Muhammad Ali Jinnah University
Final Year Project (FYP)
Faculty of Computing
Department of Computer Science

Final Year Project Proposal

For probably the first time in your undergraduate/graduate program, you are required to defend a proposal of a larger project. In teams, you will be working on the common project but individual team members will be required to take on responsibilities for specific work for which each will be held accountable. Interaction, collaboration and assistance are allowed and expected, but each person will receive an individual mark/grade for his/her work performed in the project.

	Day		Month		Year			
DATE	1	8 —	1	0 —	2	0	2	2

Write down the brief project topic, the title should not be confusing.

PROJECT TITLE:	DigiDrive
KEY WORDS:	Mechatronics, Hard drive, Portable, Data transfer.
DOMAIN OF THE PROJECT:	To achieve the portability and security of using hard drives without connecting it to a personal computer or laptops.
SUPERVISOR'S NAME:	Dr. Shaukat Wasi

STUDENT INFORMATION
Write down the detail of all group members in BLOCK LETTERS ONLY.

Sr.	Student ID	Name	Email	Mobile
1.	FA19-BSSE-0014	Muhammad Fahad	fa19bsse0014@maju.edu.pk	0345-2849128
2.	FA19-BSSE-0063	Ahmed Amin	fa19bsse0063@maju.edu.pk	0313-2902568
3.				

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PROBLEM STATEMENT

The process to manage data of hardware requires a personal pc or laptop which is not portable, and the data is not secure too. Moreover, transferring data to a hard drive requires a medium which can be any pc, also a hard drive can be infected with malware too so direct connection to a computer can be dangerous for a computer too.

EXECUTIVE SUMMARY

This system will help the user not to carry laptop to manage the data of a hard drive making it more easy to manageable in a small portable device which can not only manage the data but can transfer it to USBs through ports and also the data of the hard drive will be more secure as it is not connected with a system that is already having a process in the background and having an internet connection which can compromise any sensitive data. Moreover, organizations which consider their main system to be more valuable don't have to connect ay outsource USB direct to their computer to view or manage data they can connect it with this drive making it a portable, secure and better for any organization or any other purposes. The drive can be removable and can be change so there is also the benefit of using multiple hard drive data management through this device.

INTRODUCTION

After considering that the data management is an important part of manys life and they can't carry laptops or other bigger devices to immediately transfer it to a hard drive, having no secure environment, DigiDrive provide you all these functionalities and provide you with all these benefits.

COMPETITORS/COMPETITIVE ANALYSIS

This section will list down all the possible competitors of your product. That is, you need to list down all those products that are closely related to your product in terms of features, target audience, etc.

SSK

SSK SSM F200 PORTABLE WIRELESS HARD DISK (MAIN FOUCS).

Transcend®

WD Western Digital®

SEAGATE

TOSHIBA

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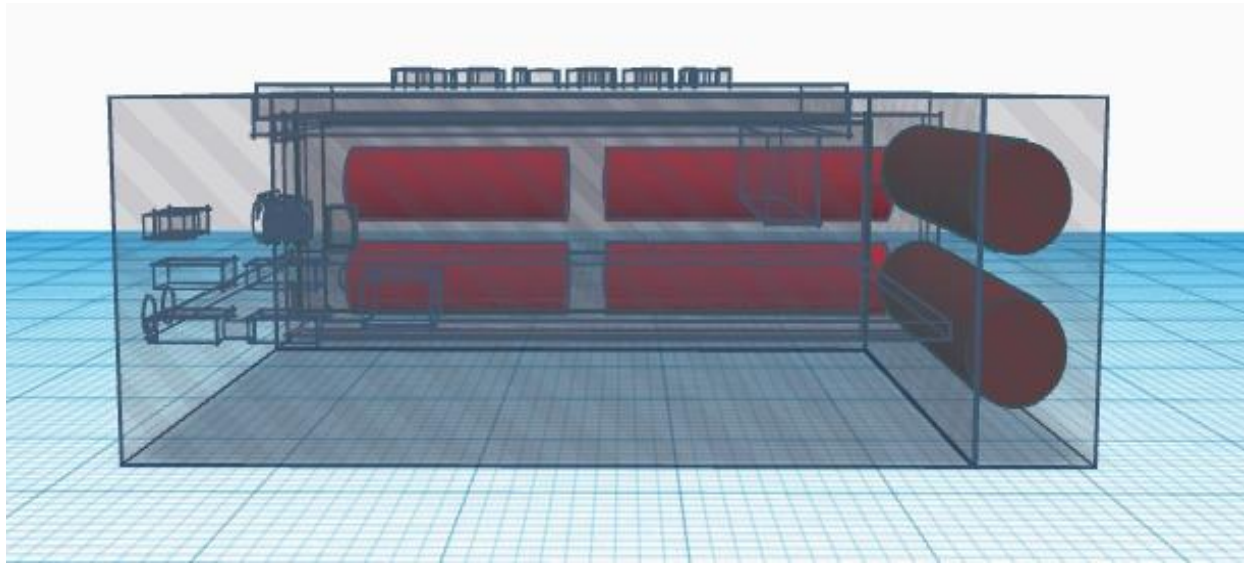| **OBJECTIVES** |
|---|
| The main objectives of the project are:

