Application Of Automated Material And Cost Estimation System

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ABSTRACT

The significance of dynamic in cost estimation for the structure configuration process connotes the prerequisite for the two architects and venture chiefs. A survey is conducted by downloading different apps which are there on play store and by studying then we come to know about then that they can't be used by a layman, those apps can be only used by a civil engineer. One more thing the steps for using that app which are very tough. From that app, you can find out the cost and quantity of material for superstructure but there is no option for substructure. We have developed an app which will help to resolve all the problems which is faced while using other apps. Like in our app we will provide easy use. By providing the basic information the person will come to know about the cost and quantity of material. With our app they will be able to calculate the cost for super structure as well as sub structure.

Key Word: App, Estimation, Calculation

1. INTRODUCTION

Our project is related to quantity surveying app. We are developing one app on why a person or company can calculate the cost and the quantity of material used for the construction by filling the basic information about the building. With the help of the app, the person will come to know the cost which will be near to the cost will he has to spend on construction; if possible then it can differ by 5% of the given cost will come. With the help of our app, a person can calculate the cost and material used in the foundation which is not possible with another app. We are providing the result just not for a residential building but with our app, anyone can calculate the cost for different buildings.

1.1 OBJECTIVE:

1. To provide the platform so that a lay man can calculate the cost and quantity of raw material for the construction.
2. To provide easy use in comparison to other apps.
3. By giving the basic information such as plot area, type of BHK, etc user will get their desire result.
4. The app will be there on play store so any one can download and use.

5. The app will be free of cost.

6. The working of the app will be easily understood by users.

The basic challenge was for us to make an app which can we used by lay man so we started searching all the other apps which are there on play store, after we had to make an app layout. One of the biggest challenges was calculation part. We have to do that type of calculation from which a desire value can be obtained. After the coding work which app developer will do, so we have found out one app developer which can understand our concept and make that app which we want? For the calculation we have to know the quantity surveying which was the main part us

2. COMPONENTS OF WORK

Our main components are which are mostly use in structure and the cost of the structure can be increased or decrease by those components. Our components are

1. Brick
2. Cement
3. Reinforcement bar
4. Fine aggregate
5. Coarse aggregate

2.1 Excel: For the calculation, we are using excel. Our app will be connected with excel and on excel formulas will be there; when the values will be given it will automatically calculate and give the result. Till now we are completed with 858, 1050, 1500, 1800, and 2000. And our calculation is almost the same as real-life construction. For that, we have done the survey from two different builders from 2 different states.

3. EXPERIMENTAL PROCEDURE

In starting we looked for the different apps of quantity surveying in which we found that there is a huge complication while using the apps. So, we decided to make an easier app in which we can provide the easiest way to calculate. So as per our plan, we started with making an app layout and we started learning quantity surveying. As our project was in progress, we had talked with the app developer which would be helping us with making the app. Our app is available on android play store that is free for everyone. Anyone can download it and use it

