**Batch: Roll No.:**

**Chapter / ~~assignment~~ / ~~tutorial No~~. 1**

**Group No:**

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| **Title: Introduction.** |

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**Expected Outcome of Experiment:**

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|  | **At the end of successful completion of the course the student will be able to** |
| CO1 | Define the problem statement and scope of problem |
| CO3 | Identify various hardware and software requirements for problem solution |
| CO6 | Prepare a technical report based on the Mini project. |

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**Books/ Journals/ Websites referred:**

**1.** [**https://www.vskills.in/certification/tutorial/hardware-and-software-selection/**](https://www.vskills.in/certification/tutorial/hardware-and-software-selection/)

**2.** [**https://www.geeksforgeeks.org/project-management-characteristics-of-project/**](https://www.geeksforgeeks.org/project-management-characteristics-of-project/)

**3.** [**https://www.parallelprojecttraining.com/blog/describe-5-key-attributes-project-describe-differ-business-usual-6/**](https://www.parallelprojecttraining.com/blog/describe-5-key-attributes-project-describe-differ-business-usual-6/)

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**Introduction**:

As studied in Software Engineering, developing a successful product (software: including the code and documents) needs a systematic approach. In this chapter, you will prepare the basic documents required to develop a product, a software system, a website or a mobile app to provide certain services or facilities.

Students will be required to prepare a document specifying.

**1.1 Background/Motivation of the project:**

In this section the description of what are the difficulties faced by the user or intended users are to be expressed. This will conclude in the problem definition.

**1.2 Problem Definition:**

In the world of today where everyone is trying to innovate and think out of the box to create a revolutionary change in the world individually, teamwork can always make a difference. It is hard to find someone who is interested in the things that you are and is willing to create the revolution with you.

Hence, for all the aspiring entrepreneurs and budding engineers, DevSoc is the key to find your team and start working towards a common goal.

**1.3 Objectives:**

* To build a tech developers community and a discussion forum through a web application using MERN.
* To authenticate the users who register so as to avoid fraudulent cases.
* To build a recommendation system for the developers to create the right teams.

**1.4 Scope of the project:**

* Our project will provide the recommendations of the developer’s of similar interests.
* It will provide a discussion forum where people can have a discussion on any topic. People can like/dislike some posts/comments and can also provide their own posts and comments.
* The application formed with the help of devsoc will not belong to one person. It will be an open source project and will follow all the rules from standard code of conduct of open source projects.
* Developers will be able to contact other developers by using their contact details.

**1.5 Hardware and software requirements.**

**Hardware Requirements:**

* Any operating system Windows 7/8/10.
* Good internet connectivity
* A good working computer

**Software Requirements:**

None

**Post Lab Activities:**

1. What are the attributes of good project management activity?

**Objectives:**  
Every project is started with some objective or goal viz. time, budget, quality, and quantity, when objectives are fulfilled project cause existing. You can initially define the objectives of the project what actually need to achieve. Objectives are the key characteristics of the project where you will see the progress of the project and time to time analysis will show you the result of how much you have achieved.

**Single Entity:**

A project is one whole thing. This means that in a project although different people contribute still is recognized as a single entity. The teams are often specifically assembled for a single project.

**Life Span:**

No project can be ceaseless and indefinite. It must have one and beyond which it cannot proceed. Every project is invariably time-bound. At the time of planning, you will see the time phase of the project where the team can work independently on the project modules. Let’s consider an example project that is divided into three modules let’s say A, B, and C. If the total time span of a project is 5 months then you can set the time span for modules independently like A can complete in 2 months and also B can complete in 2 months and C can complete in 1 month as per requirement.

**Require Funds:**

Every project needs funds to reach the endpoint. Without adequate funds, no project can be successfully implemented. Cost estimation is one of the essential factors for any organization. So, calculating in advance the required funds for the project will be very impactful.

**Life Cycle:**

Each project has a life cycle with different stages like start, growth, maturity, and decay. A project has to pass through different stages to get itself completed. Let’s consider an example where the project is related to software development then you can say SDLC (Software Development lifecycle) will be the life cycle of the project where you will see many stages like planning, defining, designing, building, testing, and deployment, etc.

**Team Spirit:**

Team spirit is required to get the project completed because the project constitutes different members having different characteristics and from various disciplines. But to achieve common goal harmony, missionary zeal, team spirit is necessary.

**Risk and Uncertainity:**

The project is generally based on forecasting. So risk and uncertainty are always associated with projects. There will be a high degree of risk in those project which are not properly defined. Only the degree of control over risk and uncertainty varies with the project being conceived based on information available.

**Directions:**

Project is always performed according to the directions given by the customers with regard to time, quality and quantity, etc. The convenience of the supply sides of economics such as labor availability ore resources and managerial talent etc. are all secondary concerns, primary being the customer requirement.

**Uniqueness:**

Each project is unique in itself, and it’s having own features. No two projects are similar even if the type of organization is the same. The uniqueness of the project can measure by considering the many factors like objectives, features of the project, application of the project, etc.

**Flexibility:**

Change and project are synonymous. A project sees many changes throughout its life span. These changes can make projects more dynamic and flexible.

**Sub-Contracting:**

Sub-contracting is a subset of every project and without which no project can be completed unless it is a proprietary firm or tiny in nature. The more complexity of a project the more will be the extent of contracting. Every project needs the help of an outsider consultant, engineer, or expert in that field.

**Cost:**

If the quality of the project is to be changed there could be an impact on the cost of the project. The cost could increase if more resources are required to complete the project quicker.

1. List the criteria for choosing a software / hardware / platform for implementation of a project.\

### Hardware Selection Criteria

* Hardware must support current software as well as software planned for procurement over the next planning interval [year, 18 months, three years]
* Hardware must be compatible with existing or planned networks
* Hardware must be upgradeable and expandable to meet the needs of the next planning interval
* Hardware warranties must be of an appropriate length
* Hardware maintenance must be performed by [local/remote vendor, in-house personnel]
* Whenever feasible, hardware standards will dictate procurement of like brands and configurations to simplify installation and support
* Routine assessments of installed infrastructure will feed an upgrade/replace decision process

**Software Selection Criteria**

* Software must be compatible with current and future hardware over the next planning interval
* Software maintenance and warranties must be of appropriate length and cost
* Sotware help desk must be maintained by [vendor, third party, in-house personnel]
* Software must be standardized throughout the business to improve purchasing power, simplify training, and facilitate support
* Software must comply with current standards set by technology leadership
* Software must support and enhance business goals