$ Estimation Document

Project Estimation - CURRENT

Date: 5 mag 2024

Version: V2.1

Estimation Approach

Consider the EzElectronics project in CURRENT version (as given by the teachers), assume that you are going to develop the project INDEPENDENT of the deadlines of the course, and from scratch.

1. Estimate by size

	Estimate
NC = Estimated number of classes to be developed	24
A = Estimated average size per class, in LOC	83
S = Estimated size of project, in LOC (= NC * A)	1992
E = Estimated effort, in person hours (here use productivity 10 LOC per person hour)	200
C = Estimated cost, in euro (here use 1 person hour cost = 30 euro)	6000
Estimated calendar time, in calendar weeks (Assume team of 4 people, 8 hours per day, 5 days per week)	9 days

2. Estimate by product decomposition

Component Name	Estimated effort (person hours)
Requirement document	40
GUI prototype	12
Design document	35
Code	140
Unit tests	75
API tests	18
Management documents	30

3. Estimate by activity decomposition

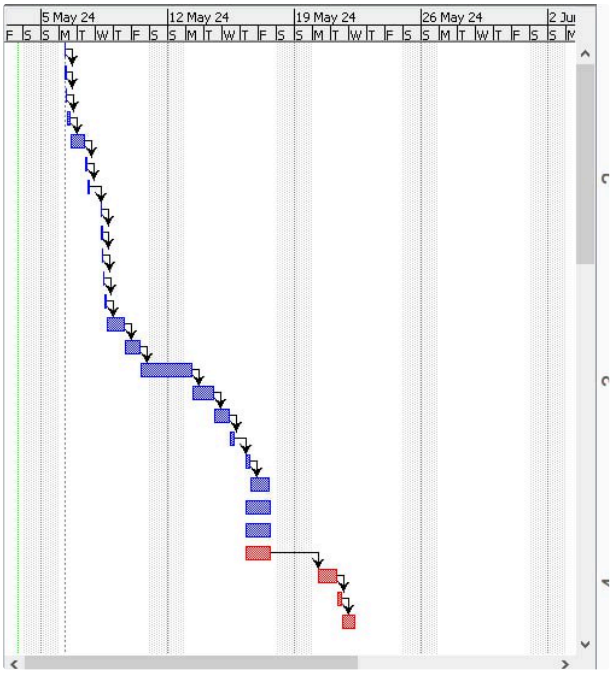
Activity Name	Estimated effort (person hours)
1- Requirement doc	Tot. 61
Stakeholders	4
Context diagram	2
Interfaces	4
Functional req	15
Non function req	18
Use cases	10
Deployment diagram	8
2- GUI prototype	Tot. 16.5
Home page	2
Manager page	1.5
Products page	4
Login page	2
Signup page	1

Product specification	4
Cart	2
3- Coding	Tot. 176
Declaring classes	30
Classes constructors	20
Classes interfaces	22
Db and crud scripts	46
Authentication req	20
Errors management	20
Configuration files(json)	18
4- Testing	Tot. 77
API testing	15
Code testing	30
User testing	20
DB testing	12
5- Management doc	Tot. 41
Planning	12
Budgeting	18
Tracking	5
Versioning	4
Release	2

Grantt Chart

(see granChartt.prod file in repository)

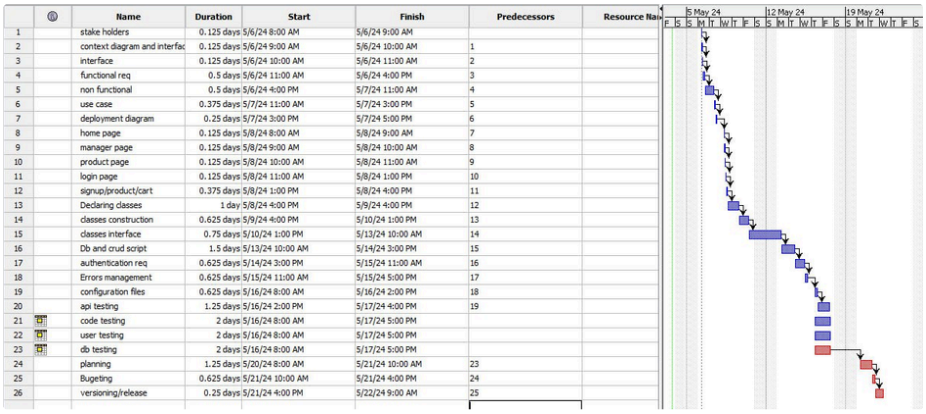
Below you can see snapshots of it.