• A portable device that can manage all the data.
• A device that has secure environment.
• A device that can help you to prevent any malware to be in your main system.
• Fully secured environment for both data management and data transfer |
| **MOTIVATION** |
| As we can see that many people who are travellers or having a portable hard drive want to transfer and manage data in their hard drive but all they need is a system which can do carrying laptop at different places is not that easy, moreover now a day's organizations like universities specially MAJU also don't recommend any USB to be connected with any system. Similarly, teachers also want to view someone's project files in their personal laptops but also they are not comfortable weather the USB is containing any malware or not so they universities should have that device that could be more beneficial for the safety of the system. Some organizations can't afford to have their data expose they have confidential data so the secure environment is their first priority, this device will lead to solve all these problems |
| **FEATURES OF PROJECT** |
| **Data management**
The data can be viewable, can be move from one drive to other drives.

Security
The environment is fully secured even transferring data require some permission which is helpful in not compromising any of the data.

Detect any problems
Can detect any of the problem of the hard drive that it contains any malware or it is corrupted or it is broken or wasted. |

ARCHITECTURAL DESIGN

IMPLEMENTATION TOOLS AND TECHNIQUES

Describe your methodology for implementation along with implementation tools.

As we are making a project of mechatronics we need some hardware component and have to connect it with the software we have these components

Hardware Components
- A raspberry pi microcomputer.
- Battery to provide it backup of 10 hours.
- A mini 5-inch touch screen to manage data.
- A SSD
- A Micro SD card containing the OS that will run on the device
- Other small components

Software

Any flavour of Linux or raspberry pi OS to provide fully control on the data management which can apply the security and provide secure environment.

PROJECT PLAN

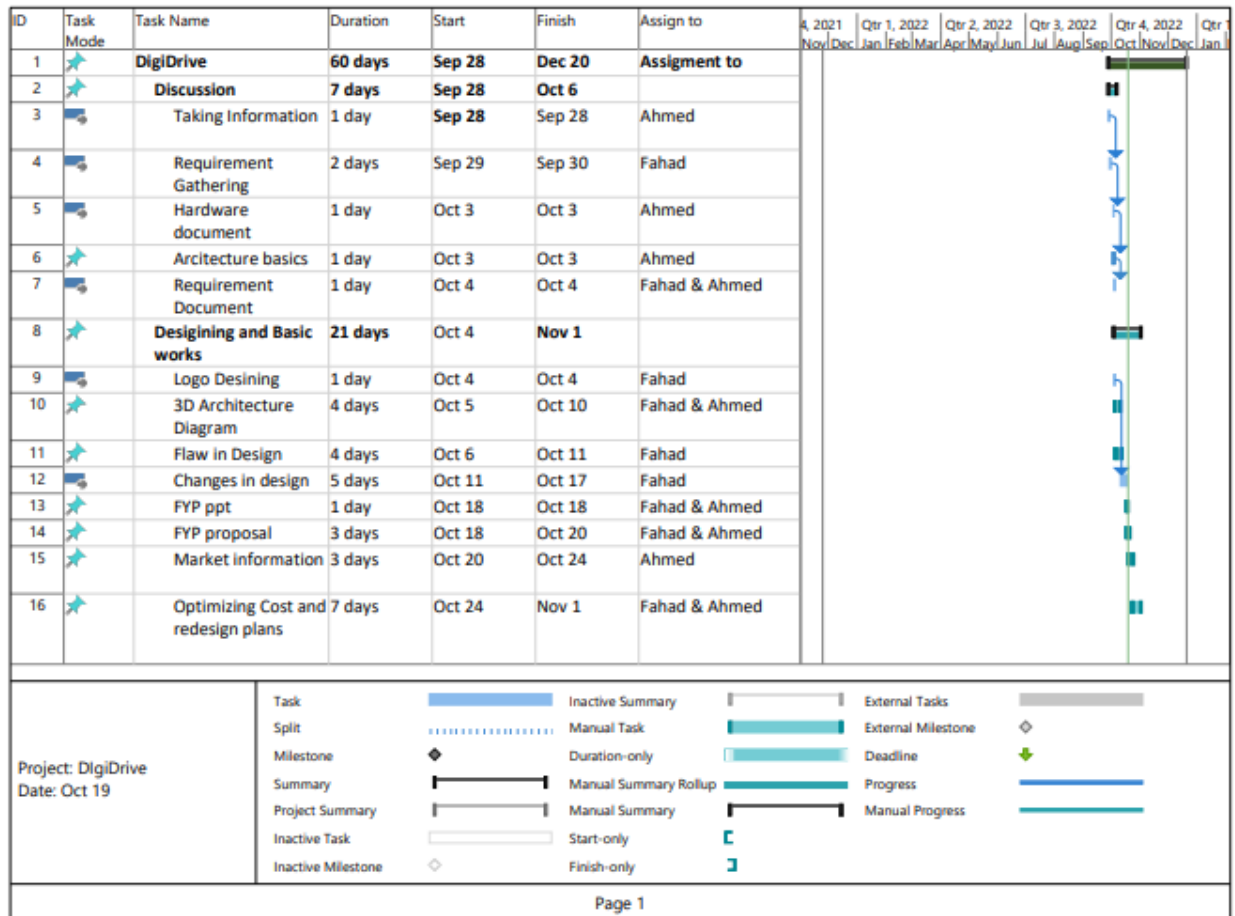*This section describes how the project will be managed, including a detailed plan with milestones. Specific items to include in this section are as follows:*

