ° 5' 12	694.3535	
14	TP10	313491.1	2413582	722.24	14.40603	L	188.6809	TP	14 ° 24' 21	188 ° 40' 5	722.2407	
15	TP11	313485.1	2413542	762.21	12.12941	L	176.5515	TP	12 ° 7' 45.9	176 ° 33' 5	762.2086	
16	TP12	313485.7	2413532	772.27	43.84171	L	132.7098	TP	43 ° 50' 30	132 ° 42' 3	772.2681	
17	TP13	313496.8	2413522	787.47	9.201182	L	123.5086	TP	9 ° 12' 4.3'	123 ° 30' 3	787.4678	
18	TP14	313511.9	2413512	805.53	52.64318	R	176.1518	TP	52 ° 38' 35	176 ° 9' 6.:	805.5305	
19	TP15	313512.5	2413503	814.62	9.750938	R	185.9027	TP	9 ° 45' 3.4'	185 ° 54' 9	814.6195	
20	IP15/1	313510.4	2413482	835.28	2.915253	R	188.8179	TP	2 ° 54' 54.9	188 ° 49' 4	835.2789	
21	IP15/2	313506.9	2413460	858.02	2.616151	R	191.4341	TP	2 ° 36' 58.:	191 ° 26' 2	858.0187	
22	TP16	313501.7	2413434	884.45	45.44094	R	236.875	TP	45 ° 26' 27	236 ° 52' 3	884.4451	
23	TP17	313500.6	2413433	885.75	85.70283	L	151.1722	TP	85 ° 42' 10	151 ° 10' 2	885.7471	
24	TP18	313514.6	2413408	914.92	20.01307	R	171.1853	TP	20 ° 0' 47.(	171 ° 11' 7	914.9154	
25	TP19	313517.6	2413389	934.21	6.508052	R	177.6933	TP	6 ° 30' 29.(	177 ° 41' 3	934.2113	
26	TP20	313518.8	2413358	964.72	3.610012	R	181.3033	TP	3 ° 36' 36.(	181 ° 18' 1	964.722	
27	IP20/1	313517.7	2413311	1011.83	1.916393	L	179.3869	TP	1 ° 54' 59.(	179 ° 23' 1	1011.83	
28	IP20/2	313518.5	2413241	1081.51	2.642802	R	182.0297	TP	2 ° 38' 34.:	182 ° 1' 47	1081.515	

Route-1-tpiptable ⊕

Figure 4: Output Format coordinatetable.csv at fixed intervals

SN	Chainage	Easting	Northing	ang1	quad1
1	0	313540.7	2414096	40.12752	3
2	30	313517.8	2414077	40.12752	3
3	60	313494.9	2414057	40.12752	3
4	90	313471.9	2414038	40.12752	3
5	120	313449	2414019	40.12752	3
6	150	313422.9	2414007	3.306168	3
7	180	313392.9	2414006	3.306168	3
8	210	313363	2414004	3.306168	3
9	240	313333	2414002	3.306168	3
10	270	313339.8	2413978	-54.9597	4
11	300	313357	2413954	-54.9597	4
12	330	313374.2	2413929	-54.8911	4
13	360	313391.4	2413905	-55.2838	4
14	390	313408.5	2413880	-55.2838	4
15	420	313425.6	2413855	-55.2838	4
16	450	313440.9	2413830	-59.7166	4
17	480	313456	2413804	-59.7166	4
18	510	313470.1	2413777	-64.04	4
19	540	313483.2	2413750	-64.04	4
20	570	313494.7	2413723	-70.4359	4
21	600	313504.7	2413694	-70.4359	4
22	630	313513	2413666	-78.3365	4
23	660	313519	2413636	-78.3365	4
24	690	313504.5	2413611	55.39309	3
25	720	313492	2413584	66.9131	3
26	750	313486.9	2413554	81.31912	3
27	780	313491.3	2413527	-42.7098	4

