

# Team Contribution

*Group 13*

Table 1: List of tasks

Task ID	Description	complexity of the task (number of files change, added, deleted)	Extent of task (number of lines of code changes, added, deleted)
T1.1	Get the system running locally	Front end (android and web frontend), backend	1 week
T1.2	Getting the system running on the cloud	Front end (Android and web frontend), backend	2 weeks
T2	Preparing Installation Guide	1 document of 7 pages	3 hours
T3.1	Create a list of possible parameters and confirm with Swerea	1-page document(to be added)	1 day
T3.2	Analysis of Data received from Swerea	2-page document Used Tableau to find relationships between the parameters and extract equations from the trend line to help predict costs	3 days
T4	Explore solution space for estimation algorithms/formulas	Using Task three(T3.1 and T3.2) formulate an equation that traces a pattern in the unlabelled data and use it to predict costs on incoming data.	1 week
T5	Dev. Tool Proposal	1 document analysis of the drawback of used dev tool with improvement ideas	1 day
T6	Extracting Z height from	Several libraries were used and some algorithms were written to	5 days

	STL file	extract the correct z height	
T7	Testing Z height extraction	Z height accuracy was hard to test given the complexity of some 3D models and limited data given by Swerea	5 days
T8	Extracting Volume	Extracting Volume in the front end using Python library	2 days
T8.1	Extracting Volume	Extracting using NodeSTL	2 days
T9	Using machine learning to estimate printing parameters	Used mljs library to predict printing parameters such as the number of layers, print time and powder used.	4 hours
T10	Manually calculating costs of 3d models provided by Swerea	Costs of the 3d models provided by the company were manually calculated in order to test the accuracy of our cost prediction	4 hours
T11	Uploading parameters and cost estimations to S3 bucket	After calculating all the parameters including the price in the backend, we compile them in a JSON file and upload it to S3 to be retrieved in the frontend.	5 days
T12	Modifying Class Diagram	In order to incorporate our changes the original class diagram was modified based on the user requirements	7 hours
T13	UI for displaying estimation results	Draft implementation of UI for cost estimation and results.	2 days
T14	UI for an input parameters	A UI for entering semi-constant parameters	1 day
T15			

T16	UI for exporting build details as pdf file	This feature provides users with a document that has a list of parameters used to print the 3D material.	5 hours
T17	Integrating frontend and backend		5days
T18	Backend for constant parameters		1day
T19	Backend for cost, print time and powder used estimation		15 days
T20	Deploying the system to AWS		5 hours
T21	Deploying the system into Azure	All parts of the system were deployed into Azure	5 hours
T22	Quality improvements	Various activities have been done to improve the quality of the system	3days
T23	Dev-tool prototype	Python script that demonstrates our idea was implemented,  Additionally, java based script was also customized(even if, we opted it out later)	10 days
T24	Report Writing	Compiling all relevant information into a group report	5 days

Table 2: Task Contribution(%)

Name	Task ID	Contribution(%)
Mebrahtom Guesh Gebremichael	T1.1	30%
	T1.2	10%
	T2	15%
	T3.1	10%
	T3.2	20%
	T4	20%
	T5	20%
	T6	20%
	T7	-
	T8	30%
	T9	-
	T10	20%
	T11	-
	T12	20%
	T13	50%
	T14	50%
	T15	-
	T16	-
	T17	85%
	T18	80%
	T19	20%
	T20	20%
	T21	-
	T22	20%
	T23	-

	T24	20%
Teklie Belay Bzuneh	T1.1	15%
	T1.2	30%
	T2	15%
	T3.1	20%
	T3.2	20%
	T4	20%
	T5	20%
	T13	20%
	T14	25%
	T15	-
	T16	-
	T17	-
	T19	20%
	T20	20%
	T23	30%
	T24	20%
Jamel Debbiche	T1.1	10%
	T1.2	30%
	T2	15%
	T3.1	20%
	T3.2	60%
	T4	20%
	T5	20%
	T6	100%
	T7	20%
	T8	30%
	T9	100%

	T10	30%
	T11	100%
	T16	10%
	T18	20%
	T19	40%
	T20	20%
	T21	20%
	T23	15%
Goitom Abrehaley Akelom	T1.1	30%
	T1.2	10%
	T2	45%
	T3.1	20%
	T3.2	5%
	T4	20%
	T5	20%
	T6	20%
	T7	-
	T8	15%
	T9	-
	T10	20%
	T17	15%
	T19	20%
	T20	20%
	T21	25%
	T23	50%
	T24	20%
Kalayu Yemane Berhe	T1.1	15%

	T1.2	20%
	T2	10%
	T3.1	30%
	T3.2	5%
	T4	20%
	T5	20%
	T7	20%
	T8	10%
	T9	-
	T10	20%
	T11	-
	T12	-
	T13	40%
	T14	20%
	T15	-
	T16	100%
	T17	-
	T18	-
	T19	-
	T20	20%
	T21	20%
	T22	-
	T23	5%
	T24	20%