Database & Client Server

Name: Mohit **Intern ID: 190002**
B-TECH CS-SD **Batch 2019-23**

Project Activity – 1

Milestone – 1

1. **Identify the entities and provided a brief description of it for the assigned project.**

Ans.) Entities in the project:

1. **Life cycles:** This will help to create the new life cycle with its name and description.
2. **Steps:** It will use to create a new step of the life cycle and help to tell its description.
3. **Conditions:** It will the different conditions that is applied on the different tasks.
4. **Tasks:** It will define to take the name and description of each task that we are going to add as the step of the life cycle.
5. **Roles:** Different roles is to be assigned to each of the tasks that we have created for the life cycle in each step of the life cycle.
6. **Effort Categories:** Different effort categories should be taken according to the plan, artifacts, interruption, or defects.
7. **Artifacts:** Artifact is a tangible by-product needed for and produced by the life cycle. It helps describe the function, architecture and design of software: Use cases. class diagrams.
8. **Plans:** To perform the different lifecycle steps and task required a plan to understand the things and to move one by one on each step.

Project Activity – 1

9. **Interruptions:** This tab is about the problems that face in the life cycle while creating the life cycle in the project. It contains the name and description of the interruption that faced during using the life cycle.
10. **Defects:** It will help to track about the defects coming in the life cycle process and of the project while doing.

2. Identify the generalization & specialization hierarchy in the entities.

Ans.)

- **Generalization** is a bottom-up approach in which two lower-level entities combine to form a higher-level entity. In generalization, the higher-level entity can also combine with other lower-level entities to make further higher-level entity.
- **Specialization** is opposite to Generalization. It is a top-down approach in which one higher level entity can be broken down into two lower-level entities. In specialization, a higher-level entity may not have any lower-level entity sets, it's possible.

Entities	Type of Hierarchy
Life Cycles	It is Specialization because in this it dived into two steps and tasks both make the higher-level entity

Project Activity – 1

	that is life cycle that contains both steps and tasks.
Steps	It is Specialization because in this it dived into two parts that is Tasks and roles that means different step having different tasks and roles.
Conditions	It is not a specialization and Generalization because condition can be of any tab should be add in the life cycle.
Tasks	It is Specialization because it is dived into the two parts means the two entities that is the roles and the artifact entity that should be defined for the task entity because according to the role's tasks should be defined.
Roles	It is not Generalization nor specialization because roles are different for every teammate

Project Activity – 1

	working on the project decided by the manager.
Effort Categories	It is Generalization because efforts were made of different things when we do some plan and solve some issue that are the entities plans and defects than it is estimate as the effort done for the life cycle. These smaller entities make the high-level entity.
Artifacts	It is Generalization because it is higher level entity because tasks tab and effort categories using the artifact and without the artifacts, we cannot define these two so from these two lower-level entities make the higher one.
Plans	It is not Generalization nor specialization because it is the part of the effort that is done during making the life cycle.

Interruptions	It is not Generalization nor specialization because it is the part of the effort that is done during making the life cycle.
Defects	It is not Generalization nor specialization because it is the part of the effort that is done during making the life cycle.

3. Provide the attributes list for the identified entities.

Ans.) Attribute List:

Entities	Attribute Name
Life Cycles	Name, Description
Steps	Name, Description
Conditions	Name, Description
Tasks	Name, Description
Roles	Name, Description
Effort Categories	Name, Description
Artifacts	Name, Description
Plans	Name, Description
Interruptions	Name, Description
Defects	Name, Description

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Project Activity – 1

4. Identity the mapping constraints within the entities.

Ans.)

- **Entity task is combined with three different entities that is roles, artifacts and effort categories so mapping constraints are:**
  1. **TASK_ROLE:** This is the mapping constraint that combine the task and role entity with foreign key.
  2. **ARTIFACT_TASK:** This is the mapping constraint that combine the task and artifacts entity with foreign key.
  3. **TASK_EFFORT_CATEGORIES:** This is the mapping constraint that combine the task and effort categories entity with foreign key.
- **Effort categories entity is combined with four different entities that is defects, artifacts, plans and interruptions so mapping constraints are:**
  1. **EFFORT_CATEGORIE_DEFECTS:** This is the mapping constraint that combine the effort categories and defects entity with foreign key.
  2. **EFFORT_CATEGORIE_ARTIFACTS:** This is the mapping constraint that combine the effort categories and Artifact entity with foreign key.

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B-TECH CS-SD **Batch 2019-23**

Project Activity – 1

3. **EFFORT_CATEGORIE_PLANS:** This is the mapping constraint that combine the effort categories and plans entity with foreign key.
4. **EFFORT_CATEGORIE_INTERRUPTIONS:** This is the mapping constraint that combine the effort categories and interruptions entity with foreign key.
5. **Draw the ER Diagram for the assigned project**