Route-1-coordinatetable

Figure 5: Output Format kmcoordinatetable.csv

SN	Chainage	Easting	Northing	ang2	quad2
1	0	313540.7	2414096	40.12752	3
2	1000	313518	2413323	88.69666	3
3	2000	313743.4	2412363	-72.2811	4
4	3000	313495.3	2411783	22.97879	3
5	4000	312814.4	2411521	86.39196	3
6	5000	312770.6	2410622	78.95764	3
7	6000	312728	2409626	-89.2624	4
8	7000	312754.5	2408661	-32.4856	4
9	8000	313070.9	2407758	-86.6007	4
10	9000	312227.9	2407533	5.392501	3
11	10000	311548.6	2406898	67.98792	3
12	11000	310949.3	2406101	56.90551	3
13	12000	310605.6	2405184	-66.0233	4
14	13000	310494.3	2404228	68.28817	3
15	14000	310231.9	2403355	-74.3483	4
16	15000	310131.4	2402473	79.55311	3
17	16000	309944	2401491	73.62375	3
18	17000	309662.1	2400531	73.62375	3
19	18000	308772.7	2400550	-51.1114	2
20	19000	308358.2	2399747	36.98194	3
21	20000	308067.7	2398981	-62.5325	4
22	21000	308204.3	2398096	59.22635	3
23	22000	308112.9	2397130	87.21417	3
24	23000	308183.8	2396153	-83.1932	4
25	24000	308443.2	2395200	-62.3902	4

Route-1-kmcoordinatetable

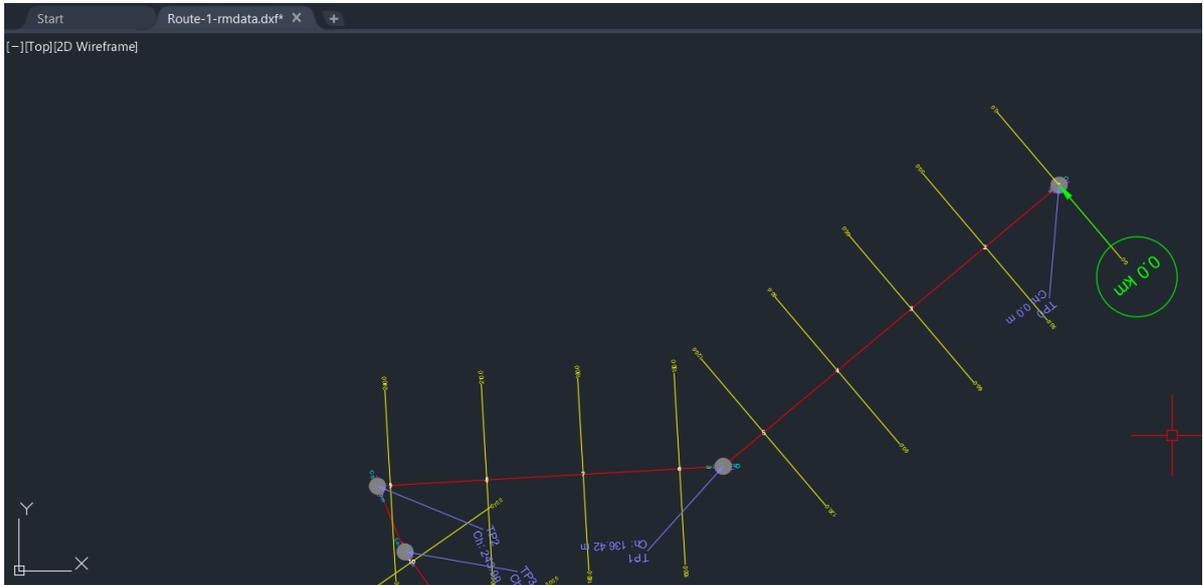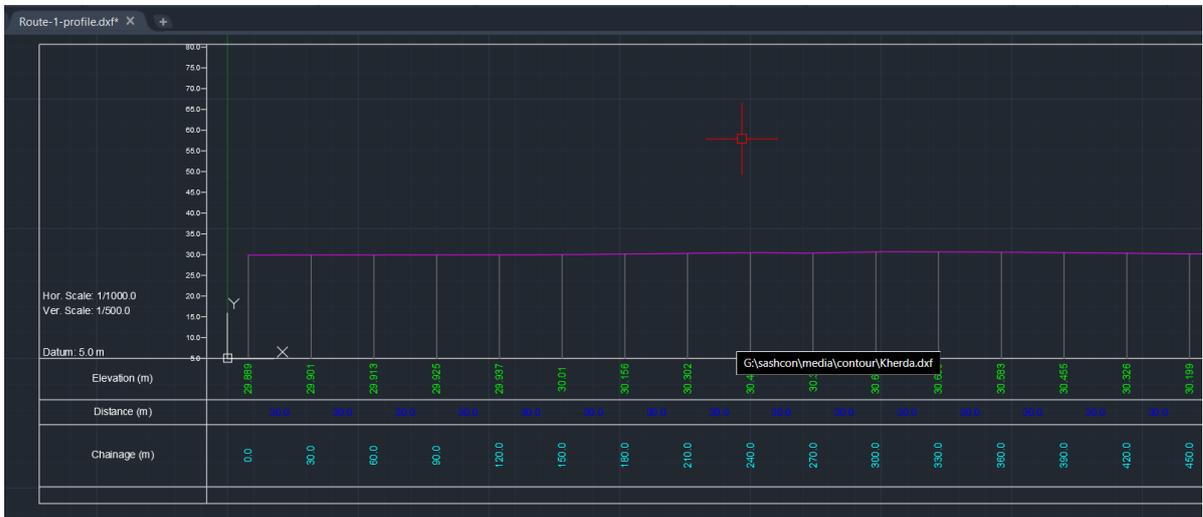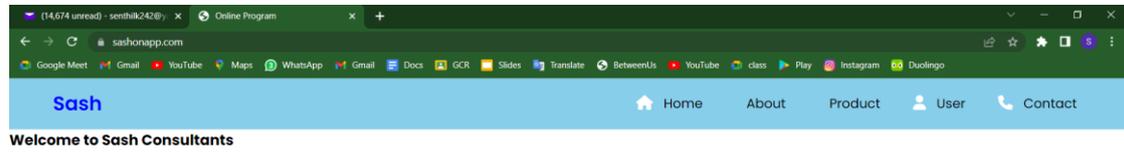**Figure 6: Output Format rmdata.dxf**

