**Empathize & Discover**

1. Who are the users/customers?

* Mushroom enthusiasts: Individuals with a keen interest in mushrooms, including hobbyists, foragers, and those who enjoy studying and identifying different mushroom species.
* Researchers: Scientists and researchers in the field of mycology who require accurate and efficient tools for species identification and classification.
* Nature lovers: People who appreciate the biodiversity of mushrooms and want to learn more about different species they encounter in their environment.

1. What are their needs and goals?

* Accurate identification: Users need a reliable system that can accurately identify and classify mushroom species based on visual characteristics to ensure safety and proper documentation.
* Efficiency: Users want a time-efficient tool that can quickly process uploaded images and provide species identification results in a timely manner.
* Education and exploration: Users seek a resource that can provide additional information about identified species, including habitat, edibility, medicinal properties, and other relevant details.
* User-friendly interface: Users prefer a user-friendly and intuitive interface that is easy to navigate, allowing them to easily upload images and access classification results.

1. What do they see?

* Mushroom images: Users see a diverse range of mushroom images captured in different environments, exhibiting various colors, shapes, and patterns.
* Online resources: Users explore websites, forums, and social media platforms dedicated to mushrooms and mycology to gather information and share their findings.
* Field guides: Users may refer to physical or digital field guides that provide visual references and descriptions of mushroom species.

1. What do they hear?

* Conversations with experts: Users engage in discussions with experts, fellow enthusiasts, and researchers to seek guidance, learn from their experiences, and validate their identifications.
* Online communities: Users participate in online communities, forums, and social media groups where they exchange knowledge, share photos, and seek help in identifying mushroom species.

1. What do they think and feel?

* Curiosity and fascination: Users feel a strong sense of curiosity and fascination towards the diversity and beauty of mushrooms, driving their desire to explore and learn more about different species.
* Confidence and validation: Users seek validation for their identifications and want to gain confidence in their ability to accurately identify mushroom species.
* Caution and safety: Users are aware of the potential risks associated with misidentifying mushrooms, leading them to exercise caution and rely on reliable resources for accurate species identification.

1. What are their pain points and challenges?

* Limited expertise: Users may lack the expert knowledge and experience required to accurately identify mushroom species, leading to uncertainty and the potential for misclassifications.
* Ambiguity in visual features: Some mushroom species exhibit subtle visual differences, making accurate identification challenging, even for experienced individuals.
* Accessibility of resources: Users may find it difficult to access reliable and up-to-date resources for mushroom species identification, particularly if they are located in remote areas.

By empathizing with the users and understanding their needs, goals, challenges, and emotions, we can better design and develop an AI-based mushroom species classification system that addresses their requirements, provides accurate identifications, and enhances their overall experience in exploring the fascinating world of mushrooms.