Food Image Recognition (Project Planning)

Team11

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Use Cases

Use Case 1 : Customers

❖ Food customers use images to know the food category that they are eating at a restaurant

Use Case 2 : Restaurants

❖ Chefs/owners can use the dataset to analyze the data, see the most frequently liked/visited images, and have a report of their most loved dishes.

Use Case 3 : Application Users

❖ Food application users upload images to identify the category of their food

Methodology

1. Processing images
   - ❖ Resizing
   - ❖ Rescaling
   - ❖ Standardizing
2. Algorithms of Artificial Intelligence for multiple food image classification
   - ❖ TensorFlow
   - ❖ Convolutional Neural Networks
   - ❖ Inception Model
3. Potential expansion for more food category classification
4. Visualization
   - ❖ Zeppelin

Data Sources

ETH Food-101: https://www.vision.ee.ethz.ch/datasets_extra/food-101

❖ A dataset of 101 food categories with 101,000 colored images

Initial Plan: Subset 10 - 20 categories with a size of 500 MB - 1 GB

Dataset distribution:
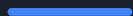
❖ Training Dataset - 70%
❖ Test Dataset - 30%

Milestones

11/16

11/28

12/3

12/7

Data cleansing &
Image Processing

Artificial Intelligence

Potential Expansion

Visualization
& Wrap-up

Scala Programming

- Image processing - Spark/Scala
- Neural network
- Zeppelin

Acceptance Criteria

❖ Training data : Accuracy 80%

❖ Test data : Accuracy 50%

❖ The top probability for food classification : >= 50%

Goals

❖ With our classification mechanism we aim to help food customers, foodies, app users, and restaurants to classify foods better!

❖ It's important to know your food and eat like a boss!

❖ We'd like to give users the good experience about classifying certain types of food using cutting-edge AI technology, integrating with Scala knowledge!