A.M Craft Website Improvement: Project Scheduling Report

BUS4-110B Section 03
System Analysis and Design
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1.4 Project Planning

1.4.1. Project Key Tasks and Task Durations

During the initiation to planning phase of the website redesign, our team plans to start by analyzing the current website to find strengths and weaknesses. Next, we want to remove unnecessary parts and brainstorm new ideas to make the site more user friendly. The team will also decide on the overall look of the website and choose the right tools to use. The key tasks include combining menus for easier navigation, organizing content and visuals, and creating a prototype for testing. These steps will allow us to complete the project within the timeline.

In the closing and execution phase, our team will improve the website by adding photos, completing the layout, and testing with users. Feedback from users will help us make the site better and easier to use. After making final changes based on AM Craft's input, our team will get the website ready to launch, making sure it meets customer needs and business goals.

For each key task in our project, we used the PERT technique to estimate the duration. PERT relies on three time estimates to predict the expected completion time of a task: Optimistic(A): which represents the minimum time it will take to complete the task, Realistic(B): The most likely time-taking into account day to day conditions-to complete the task, Pessimistic(C): maximum time it will take to complete the task.

We use the PERT formula to calculate the expected duration of each task below:

$$\frac{\text{Optimistic Time (A)} + 4\text{B (Realistic)} + \text{C (Pessimistic)}}{6}$$

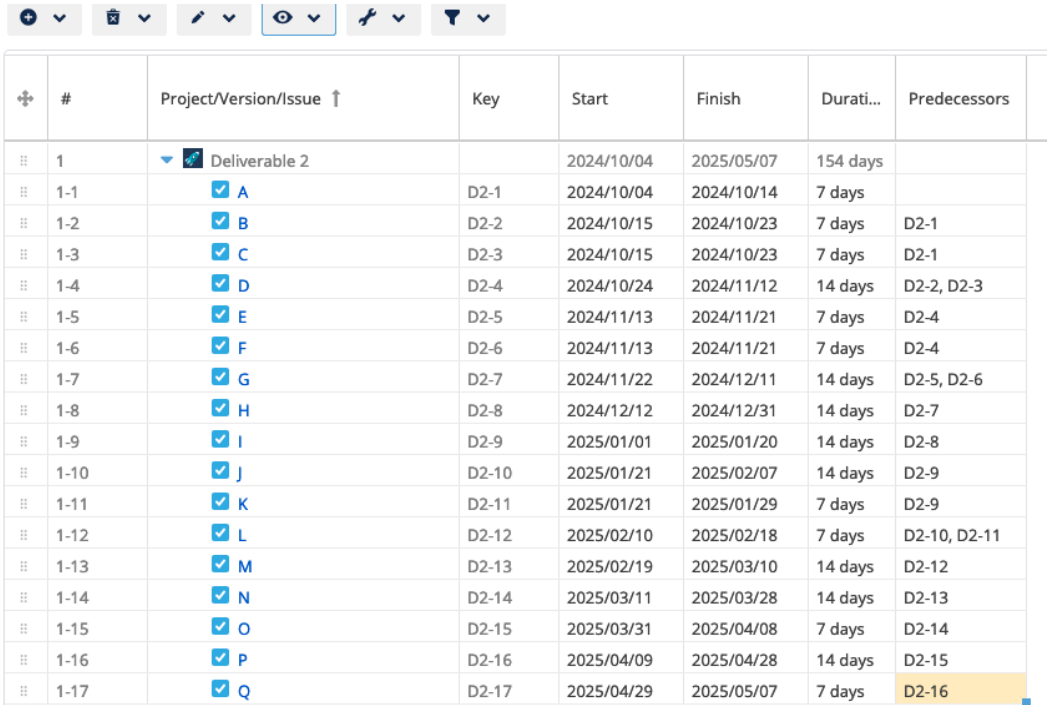
Task No.	Activity	Time (Weeks) B, A , C	Immediate Predecessors
A	Conduct a deep analysis of AM Craft's current website functionality	1,1,2 ≈ 1	None
B	Phase out any redundancies	1,1,2 ≈ 1	A
C	Brainstorm ideas to implement on the website	1,1,2 ≈ 1	A