Working Method of automated estimation and valuation system

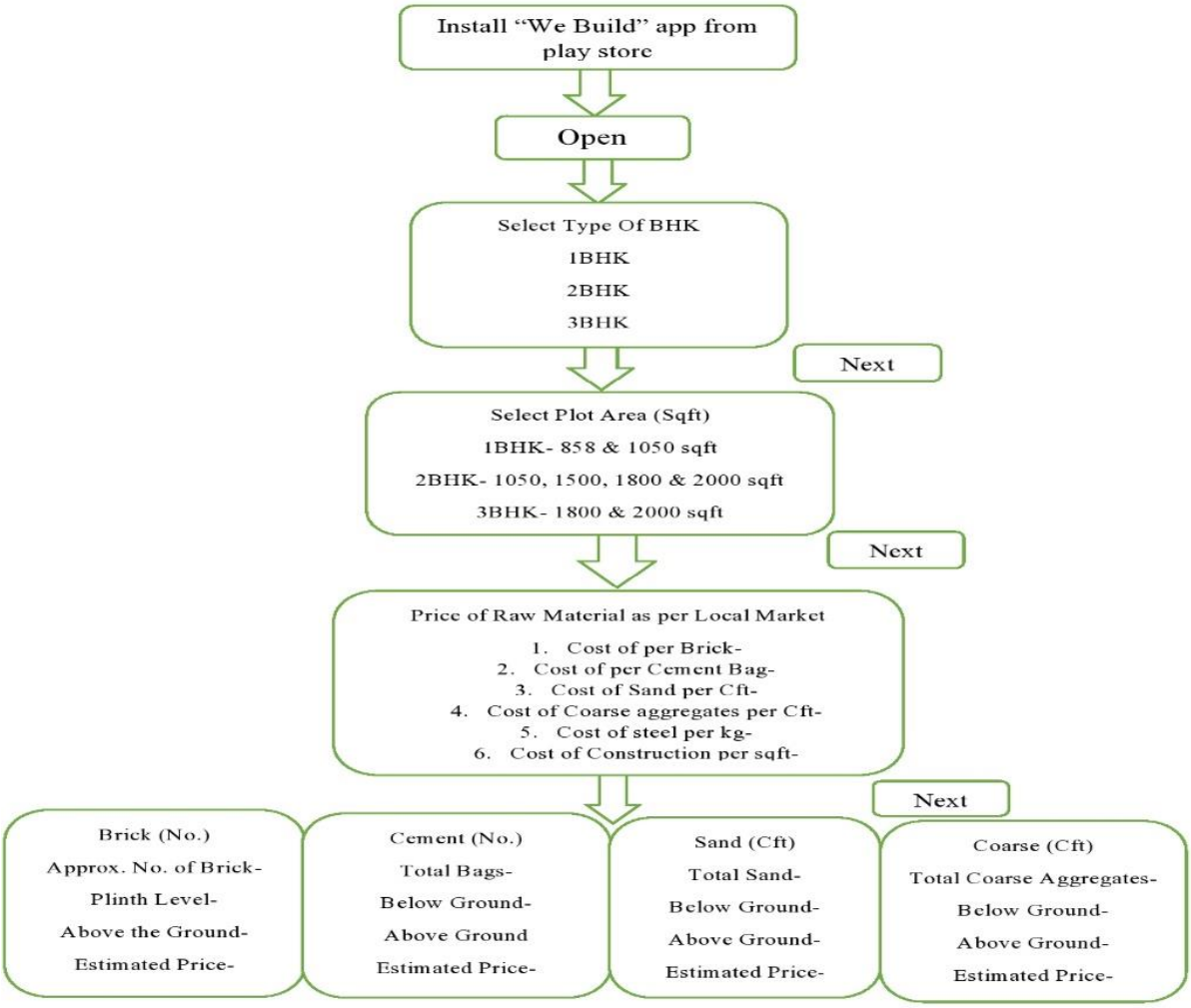
