

Course Project – Big Teeth Reality TV

Overview

A new reality show is entering production. A cross between Animal Planet and Fear Factor, it focuses on conflicts between humans and animals with big teeth (crocodiles, tigers, lions, and so on). Contestants never know if they will be chased by the animals or if they will be eating them. The insurance costs will be huge, but the producers think there is a big audience. Producers always think that, but at least they are willing to pay money to find out. The next step is to find people crazy enough to sign the waivers and participate in the show.

Contestant Details

Application				Photo			
Name				VideoID			
Address							
City, State PostalCode							
Country							
Daytime phone							
Night phone							
E-mail address							
Date of birth							
Gender							
Candidate essay				Ratings			
				Producer			
				Director			
Medications		Reason		Jobs	Start	End	Description

Figure 1

Figure 1 shows the basic contestant application form. The producers are adding a twist and recruiting worldwide. The goal is to build more suspense by adding communication problems among contestants and perhaps to foster some nationalistic audience participation. Contestants are asked to submit a photo, which is scanned and stored in the database. They are also encouraged to submit a short video interview. These interviews are only used for evaluating the final tier of candidates and portions might be used during a broadcast. The lead producer and the director evaluate each applicant

and provide a quick rating (1-5). The highest rated candidates get a second look and become a finalist in the selection process.

All applicants undergo a background check. Several reality-based shows have experienced problems when contestants were revealed to have unsavory pasts—including being arrested for violent crimes. Although the producers want risk-taking contestants, they also want to avoid embarrassing public disclosures. Figure 2 shows the basic background data that investigators obtain on the finalist contestants. It is not foolproof, but by making a few phone calls, the investigators get a reasonable idea of the candidate's background. National ID and Religion would be text fields. Appearance Rating and Strength Rating are numeric from 1-10. The producers and directors then select the contestants for an episode.

Note - The Employer list below does not have to link directly to the Job list in Fig 1.

Background Check																			
Applicant																			
National ID		Appearance Rating																	
Religion		Strength Rating																	
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Figure 2

Episodes and Events

Actual episodes consist of one or more events. Generally, there is only time for one or two events per episode, but the producers are thinking about the possibility of an hour-

long special. Figure 3 shows the two main aspects of the event: the setup from the perspective of the director, and the results from the perspective of the contestants. The director focuses on the sequence of actions, where the cameras will be located, and the estimated time of each section. For each event, a contestant is given one primary task. Sometimes they work in teams, so two or three people might be given the same task. The task result might just be a completion, or it might include a time for races. Either way, contestants are awarded points (sometimes negative points) for their role in the task (points range from -10 to +10). Occasionally, small prizes are awarded for completing a task, but contestants are really competing for the overall prizes in the event. The danger level will be numeric from 1-10.

Event								
Title					Producer			
Description					Director			
Estimated time					Episode			
Estimated danger								
Contestants					Actions			
Name	Task	Result	Points	Prize	Seq.	Description	Cameras	Est. Time

Figure 3

Voting

When the episode is aired, the audience is asked to participate by voting for favored contestants. The vote totals are used to determine which contestants to bring back for future episodes, and to give prizes for the overall season leader. Each vote has the episode title, date, contestant, region, and method associated with it. The executive producers are trying to entice advertisers by supporting several means of voting. Consequently, they want to track the actual method used to cast a vote. Common methods include telephone, cell phone/text messaging, e-mail, and a website. These should be available in a dropdown on a form which means it is not a simple text field. They also need to track audience participation by geographic region. On the report shown in Figure 4, the regional level is global and also supports a dropdown list of pre-defined areas (you can use continents, but it could be broken down to finer grained level).

Voting			
Episode Title			
Episode Air Date			
Contestant	Region	Method	Votes
			Total
Contestant	Region	Method	Votes
			Total
...			

Figure 4

Exercises

1. Create a normalized list of tables for each of the above forms.
2. Create an ERD which shows these tables and fields. You may use PowerPoint or Visio or some other data modeling tool.
3. Define the tables in a DBMS along with the necessary relationships and integrity constraints.
4. Enter sample data to populate the tables to test your design. You do not need to create data entry forms
5. Create queries to answer the following questions:
 - a. *Calculate the average producer and director ratings for a specific event's team members (you pick the event title).*
 - b. *Determine which actions will take the longest. Rank all actions from longest to shortest.*
 - c. *List each contestant's total votes by region and method for a specific episode (you pick the episode title). Rank this from highest to lowest.*
 - d. *Identify which contestants have not participated in any events.*
 - e. *What is the highest estimated danger level for any event?*
 - f. *Show a relational expression for any one query*

Note: Insert constraints on the fields specified in above that have limits on them.

Project submissions

Your group presentation should include:

- A name for the project team (assume as if you are representing a software firm to complete this project) along with name & student ID of each member
- Power point slides, word documents and/or portable document formats with explanations and steps to justify the solution(s).
- All SQL queries in text formats
- Screen shots to show all SQL results
- Bibliography and reference links

- A brief about the role of each team member for the project
- Electronic (soft copy) version and a paper (hard copy) submission
- Which database have you used to complete the project

Note:

For the project, you can use Microsoft access or the student server database.

You can even download a database of your choice. Below is a list of free open source database for your reference:

<https://firebirdsql.org>

<https://www.postgresql.org>

<https://mariadb.org>

<https://www.mysql.com/products/community/>

<https://www.microsoft.com/en-us/sql-server/sql-server-editions-express>

<https://www.sqlite.org> (DB Browser for SQLite can be downloaded here: <http://sqlitebrowser.org/>)

As always, the best way to really master your SQL skills is to get a local setup and learn to work within your own environment.