Grantt stacked bar Chart

	Name	Duration	Start	Finish	Predecessors	Resource Na
1	stake holders	0.125 days	5/6/24 8:00 AM	5/6/24 9:00 AM		
2	context diagram and interfac	0.125 days	5/6/24 9:00 AM	5/6/24 10:00 AM	1	
3	interface	0.125 days	5/6/24 10:00 AM	5/6/24 11:00 AM	2	
4	functional req	0.5 days	5/6/24 11:00 AM	5/6/24 4:00 PM	3	
5	non functional	0.5 days	5/6/24 4:00 PM	5/7/24 11:00 AM	4	
6	use case	0.375 days	5/7/24 11:00 AM	5/7/24 3:00 PM	5	
7	deployment diagram	0.25 days	5/7/24 3:00 PM	5/7/24 5:00 PM	6	
8	home page	0.125 days	5/8/24 8:00 AM	5/8/24 9:00 AM	7	
9	manager page	0.125 days	5/8/24 9:00 AM	5/8/24 10:00 AM	8	
10	product page	0.125 days	5/8/24 10:00 AM	5/8/24 11:00 AM	9	
11	login page	0.125 days	5/8/24 11:00 AM	5/8/24 1:00 PM	10	
12	signup/product/cart	0.375 days	5/8/24 1:00 PM	5/8/24 4:00 PM	11	
13	Declaring classes	1 day	5/8/24 4:00 PM	5/9/24 4:00 PM	12	
14	classes construction	0.625 days	5/9/24 4:00 PM	5/10/24 1:00 PM	13	
15	classes interface	0.75 days	5/10/24 1:00 PM	5/13/24 10:00 AM	14	
16	Db and crud script	1.5 days	5/13/24 10:00 AM	5/14/24 3:00 PM	15	
17	authentication req	0.625 days	5/14/24 3:00 PM	5/15/24 11:00 AM	16	
18	Errors management	0.625 days	5/15/24 11:00 AM	5/15/24 5:00 PM	17	
19	configuration files	0.625 days	5/16/24 8:00 AM	5/16/24 2:00 PM	18	
20	api testing	1.25 days	5/16/24 2:00 PM	5/17/24 4:00 PM	19	
21	code testing	2 days	5/16/24 8:00 AM	5/17/24 5:00 PM		
22	user testing	2 days	5/16/24 8:00 AM	5/17/24 5:00 PM		
23	db testing	2 days	5/16/24 8:00 AM	5/17/24 5:00 PM		
24	planning	1.25 days	5/20/24 8:00 AM	5/21/24 10:00 AM	23	
25	Bugeting	0.625 days	5/21/24 10:00 AM	5/21/24 4:00 PM	24	
26	versioning/release	0.25 days	5/21/24 4:00 PM	5/22/24 9:00 AM	25	

Schedule Table



Full view of Grantt Chart development

Summary

Here we report the results of the three estimation approaches. The estimates may differ. Discuss here the possible reasons for the difference

	Estimated effort	Estimated duration
estimate by size	200	9 days
estimate by product decomposition	350	87.5 hours (15 days)
estimate by activity decomposition	371	16 days

The difference between the 3 estimations, is because of the different approaches.

In the first approach, we don't think about the details, we only calculate the effort and the duration needed from the lines of code estimated to be written. while in the second approach we compute the duration by decomposing the product, finally in the 3rd approach we estimated the effort and the duration by estimating the time needed to finish each activity.