Figure 7: Output Format profile.dxf
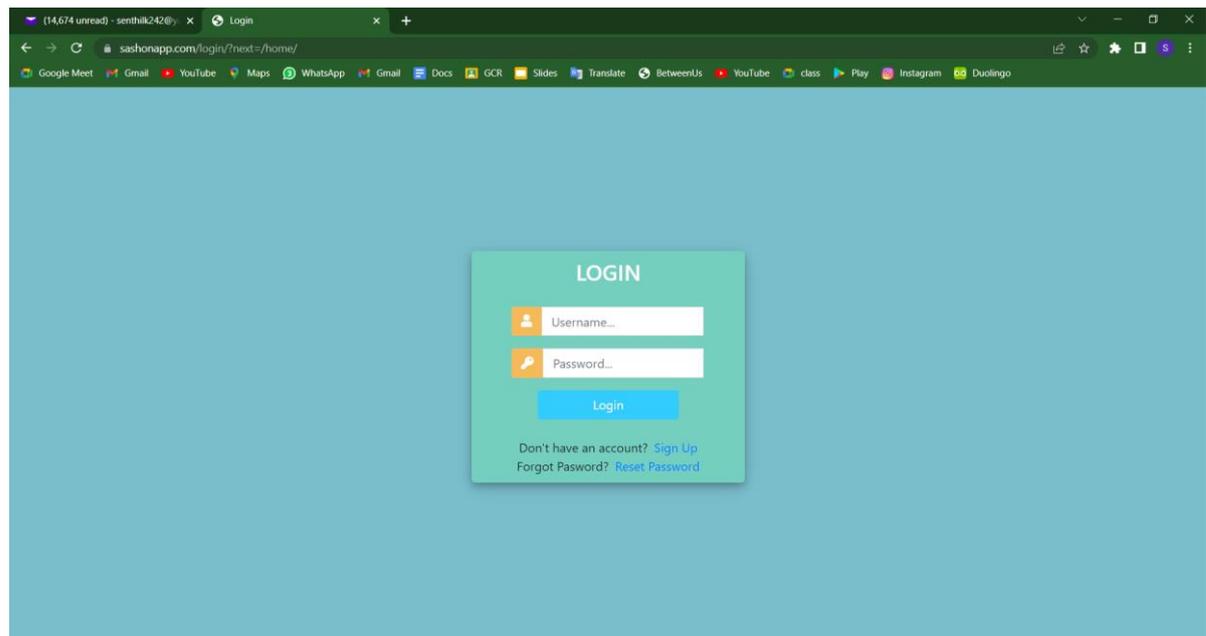
6. PROGRAM OPERATION:

