**Project Initialization and Planning Phase**

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| Date | 20 August 2025 |
| Team ID | Sneha S |
| Project Title | mushroom |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) template**

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

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| **Project Overview** | |
| Objective | To develop a machine learning model that can classify mushrooms (edible vs poisonous) from images and deploy it as a user-friendly web application. |
| Scope | Dataset, Training, Saving, Deployment |
| **Problem Statement** | |
| Description | Identifying edible and poisonous mushrooms manually is difficult because many species look similar. |
| Impact | A reliable classification system improves safety for mushroom foragers and reduces the risk of poisoning. |
| **Proposed Solution** | |
| Approach | Transfer Learning (Xception/ResNet), preprocessing with ImageDataGenerator, training on GPU (Tesla T4 in Kaggle), saving model as .h5, Flask web deployment. |
| Key Features | Automated classification, web-based image upload, prediction output with image preview. |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | |  | | --- | |  |  |  | | --- | | 1 × NVIDIA T4 GPU | |
| Memory | RAM specifications | 16 GB RAM |
| Storage | Disk space for data, models, and logs | |  | | --- | |  |  |  | | --- | | 20 GB Disk | |
| **Software** | | |
| Frameworks | Python frameworks | Python, TensorFlow, Flask |
| Libraries | Additional libraries | keras, numpy, pillow |
| Development Environment | IDE, version control | Jupyter Notebook, Git |
| **Data** | | |
| Data | Source, size, format | Kaggle dataset, 10,000 images |