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Teaching Case

System Design and Development of a Tween Esteem Event Management System Case

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Abstract

The case provides a realistic scenario that can be used in a systems analysis and design, database development or graduate level management information systems course. The case focuses upon the development of an event management system for a small conference with participants and exhibitors. Multiple assignment options are provided allowing instructors to select an assignment based upon course material coverage. Suggested assignments include the development of process modeling diagrams such as data flow and swim lane diagrams, a request for proposal and a response to the request for proposal, and database design and development artifacts.

Keywords: Teaching Case, Process Design, Swimlane Diagrams, Database Design

1. INTRODUCTION

Lisa Williams eased her daughter's bedroom door shut. Normally, a whirlwind of laughter and sunshine, her nine-year-old daughter had come home from middle school in tears. "April finally calmed down enough to go to sleep," Lisa whispered to her husband Mark. "I knew this age was hard on little girls… but I hadn't realized it would be this rough."

"Were you able to figure out exactly what happened today at school?" Mark asked as he set his alarm for the next morning.

"The same group of kids that were bullying her last week about her hair style, started in again today about her weight. The students were called to the principal's office, but she's afraid that may have made things worse. I'm thankful we have the weekend to let things cool off."

"That makes me so mad!" Mark fumed. "I would like to give their parents a piece of my mind and fist!"

"From what April said, she's not the only one they are targeting. It sounds to me that they are targeting girls with low self-esteem. I wish there was something more we could do to help build her self-esteem," April mused.

"Why don't you bring it up at your book club tomorrow?" Mark suggested. "Surely other parents have been dealing with this problem too."

2. A NOVEL IDEA

The last member of Lisa's Saturday morning book club had just settled into her seat at the table. Before Jenna could even pour herself a cup of coffee, Lisa launched into the troubles that her daughter was experiencing at school and her decreasing self-esteem. Mark was right. Their family was not alone. Several of the other mothers shared similar concerns they had about their pre-teen daughters. "I can't just sit back and do nothing!" Lisa fumed. "Surely there is something that can be done?"

"I don't know if this is the answer, but it could be a starting point." Jenna started. "When my boys were younger, I went to a conference for learning

how to raise teenage boys. What if we did something similar and had a conference for tween girls and their parents to help them learn how to survive the tween years?"

"I think Jenna is onto something," Lisa added. "What kinds of things did they have at the conference?"

Jenna thought, "Well, they had workshops, booths, prize giveaways and, of course, food. I don't think there was a charge, so I'm sure they had a lot of donations. I would think that you would want to focus on issues that are affecting girls such as self-esteem and body image, nutrition and fitness, personal safety, teenage life change issues, developing a community of support, and continuing their education after high school to name a few. I'm sure there are more."

"Those are all great ideas! I am hoping that I can count on some of you ladies to help me put this event on?" Lisa proposed. The response around the table was an enthusiastic "Yes!" as ideas continued to bounce around the room and different ones assumed responsibility for specific topic areas and elements of the conference. "I investigated purchasing a conferencing management system but decided against it. We are not certain how the conference will be received by the girls and we have a pretty limited budget getting started. Sandy, I know you are busy with your MBA coursework, but since you have been studying databases in your class, could I ask you to build a database for us to use to capture data and coordinate the conference?"

"Of course," Sandy said as she mentally added this new item to her To-Do list. "Perhaps Jenna can help too since she's our resident conference expert. Let's get together next week to talk about what you want to do with the database."

The book club spent the rest of the morning hashing out their plans for the event. By the time the last member left, they had developed a fairly strong roadmap to guide them in their conference planning. Lisa wasn't sure if tween self-esteem had really resonated that strongly with her friends, or, if like with the last book, most of them had not read the book and had focused on the conference to get out of discussing the book. Either way, it didn't matter. She had something in the works to try to help her little girl.

3. THE DESIGN MEETING

The next week, Jenna and Sandy went to Lisa's house to discuss their ideas about the database.

"Jenna! Sandy!" Lisa exclaimed as she ushered her friends to the kitchen table. "Thank you both for being willing to work on this. Before I get started, let me tell you what the mission of our conference is:

> *The Tween Esteem Conference is an expo style gathering meant to highlight local services provided in the areas of education, health, fitness and nutrition, safety, community and self-esteem. The emphasis and primary goal of the expo will be providing information on these services as they specifically relate to the demographic of 9 to 12-year-old girls in the local community and access to these services by the "Tween" herself or her caregivers.*

Sandy, would you mind getting the discussion started?"

"I guess the first thing I would like to know is, how exactly is this conference process going to work?" Sandy questioned. "How are you going to get the word out to the girls and their parents about the conference? How are we going to get the vendors to set up booths, the presenters for the workshops and the door prizes and food? I don't want to invest time into building a database that will never be used."