First of all, open the website www.sashonapp.com and the following page is displayed.
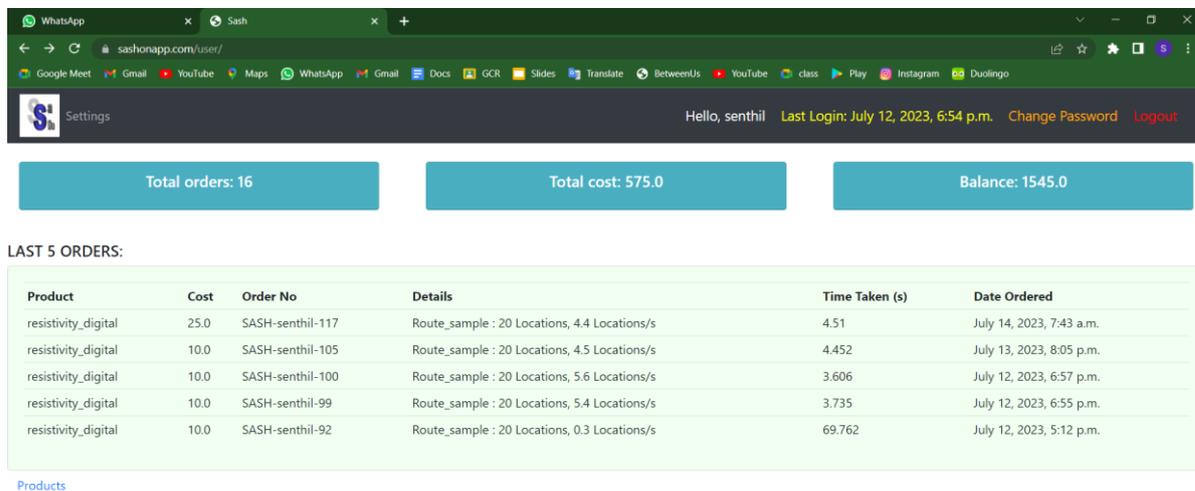
Figure 8: Website

Click User on the webpage and shall be redirected to User Login Page.
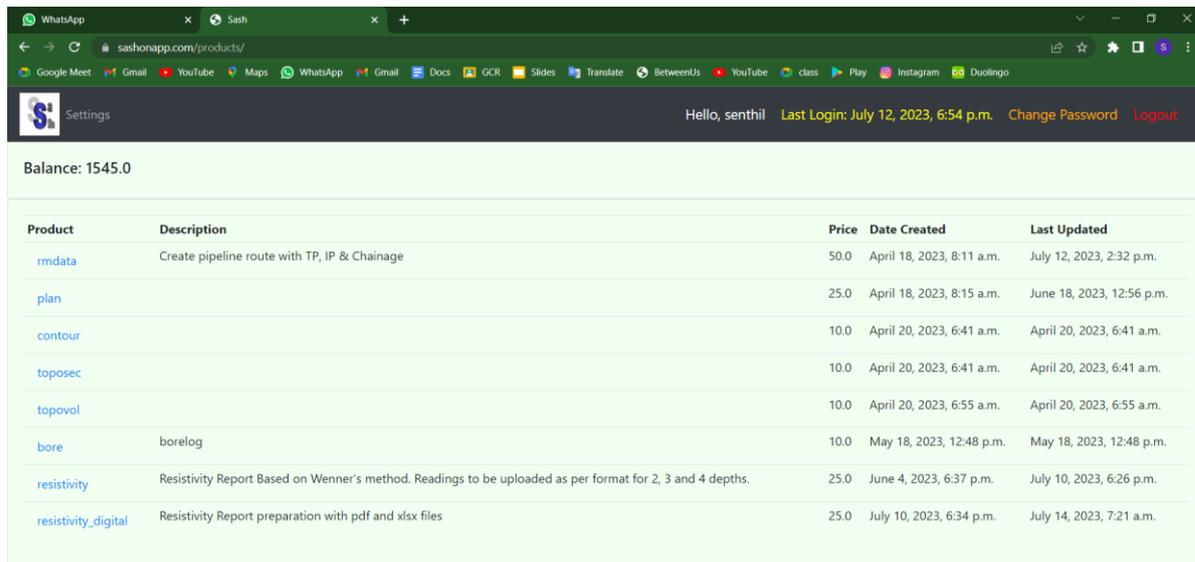
Figure 9: User Login