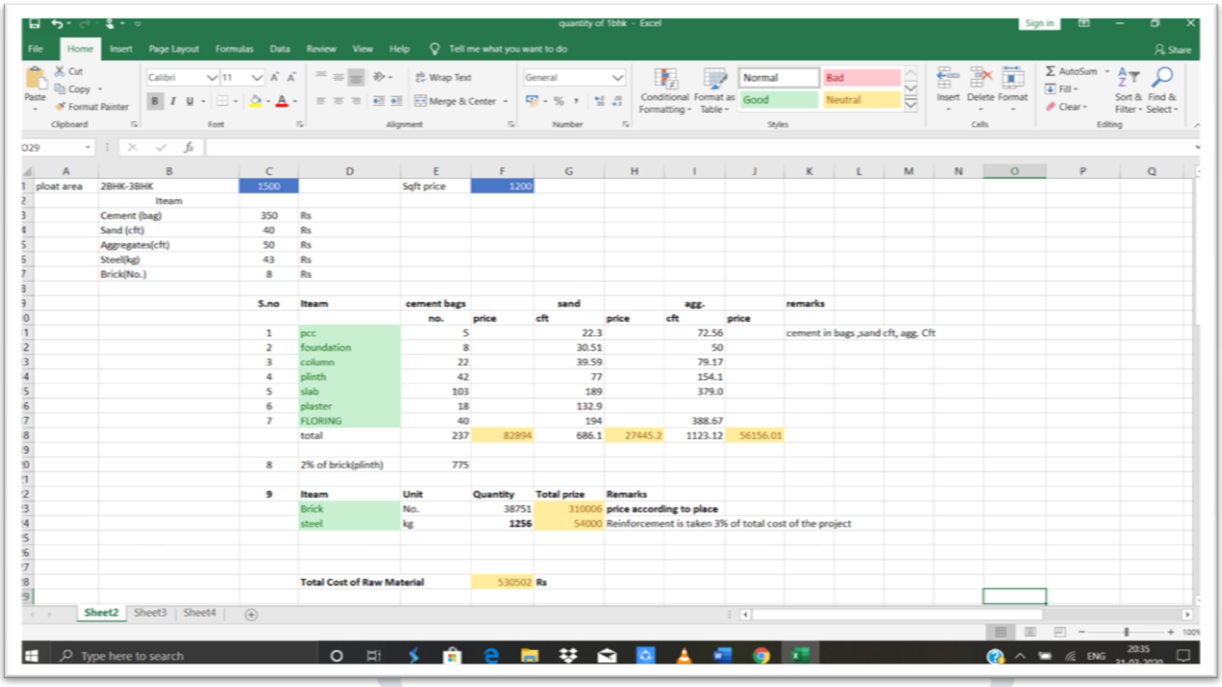
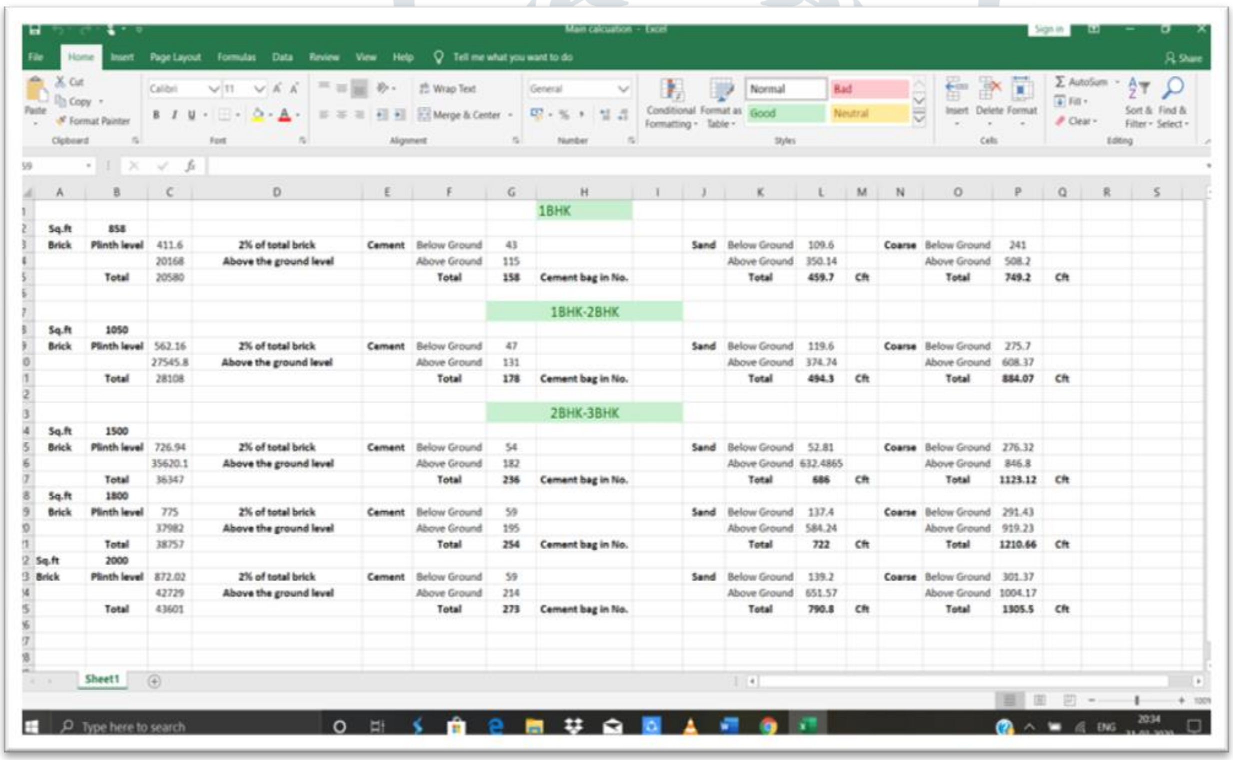