"I don't think you have to worry about that," Lisa started. "Our book club really came through. Everyone said that they would help. Tracy is going to create fliers, an online registration form and a social media presence with registration and event details. She also plans to send the fliers to local middle schools as well as content detailing the event that can be forwarded to the students. The details will have the URL of the registration web site through which students can tell us what workshops they plan to attend and how many guests they will bring. "

"Susan is in charge of the team of ladies who will be contacting various people to set up booths. We plan to have booths providing information about nutrition, exercise, hair care, makeup, self-defense, budgets, female health issues, and educational opportunities after high school. Susan's team will be contacting people in those areas and creating a list of those who can participate and what they are going to do, those who are interested but unsure, and those who are a definite "no." She also will be responsible for making sure that the vendors get the appropriate number of tables and chairs they need as well as collecting the payment for the booths."

"Wendy will be contacting area businesses in search of door prizes and food donations. Like Tracy, she will be keeping track of those who are willing to donate, what they are donating and the estimated cash value of the donations, as well as those companies who are a definite "no." The data that Wendy, Susan and Tracy collect will all need to be entered into the database so that we can keep track for generating letters and reports throughout the conference planning and implementation process as well as, hopefully, use in planning for future conferences. Once you create the database, I can enter all of the data and run the reports. The process isn't perfect, but it will hopefully get us through this first conference."

"I would love to print QR codes on the student and vendor name tags and then use those codes to take attendance at the conference and workshops. We wouldn't need that many scanners," Lisa mused, "…maybe about five. However, our resources are pretty tight this year and we don't have the time, money or expertise to implement that this year, so I'll put that idea on my wish list for the next conference."

4. THE DATABASE

"You have really placed a lot of thought into making this conference happen," Sandy noted. "I'll bet you know exactly what you want the database to do as well."

"I've been thinking a lot about that. I want it to do a lot of things. I basically want the database to keep track of the data and then be used for generating reports and letters. For instance, I would like each girl to be able to register for specific workshops. I would then like to be able to send a letter to each girl telling them for which workshops they are registered. I would like for booth vendors to be able to request a certain number of tables and chairs when they register and then to use the database to create an invoice to send to each booth vendor charging them $5 for each chair and $20 for each table and limiting each vendor to a maximum of two tables. I would like to create a report listing a schedule of all of the workshops that are being offered as well as a list of all of the vendor booths that will be there. I would also like to create a letter to send to each donor detailing what they provided, the estimated value and the total amount contributed for them to use as a charitable contribution for their taxes.

To create those reports and letters, the database is going to have to collect data about the tweens, the workshops being offered, the workshops the tweens and their parents want to attend, the vendors and the booths they are providing, the donors and what they are donating, and finally, the volunteers. In terms of data, I would like to collect data about the tweens and their parent attending the conference such as name, address, age, phone number, email address, school, parents' names, etc. In regard to the vendors, I would like to collect their company name, contact name, representative name, phone numbers, email address, postal addresses, number of tables and chairs, etc.

For the workshops, I would like to know the workshop name, presenter, workshop time, resources needed (presentation system, computer, etc.) room assigned and brief description. I would also like to collect contact information about the workshop presenter.

For the donors, I would like to collect their name, contact information, the item/service donated as well as the value of the item/service donated. In order to run smoothly in the future, I would also like to collect a list of jobs or roles that need to be performed by volunteers. In addition, I would like to collect volunteer information such as their names and contact data. Then, I would like to create a table indicating what jobs or roles each volunteer performed. Most volunteers will probably have multiple jobs and roles."

"Wow, Lisa! You have been thinking about this." Sandy said with surprise. "You've really given me a good place to get started. I'm sure there are some things we haven't thought of, but they'll come to us as we start building the database. Thanks for your thoughts and input. I'll start working on it and we'll meet again in a couple of weeks to take a look at my design for your database."

5. SIDE NOTE

This fictional case is based upon a real scenario in which the author is currently involved. The focus of the conference is on helping Tween girls build their self-esteem and to realize the numerous career options available for them. The names are made up, but the situation is unfortunately very real.

6. ASSIGNMENTS

Students should assume the role of Sandy or a systems analyst consultant hired to assist Sandy. The systems analysts' roles and responsibilities will vary depending upon the course and assignment.

Process Modeling

Courses: Systems Analysis and Design, Process Modeling, graduate level MIS course

Sandy would like to draw the functional processes out on paper to verify that she understands how everything will work. She does not want to overlook any important data, details or steps in the process.

1. Create diagrams modeling each of the processes.
2. Write short narratives to accompany your diagrams to verify and support your interpretation of the processes.
3. As the diagrams are developed, record any assumptions you make, regarding the processes, in a separate document.