Enter credentials and click Login and shall be redirected to Customer Page.
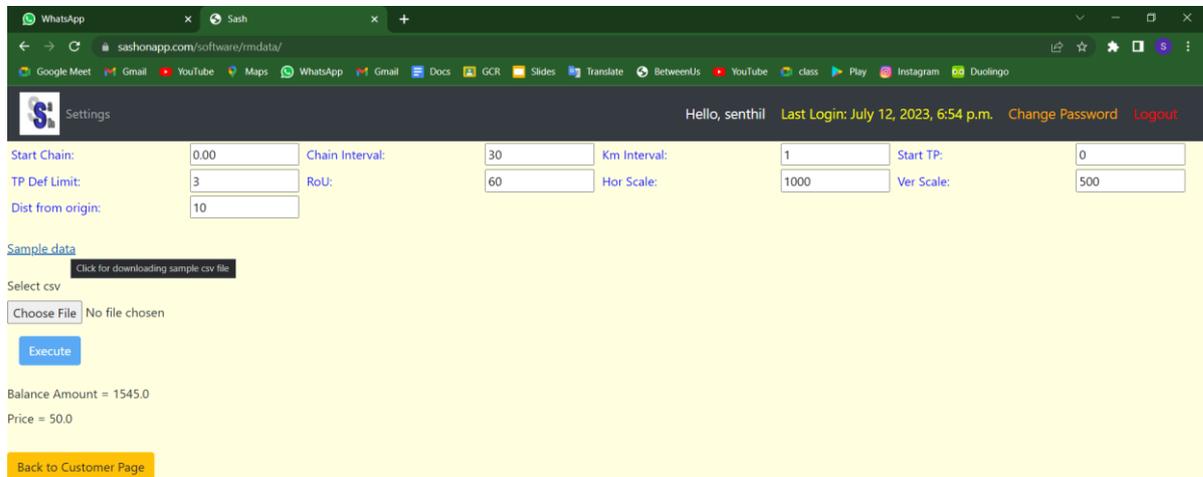
Figure 10: Customer Page

Click on Products link and shall be redirected to customized Products Page.

Figure 11: Customized Product Page

Click on Product rmdata and shall be redirected to Product **rmdata** Page.

Figure 12: Rmdata Page

A sample data is already uploaded on the website. Click on Sample data and file can be downloaded and saved to desired folder in Client's system.
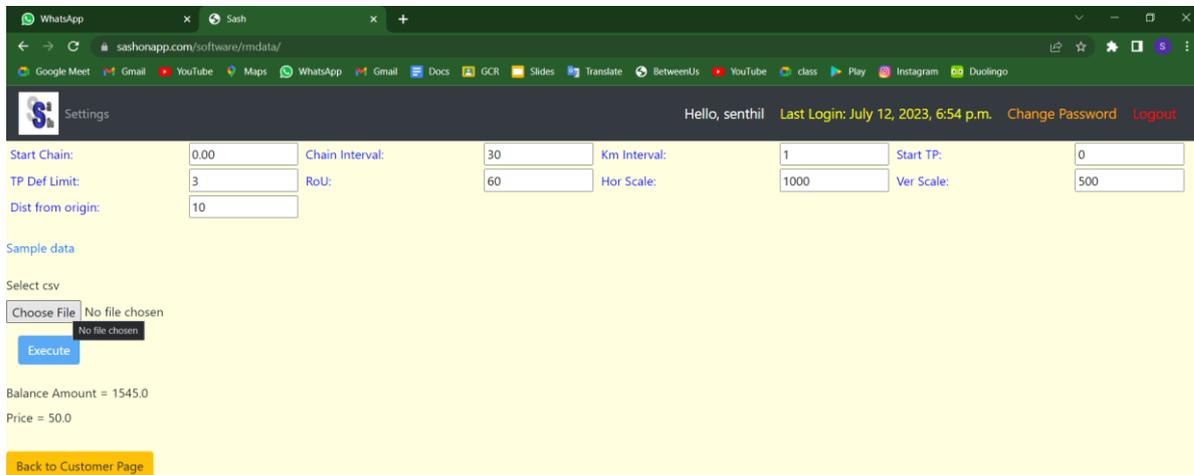
Figure 13: Downloading Sample file
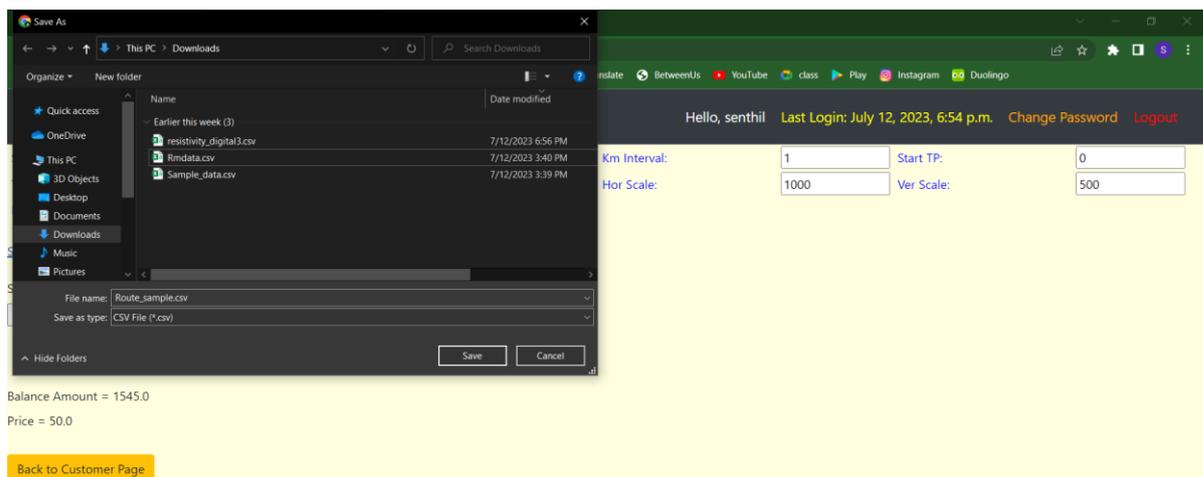
Now Go to Choose File under Select csv.

