Developing a Data-Driven Application with Damaged Data and Anomalies

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Abstract
The beauty of the data-driven application is that the data already exists! There should be no need for data entry, data validation, or for the storing of new data. Data-driven applications are ideal for exploring and presenting data in a meaningful way to the end users. But what happens when the data is either incomplete or has inaccuracies? Can the application be developed when one discovers there are deficiencies in the underlying data? This case explores a real-world application which ran into this exact scenario. Discover how one systems analysis and design class and one web programming class responded to these data, organizational, and hierarchical systems issues.

Learning Outcomes
In completing this assignment, students should be able to:

1. Identify the characteristics of a data-driven application including prerequisites (e.g. complete and valid data) and outcome objectives (e.g. little to no required system or data maintenance)
2. Identify known facts vs. assumptions affecting the application's design
3. Review the concept of "scope creep" and ways to identify and mitigate its impact
4. Utilize critical thinking skills to analyze issues that are still missing or insufficiently defined within the scenario (i.e. what is still unknown?)
5. Synthesize and develop recommendations to address how some issues can be solved (partially and/or temporarily) by the design of the data-driven application vs. those that will require eventual business rule or procedural resolution (permanent solutions)

Application
This case is most appropriate for undergraduate information systems and business courses including systems analysis and design, application development, database design, organizational management, and human resources.

Key Words
data-driven application, application design, database design, scope creep, organizational structure, incomplete data, data anomalies

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