The following is a copy of the transcripts of an interview between Mr. Reid Lewis of R & S Entertainment Services and Kira Webster, a computer information systems student. This was the initial interview with Mr. Lewis and its goal was to obtain facts about the problems and opportunities which triggered the project request, plus other general information which could be used to prepare the *Problem Statement Matrix*.

Exhibit 1.1

Scene: *Kira Webster, computer information systems student, is meeting with Reid Lewis, President of R & S Entertainment Services, at his office in Lafayette, Indiana. Ms. Webster scheduled the interview with Mr. Lewis in response to his request for developing a new asset tracking and management system.*

Reid: Good Morning! You must be Kira Webster.

Kira: Yes, I am sir. Are you Mr. Reid Lewis?

Reid: Yes. Please call me Reid. I'm glad we could get together today. Things are getting quite chaotic around here.

Kira: What do you mean?

Reid: My business operations manager, Marge Brooks, came into my office pleading for me to do something about the way we management our amusement machine inventory. She is basically at her wits end.

That is why I asked you to come see me.

Kira: I be glad to try and help. Can you tell me more about the problems that Marge is having?

Reid: I will try. She tried to explain them in detail to me this morning. I can't say I was much help. I don't get involved too much in what she does since she has done an excellent job in the past. Let me first say that anything that is related to the purchasing, tracking, and managing a machine is totally a manual process. Meaning none of the information is kept on the computer. It is all in mounds of paper that is stored in file cabinets. The closest thing we come to automation is faxing the purchase orders to the vendor.

Kira: I see.

Reid: The basis of my business is this. We are in the entertainment business. We provide amusement machines such as pinball machines, pool

tables, jukeboxes, video games, and the like, to various business locations for their customers to enjoy. The money earned by the machines is divided by the business location and us. That is our fee for us installing the machines.

Kira: Is the money divided evenly?

Reid: Depends on the contract. With every business location we deal with, we enter into a contract. Basically, it is an agreement between the business establishment and us, on what services we will provide, at what cost, and the time period of the contract. Depending on the nature of the business and the value of the machines factors into what the percentage split is.

Kira: Is the signing of a contract the trigger to buy new machines?

Reid: Sometimes it is. Sometimes we already have the machines in our warehouse that we can install. But most of the time we have to purchase new machines. That was the thing that Marge was so upset about. She really has no good way of keeping track of what we have, where it is installed at, and how well is it performing. I would wager that we spend thousands of dollars on buying new equipment we really don't need. If we just had the information available to us to see what our inventory is, where it is installed, and how it is performing. We could make better decisions on the purchasing process. In a majority of the situations, instead of buying new machines, we could move machines from location to another location, especially if the machines were not performing well.

Kira: Who determines what machines will be purchased, and installed at the various locations?

Reid: Most of the time, it's the office managers at the three sites. If they need new machines, they give Marge a request on what they need. She prepares the purchase order and faxes it to the vendor who has the best price for that machine. When we receive the machines from the vendor, they are prepped, and the office manager decides on where they should be installed. Once the manager makes that decision, they fill out a move order and give to the technicians. The move order tells the technicians what machine to be installed (if any),

what machine is to be removed (if any), and from what business location.

Kira: I see. What happens to all the forms such as the purchase order, the machine request, and the move order after they have been processed?

Reid: You would have to ask Marge to be sure. But, I believe they are put in a file cabinet somewhere. Heck, that's half the problem. Nobody knows where the information is at, how it's stored, and it takes too long to find it. We need to have a history of every machine including when we bought it, from where, what it cost, how many repairs it has had, all the places it has been installed, and how well it has performed. We should be able to call that up and have it instantaneously.

Kira: I will certainly see what I can do. Do you receive anything else form the vendors?

Reid: Do you mean besides catalogs and the occasional junk mail?

Kira: Yes. (laughing) I mean like invoices, and shipping statements.

Reid: Sure we do. A shipper, that's what we call a shipping statement, accompanies every shipment that we receive. It contains the serial number of the game, the name and the manufacturer. A few days later we receive the invoice through the mail. That's what Marge uses to pay the bill.

Kira: What happens to those?

Reid: Who knows? I assume they are probably filed away also.

Kira: Do you produce any reports or listings for anybody?

Reid: With what a typewriter? Just kidding. At the end of every year Marge creates a listing of all the assets we have purchased and disposed of, and gives that to our Accountant. She just writes the information down on paper.

Kira: Okay. Let's switch gears a little bit. I understand you have multiple offices? Do you want each office to have the capability to access the new system?

Reid: Yes, we also have offices in Fort Wayne and Rensselaer, and yes I want them to definitely be able to access the system. But, I want the data to reside here in Lafayette.

Kira: Do you want them to have access to the data once you make changes to it, or can they wait till the next day?

Reid: Yes, I want the managers to have access to the most current data.

Kira: Do all offices basically perform the same way?