Figure 14: Selection of Input file

Select the sample file Route_sample.csv and Click Open.

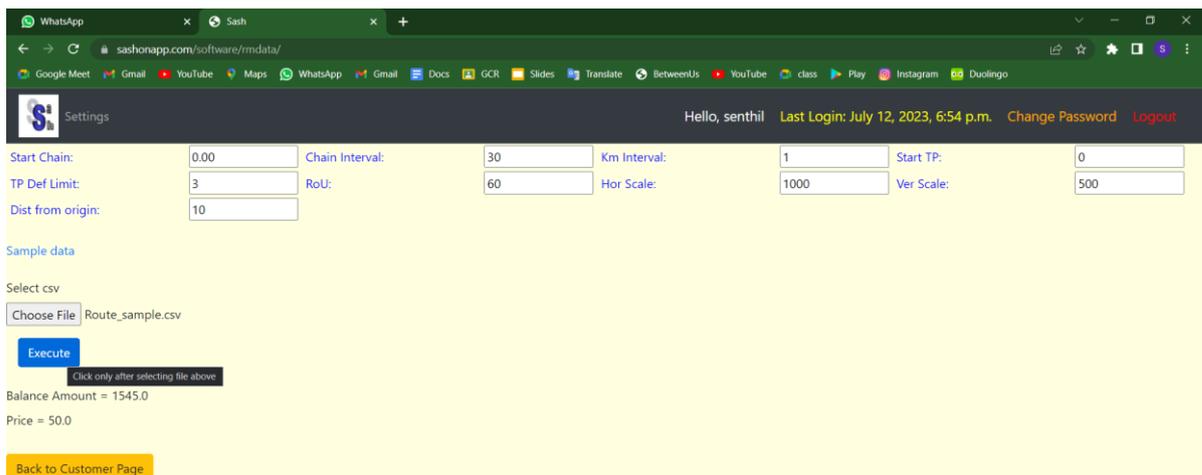**Figure 15: Uploading Input file**
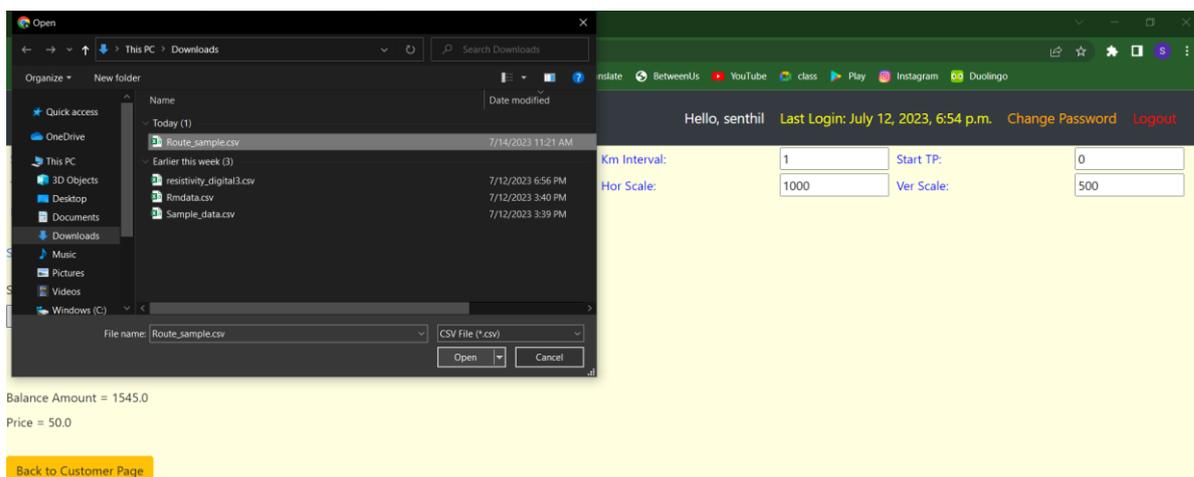
The selected file name shall be displayed near Choose File