Systems Analysis Design and Database Development

Courses: Systems Analysis and Design, Database Development, graduate level MIS course

Assume that Sandy is ready to build the database. She wants to:

1. Accumulate the functional and technical requirements for the system
2. Prioritize the requirements
3. Create system development diagrams
4. Create a data dictionary
5. Create data entry forms
6. Create queries to generate student workshop schedule letters, a conference attendance list, workshop attendance sheets, lists of exhibitors, presenters and donations and exhibitor invoices.
7. Create reports including schedules, lists, attendance sheets and invoices.
8. As the database is developed, record any assumptions that you make in a short report.

Editor Note: Teaching Notes accompany this case, contact the authors

APPENDICES

Tween Esteem Workshop Attendance Report Example

Workshop Attendees
Healthy Snacks
Date: 8/02/2018

	Participant ID #	Name	Student	Guardian	Attended
1	P18151	Amber Smith	X		Y
2	P18025	Britany Adams	X		N
3	P18152	Betty Smith		X	Y
4	P18056	Lisa Martin		X	Y
5	P18098	Susie Martin	X		Y
6	P18024	Tonya Adams		X	N
7	P18066	Jane Wilson	X		Y
8					

Tween Esteem Exhibitors' Participation Report Example

Exhibitors' Report

Date: 8/02/2018

	Participant ID #	Name	Organization	Chairs	Paid
1	V001	Suzie Martin	Suzie's Boutique	1	Y
2	V002	James Wilson	Wilson's Grocery	2	Y
3	V003	Dr. Tammy Brown	Brown's Medical	2	Y
4	V004	Janie Anderson	Health Services	1	Y
5	V005	Samantha Adams	Adams' Apples	0	N
6					

Tween Esteem Vendor Invoice Example

Invoice No. 18005   8/2/2018

Suzie's Boutique
145 Main
St. Louis, MO 63101

	Quantity	Resource Description	Unit Price	Total
1	1	Table	$20	$20
2	2	Chair	$5	10
...				
		Total Due		$30

Thank you for participating in our Tween Esteem Conference and making a difference in several girls' lives.

For questions about your bill or the conference, please contact Lisa at (555) 555-1112.

Tween Esteem Conference Participant Letter and Schedule Example

Tween Esteem Conference   8/2/2018

Amber Smith
115 Park St.
City, State ZIP

We are so excited that you are planning on attending our first-ever Tween Esteem Conference. We look forward to getting to meet you and share the day with you. Listed below are the workshops for which you are registered.

	Workshop Name	Workshop Start	Workshop Room
1	Registration	8:30 a.m.	Atrium
2	Welcome and Keynote Speaker	9:00 a.m.	Atrium
3	Healthy Snacks	9:30 a.m.	100
4	The Art of Conversation	10:00 a.m.	125
5	Conference Break – Snacks and exhibits in the Atrium	10:30 a.m.	Atrium
6	Body Image	10:45 a.m.	135
7	Closing Speaker and Door Prizes	11:15 a.m.	Atrium

Please be sure to tell your classmates about the event. It's not too late to register.

For questions about your bill or the conference, please contact Lisa at (555) 555-1112.

Sincerely,

Lisa

Tween Esteem Conference Registration Report Example

Conference Registration Report
Date: 8/02/2018

	Participant ID #	Name	Student	Street	Email	School	Age	Phone Number	Parent Name	Attended
1	P18151	Amber Smith	Student	115 Park St.	XXXXX	West Lake	11	###-###-####	Betty Smith	Y
2	P18025	Britany Adams	Student	877 Sunshine St.	XXXXX	East Ridge	10	###-###-####	Tonya Adams	N
3	P18152	Betty Smith	Guardian	115 Park St.	XXXXX		NA	###-###-####	NA	Y
4	P18056	Lisa Martin	Guardian	219 Oak St.	XXXXX		NA	###-###-####	NA	Y
5	P18098	Susie Martin	Student	219 Oak St.	XXXXX	West Lake	10	###-###-####	Lisa Martin	Y
6	P18024	Tonya Adams	Guardian	877 Sunshine St.	XXXXX		NA	###-###-####	NA	N
7	P18066	Jane Wilson	Student	456 Main St.	XXXXX	West Lake	10	###-###-####	Marla WIlson	Y
8										

Tween Esteem Conference Donation Report Example

Donors' Report
Date: 8/02/2018

	Participant ID #	Name	Organization	Item	Quantity	Cost Each
1	V001	Suzie Martin	Suzie's Boutique	Jeans	3	$50
2	V002	James Wilson	Wilson's Grocery	Gift Cards	4	$25
3	V003	Dr. Tammy Brown	Brown's Medical	Athletic Shoes	1	$100
4	V004	Janie Anderson	Health Services	Health care items	5	$7
5	V005	Samantha Adams	Adams' Apples	Gift Cards	3	$20
6	V006	Mandy Thomas	Mandy's Hair Salon	Hair Care Items	2	$10
7						