Figure 01: Layout of model

4. RESULTS AND DISCUSSION



A	B	C	D	E	F	G	H	I	J	K
pload area	2BHK-3BHK	1500		Sqft price	1200					
	Iteam									
	Cement (bag)	350	Rs							
	Sand (cft)	40	Rs							
	Aggregates(cft)	50	Rs							
	Steel(kg)	43	Rs							
	Brick(No.)	8	Rs							
		S.no	Iteam	cement bags		sand		agg.		remarks
				no.	price	cft	price	cft	price	
		1	pcc	5		22.3		72.56		cement in bags ,sand cft, agg. Cft
		2	foundation	8		30.51		50		
		3	column	22		39.59		79.17		
		4	plinth	42		77		154.1		
		5	slab	103		189		379.0		
		6	plaster	18		132.9				
		7	FLORING	40		194		388.67		
			total	237	82894	686.1	27445.2	1123.12	56156.01	
		8	2% of brick(plinth)	775						
		9	Iteam	Unit	Quantity	Total prize	Remarks			
			Brick	No.	38751	310006	price according to place			
			steel	kg	1256	54000	Reinforcement is taken 3% of total cost of the project			
			Total Cost of Raw Material		530502	Rs				



A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
							1BHK								
Sq.ft	858														
Brick	Plinth level	411.6	2% of total brick	Cement	Below Ground	43		Sand	Below Ground	109.6		Coarse	Below Ground	241	
		20168	Above the ground level		Above Ground	115			Above Ground	350.14			Above Ground	508.2	
	Total	20580			Total	158	Cement bag in No.		Total	459.7	Cft		Total	749.2	Cft
							1BHK-2BHK								
Sq.ft	1050														
Brick	Plinth level	562.16	2% of total brick	Cement	Below Ground	47		Sand	Below Ground	119.6		Coarse	Below Ground	275.7	
		27545.8	Above the ground level		Above Ground	131			Above Ground	374.74			Above Ground	608.37	
	Total	28108			Total	178	Cement bag in No.		Total	494.3	Cft		Total	884.07	Cft
							2BHK-3BHK								
Sq.ft	1500														
Brick	Plinth level	726.94	2% of total brick	Cement	Below Ground	54		Sand	Below Ground	52.81		Coarse	Below Ground	276.32	
		35620.1	Above the ground level		Above Ground	182			Above Ground	632.4865			Above Ground	846.8	
	Total	36347			Total	236	Cement bag in No.		Total	686	Cft		Total	1123.12	Cft
Sq.ft	1800														
Brick	Plinth level	775	2% of total brick	Cement	Below Ground	59		Sand	Below Ground	137.4		Coarse	Below Ground	291.43	
		37982	Above the ground level		Above Ground	195			Above Ground	584.24			Above Ground	919.23	
	Total	38757			Total	254	Cement bag in No.		Total	722	Cft		Total	1210.66	Cft
Sq.ft	2000														
Brick	Plinth level	872.02	2% of total brick	Cement	Below Ground	59		Sand	Below Ground	139.2		Coarse	Below Ground	301.37	
		42729	Above the ground level		Above Ground	214			Above Ground	651.57			Above Ground	1004.17	
	Total	43601			Total	273	Cement bag in No.		Total	790.8	Cft		Total	1305.5	Cft

Figure 02: estimation of cost as per material wise

5. CONCLUSION

I want to conclude my report with a quotation which is our group motto also "Create with the Heart, Build with the Mind". Now we are all ready to launch our app on play store and we are sure for which we have made this app that will be successful. we have made an app that can help a layman to calculate the cost and

quantity of raw material for the construction of their house. We have made our app by taking care of the needs of a layman like easy use, need to put less information or basic information and it will be easily available on Google play store.

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