- *Division of responsibilities and duties among team members.*
- *Timeline with milestones:* **Gantt chart in Microsoft project 2013.** *The following are required elements of your Gantt chart:*

o *Project duration is from the date your project is enrolled to the completion date:*
o *Each milestone is to be labeled with a title.*
o *Schedule all tasks not just "Design" or "Testing." Break this schedule down to specific assignments.*
o *Each task is to be labeled with a title and person or persons assigned to the task.*
o *Subdivide larger items so that no task is longer than about one week*
o *Link tasks which are dependent on the completion of a previous task.*

ID	Task Mode	Task Name	Duration	Start	Finish	Assign to
1		**DigiDrive**	**60 days**	**Sep 28**	**Dec 20**	**Assigment to**
2		**Discussion**	**7 days**	**Sep 28**	**Oct 6**	
3		Taking Information	1 day	**Sep 28**	Sep 28	Ahmed
4		Requirement Gathering	2 days	Sep 29	Sep 30	Fahad
5		Hardware document	1 day	Oct 3	Oct 3	Ahmed
6		Arcitecture basics	1 day	Oct 3	Oct 3	Ahmed
7		Requirement Document	1 day	Oct 4	Oct 4	Fahad & Ahmed
8		**Designing and Basic works**	**21 days**	Oct 4	Nov 1	
9		Logo Desining	1 day	Oct 4	Oct 4	Fahad
10		3D Architecture Diagram	4 days	Oct 5	Oct 10	Fahad & Ahmed
11		Flaw in Design	4 days	Oct 6	Oct 11	Fahad
12		Changes in design	5 days	Oct 11	Oct 17	Fahad
13		FYP ppt	1 day	Oct 18	Oct 18	Fahad & Ahmed
14		FYP proposal	3 days	Oct 18	Oct 20	Fahad & Ahmed
15		Market information	3 days	Oct 20	Oct 24	Ahmed
16		Optimizing Cost and redesign plans	7 days	Oct 24	Nov 1	Fahad & Ahmed

Project: DigiDrive Date: Oct 19	Task		Inactive Summary	External Tasks	
	Split		Manual Task	External Milestone	◇
	Milestone	◆	Duration-only	Deadline	↓
	Summary		Manual Summary Rollup	Progress	
	Project Summary		Manual Summary	Manual Progress	
	Inactive Task		Start-only	[	
	Inactive Milestone	◇	Finish-only	]	

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ID	Task Mode	Task Name	Duration	Start	Finish	Assign to
17		**Construction**	**25 days**	Nov 2	**Dec 6**	
18		Making Power Bank	2 days	Nov 2	Nov 3	Ahmed
19		3d Frame	3 days	Nov 3	Nov 7	Fahad & Ahmed
20		Allying Hardware	7 days	Nov 7	Nov 15	Ahmed
21		Hardware connections	7 days	Nov 16	Nov 24	Ahmed
22		Installation of OS	2 days	Nov 25	Nov 28	Fahad
23		Software arrangement to manage data	1 day	Nov 28	Nov 28	Fahad
24		Combining all modules of software hardware to work together	5 days	Nov 30	Dec 6	Fahad
25		**Testing & Finishing**	**11 days**	Dec 6	**Dec 20**	
26		Unit Testing	5 days	Dec 6	Dec 12	Ahmed
27		Resolving remaining issues	4 days	Dec 13	Dec 16	Fahad
28		Finishing	3 days	Dec 17	Dec 20	Fahad & Ahmed

Project: DigiDrive
Date: Oct 19

Task	▬▬	Inactive Summary	⊢ ⊣	External Tasks	▬▬
Split	....	Manual Task	▬▬	External Milestone	◇
Milestone	◆	Duration-only	▬▬	Deadline	↓
Summary	⊏▬⊐	Manual Summary Rollup	▬▬	Progress	▬▬
Project Summary	⊢ ⊣	Manual Summary	⊏▬⊐	Manual Progress	▬▬
Inactive Task	▭	Start-only	⊏		
Inactive Milestone	◇	Finish-only	⊐		

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REFERENCES
Give references to the resources you have consulted in finalizing your project topic.

- https://www.aliexpress.com/item/33027653277.html
- https://eezepc.com/product/transcend-2tb-storejet-25m3-anti-shock-external-hard-drive-iron-gray/

Supervisor's Signature: -   **FYP-Coordinator's Signature: -**