button and Execute button shall be activated.
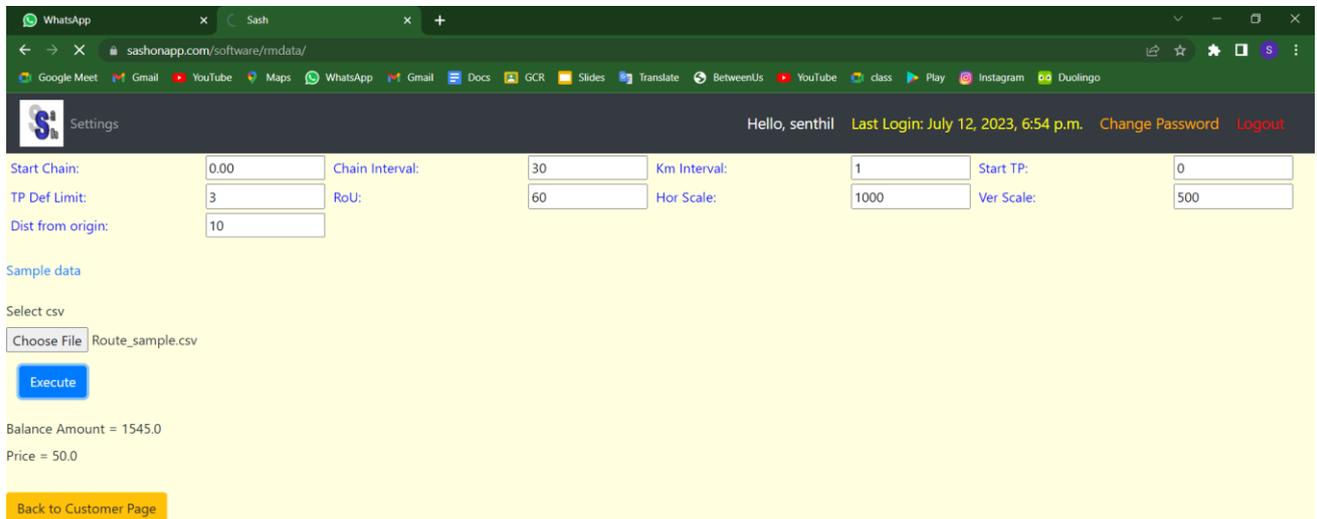
Figure 16: Activation of Execute Button
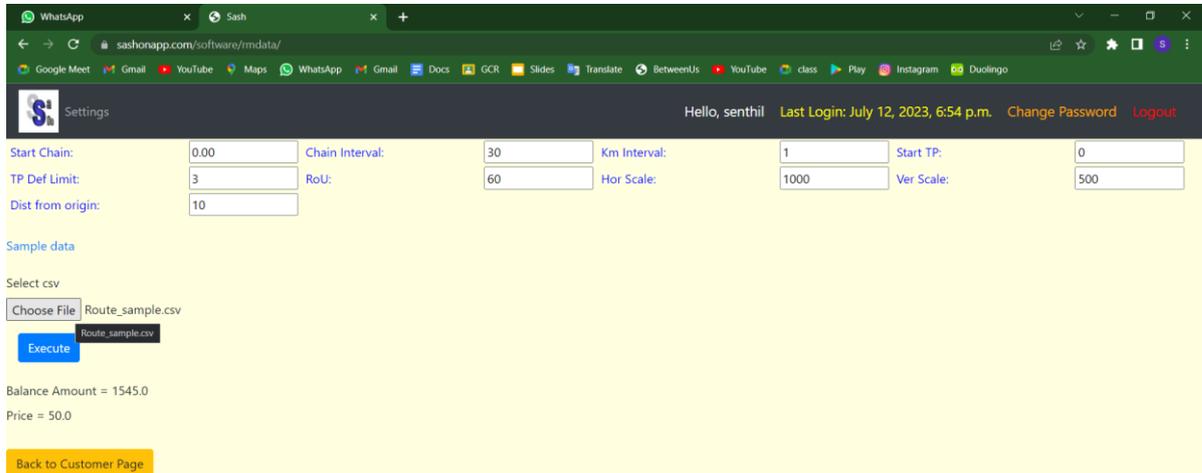
Click on Execute button
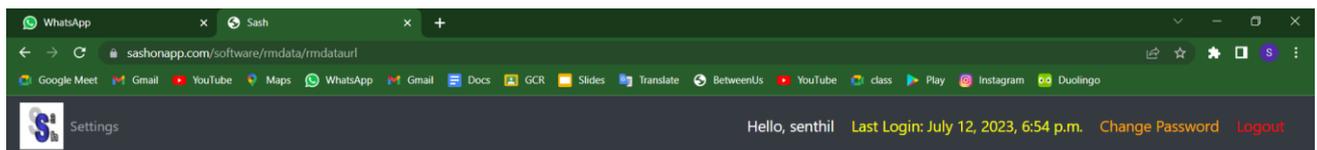
Figure 17: Execute Application