D	Narrowing down/deciding the aesthetic preferences: layout, color palette, fonts organization	2, 1, 3 ≈ 2	B, C
E	Choosing a design software to create a new prototype	1, 1, 2 ≈ 1	D
F	Combine all menus into one main menu	1, 1, 2 ≈ 1	D
G	Plan menu content and pictures	2, 1, 3 ≈ 2	E,F
H	Use chosen design software and create the new consolidated menu	2, 1, 3 ≈ 2	G
I	Take professional pictures of the featured items and add them to the menu	2, 1, 3 ≈ 2	H
J	Create a layout for the website	2, 1, 3 ≈ 2	I
K	Add all the content to the new layout	1, 1, 3 ≈ 1	I
L	Finalize Menu	1, 1, 3 ≈ 1	J, K
M	Run a closed test with trusted community members to ensure a smooth user experience.	2, 1, 3 ≈ 2	L
N	Implement any necessary feedback	2, 1, 3 ≈ 2	M
O	Present prototype to shareholders (AM Craft)	1, 1, 3 ≈ 1	N
P	Make revisions based on the feedback	2, 1, 3 = 2	O
Q	Publish the final website	1, 1, 2 ≈ 1	P

1.4.2. Project WBS and Gantt Chart with a brief description of key activities.

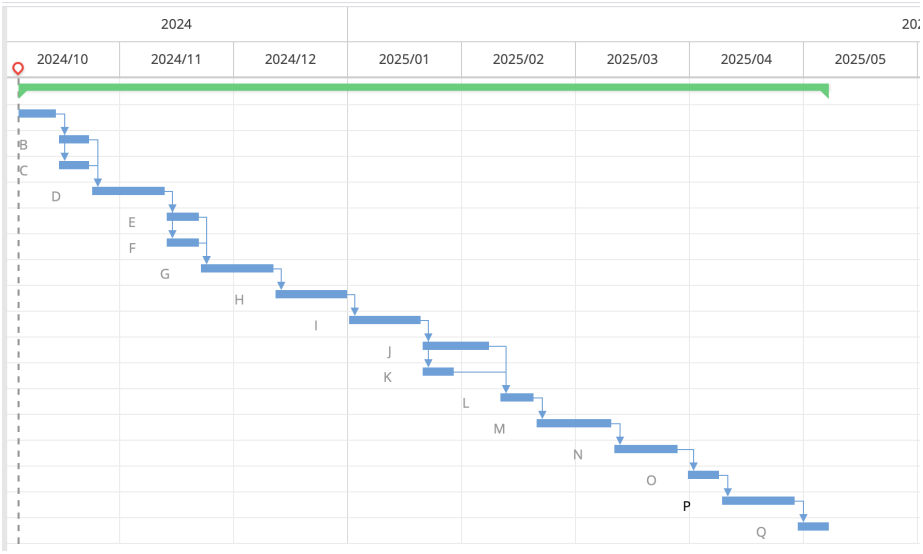
Our team's work Breakdown Structure (refer to Figure 1.1) lists the main steps of initiation, planning, execution, and closing. The Gantt Chart (refer to Figure 1.2) shows precisely when each step happens, allowing us to finish the project in 22 weeks. Our key tasks include redesigning the website, combining the menu, and testing the website before final publishing of the prototype.

Figure 1.1: Work Breakdown Structure



#	Project/Version/Issue	Key	Start	Finish	Durati...	Predecessors
1	Deliverable 2		2024/10/04	2025/05/07	154 days	
1-1	A	D2-1	2024/10/04	2024/10/14	7 days	
1-2	B	D2-2	2024/10/15	2024/10/23	7 days	D2-1
1-3	C	D2-3	2024/10/15	2024/10/23	7 days	D2-1
1-4	D	D2-4	2024/10/24	2024/11/12	14 days	D2-2, D2-3
1-5	E	D2-5	2024/11/13	2024/11/21	7 days	D2-4
1-6	F	D2-6	2024/11/13	2024/11/21	7 days	D2-4
1-7	G	D2-7	2024/11/22	2024/12/11	14 days	D2-5, D2-6
1-8	H	D2-8	2024/12/12	2024/12/31	14 days	D2-7
1-9	I	D2-9	2025/01/01	2025/01/20	14 days	D2-8
1-10	J	D2-10	2025/01/21	2025/02/07	14 days	D2-9
1-11	K	D2-11	2025/01/21	2025/01/29	7 days	D2-9
1-12	L	D2-12	2025/02/10	2025/02/18	7 days	D2-10, D2-11
1-13	M	D2-13	2025/02/19	2025/03/10	14 days	D2-12
1-14	N	D2-14	2025/03/11	2025/03/28	14 days	D2-13
1-15	O	D2-15	2025/03/31	2025/04/08	7 days	D2-14
1-16	P	D2-16	2025/04/09	2025/04/28	14 days	D2-15
1-17	Q	D2-17	2025/04/29	2025/05/07	7 days	D2-16

