24th Annual Information Technology Competition
2020 Web Application Development Case
Written by: Arian Maleki, Avery Products Corporation

Background Information

ACME Card Company has a long history of manufacturing greeting cards for all occasions. Over the past decade their business for Holiday Cards has been on a steady decline due to the rise of online custom printed Holiday Cards printed using commercial digital presses. ACME Card Company has decided to enter the online custom printed Holiday Cards business and has hired you and your team to change the game on Holiday Cards. Your task is to focus on the online Holiday Card designing experience. Research shows consumers are busy and do not want to spend a lot of time designing a Holiday Card, but they want a unique design that looks great with their photo. Your challenge is to build a web application that allows consumers to upload a photo, recommend and apply a design layout that is unique and looks great.

Requirements

Design a Holiday Card web application with the following features:
1. Upload photo
2. Select a holiday (Christmas, Hanukkah, Kwanzaa, Diwali, Easter, etc.)
3. Preview holiday card with at least 5 recommended holiday designs

Bonus
4. Analyze the photo to *recommend* a holiday design. For example, color palette, size, orientation, face positions, scenery.

The above are general requirements. Feel free to be creative and think of additional features that will meet the overall objectives.

Remember family photos come in many different layouts, settings, poses etc. Collect a test set of friends and family photos and think of ways you could analyze and recommend designs that would work with that photo. Focus on making it easy for consumers to upload a photo and preview many different relevant designs.

The score of a project is mainly determined by the application's function and user experience (ease of use, visual design). You need to develop the above-mentioned key features. Your scores depend on the quality of your design and implementations. Specifically, the evaluation considers :

1. Quality of your design and implementation of the systems (including the database system)
2. Quality of your design and implementation of graphical user interface
3. Quality of implemented required and bonus features

The following further clarifies the requirements for the web application:
- There is no registration required
- You can store data in a local database or as data files
- You can choose your preferred technologies to implement the application

Deliverables

1. **The Application (80 points)**
   All files and assets should be packaged in either a zip file or uploaded into a Github repository and able to be downloaded and run on a user's machine. This package should contain: All website code and All data processing code.
   Any code/files needed for your database, such as libraries/scripts used to process the data, should also be packaged with your zip file or Github repository such that your solution will run without needing to be debugged.

2. **Documentation (10 points)**
   README file that describes the architecture/design of the systems, enumerate and explain features of the system, show how different programs interact. If you implement new features, clearly state them. This document also explains the database design and shows how tables are related. Please follow this format for submission:
   Web Applications Development – Team Name - Documentation
   Application Deliverables and Documentation must be submitted by Sunday, April 5th @ 11:59PM PST via Google Form.

3. **Oral Presentation and Response to Questions (10 points)** – Describe the features and architecture/design of the system and explain how different programs interact. If you implement new features, specify them. – Explain the database design and show how tables are related. Demonstrate your system and answer questions.
   By 5 PM PST of April 10th, 2020: Each team must submit their presentation slides that will be used on the day of the competition, via Google Form.
   April 11th, 2020: Live Video Presentation and interview to the panel of judges.