The application is in progress as shown below:

Figure 18: Application Progress Page

The following page shall be displayed.

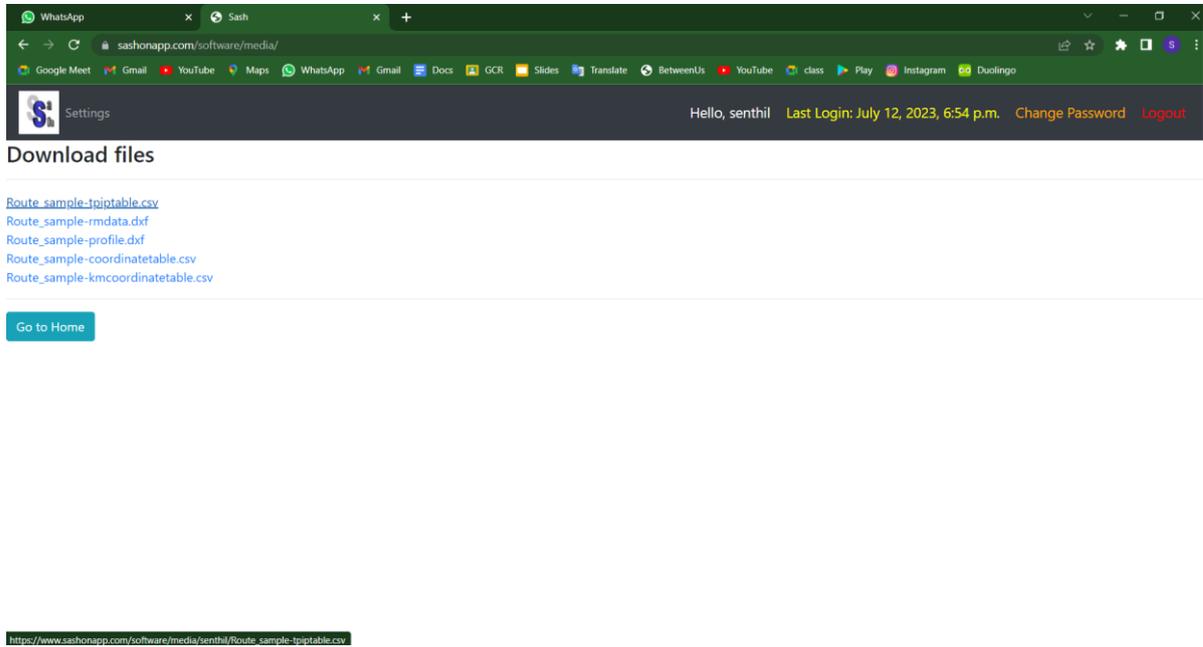**Figure 19: Output Files successfully generated Page**

Click on Go to Download Page. The output files are displayed as shown below.

Figure 20: Output Files for download

Download the files individually to desired directory and save.