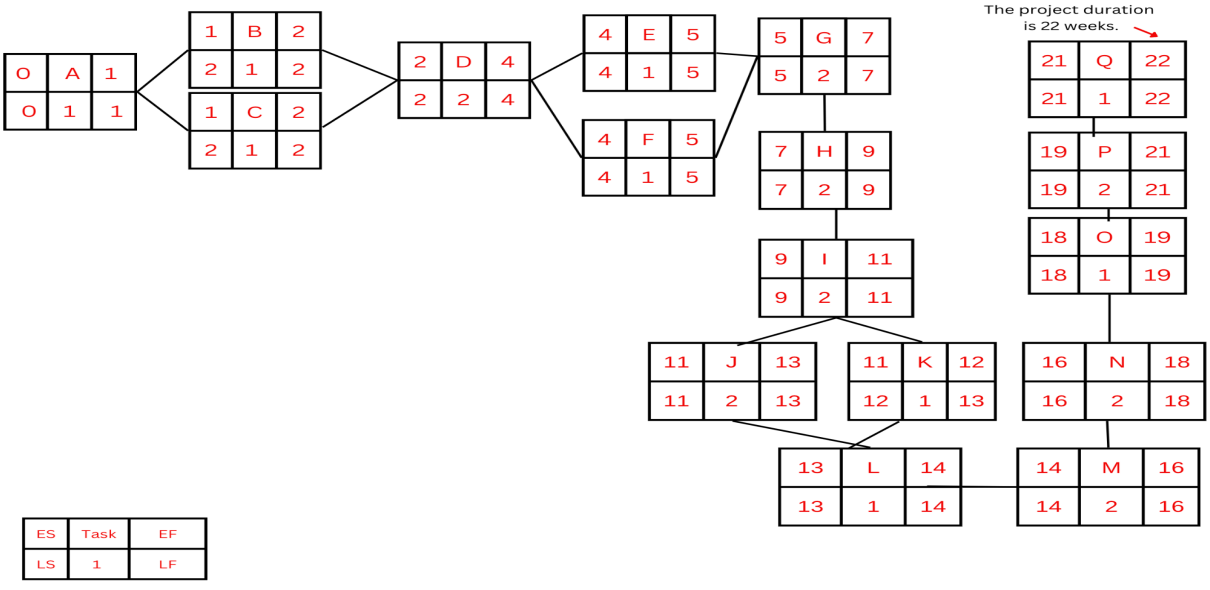
Figure 1.2: Gantt Chart



1.4.3. Project network diagram with a brief description.

The project network diagram (refer to Figure 2) is used to determine the duration of the project and the total time it takes to complete a task. It helps our team stay on track and determines how long we should work on each task to avoid project delay. According to our network diagram, the AM Craft website redesign project should take us 22 weeks to complete. The network diagram helps us determine the sequences of when we should start and finish each task.

Figure 2: Network Diagram



1.4.4. Identify the critical path, free slack, and total slack of each activity.

After determining the critical path for deliverable 2, we calculated the free slack and total slack for any task that wasn't on the critical path (refer to Figure 3). After careful examination, Task K was the only task not on the critical path; thus, there was a need to calculate the slack time to avoid any delay in the project. The free slack formula for Task K, minimum early start of next task - Early finish of the current task, 13-13=0. This means that there can not be a single delay in task completion or it will affect the project completion duration. Although this project can not be delayed, we can use the total slack to adjust the timing of the work, but not delay the task completion. The total slack formula, late finish - early finish 13-12 = 1. This means we can delay task K one week without delaying the project. Our team ran a test on our WBS and determined that our critical path required all tasks to be completed within the allocated time frame except Task K.

Figure 3: Critical Path