Reid: No. The regional offices only handle machine moves and collections. All other business functions are handled here.

Kira: You mentioned collections.

Reid: That's a whole another can of worms. We will save that for the next project. Besides, I need this done in three months. You won't have time to tackle the collection problem also.

Kira: Okay. I will take your word for it! Lets talk about your computer technology. You currently have only two personal computers, is that correct?

Reid: Yes that's true. I believe one is used for the dart tournaments we sponsor and the other is used for word processing. They are both located here in Lafayette. We are probably not using them to their full potential. I think I have only two or three employees that actually know how to use a computer. I really would like to have all employees to have access to the system if they need it. And, yes I understand I will need to purchase additional computers to be able to do that.

Kira: Good. So purchasing additional hardware and software if required will not be a problem?

Reid: If you can justify the need then I will make sure we get the hardware and software we need.

Kira: Would you expect us to train the employees that don't know how to use a computer?

Reid: Most definitely!

Kira: Before I forget to ask, may I have a copy of your organization chart and who of your organization will be working with me on this project?

Reid: Fair request. I will have Marge send you a copy of the company org. chart [*the organization chart appears in the case introduction*]. As for your direct contact, Marge will also fulfill that role. But, I don't have a problem of you talking to anyone in the company if it will help you.

Kira: Thank you. For this project to be a success we must work as a team and you the user certainly must be involved. Mr. Lewis would it also be possible for me

to have copies of the documents you use in your business?

Reid: Which ones?

Kira: Well if you don't mind, copies of the move order, purchase order, shipper, and invoice for starters.

Reid: Sure. I will have Marge provide those to you.

Kira: I see that my sixty minutes is about up, so hopefully we won't be much longer.

Reid: No problem. It is not often that I get to talk to a person such as yourself.

Kira: Why thank you Mr. Lewis, uh, I think. Lets stay on the subject and I have just a few more questions I need to ask. I'm sure you're a busy man so I don't want to continue this meeting needlessly. Mr. Lewis what do you think the new system should be like.?

Reid: Interesting question. Let me think. I see a system that is easy to use, intuitive, and has fields that can be clicked with the mouse so you don't to type every thing. It is accessible from every office and maybe even from my home, if that's possible. I should be able to get reports of the data I need and in the format that I want, when I want them.

Kira: That's a good vision. Are there parts of the system that should be secured, in that you wouldn't want everyone to be able to access those?

Reid: I believe there probably has to be, but I'm not sure right now what they are. I need to think on it somemore and discuss it with Marge.

Kira: Very good. Do you have a budget set for the development of this new system?

Reid: Not really. I understand we need to purchase new hardware and software and that can be costly. I would like to stay under $100,000 if we could.

Kira: I will definitely do my best. We will know more once we have completed a detailed analysis and design of course. Is there anything else you would like to tell me about the system?

Reid: That's all I can think of right now.

Kira: OK. I'm going to review this information and give you my report of it early next week. Thank you for your time today, Mr. Lewis.

Reid: You're welcome. See you next week Kira.

Kira: Goodbye Mr. Lewis.

R & S Information Services

Phone: 743-7655   Fax: 743-8873

REQUEST FOR INFORMATION SYSTEM SERVICES

DATE OF REQUEST	SERVICE REQUESTED FOR DEPARTMENT(S)
	Business Operations

SUBMITTED BY (key user contact)		EXECUTIVE SPONSOR (funding authority)	
Name	Marge Brooks	Name	Reid Lewis
Title	Business Operations Manager	Title	President,
Office	Lafayette	Office	Lafayette
Phone	743-7655	Phone	743-7655

TYPE OF SERVICE REQUESTED:

☐ Information Strategy Planning ☐ Existing Application Enhancement
☐ Business Process Analysis and Redesign ☐ Existing Application Maintenance (problem fix)
☒ New Application Development ☐ Not Sure
☐ Other (please specify

BRIEF STATEMENT OF PROBLEM, OPPORTUNITY, OR DIRECTIVE (attach additional documentation as necessary)

BRIEF STATEMENT OF EXPECTED SOLUTION

ACTION (ISS Office Use Only)

☐ Feasibility assessment approved

☐ Feasibility assessment waived

☐ Request delayed

☐ Request rejected

Authorized Signatures:

_____

Assigned to Professor K. C. Dittman

Approved Budget $ 100,000
Start Date ASAP   Deadline ASAP

Backlogged until date: _____

Reason: _____

Reid Lewis
Project Executive Sponsor

The following is a copy of the transcripts of an interview between Mrs. Marge Brooks of R & S Entertainment Services and Kira Webster, a computer information systems student. This interview was scheduled with Mrs. Brooks to discuss R & S Entertainment Services' current business processes and the problems that have been occurring. The goal of this interview was to learn more about the current system and to obtain enough information to perform cause-effect analysis.

Exhibit 2.1

Scene: *Kira Webster, computer technology student at Purdue University, is meeting with Marge Brooks, Manager of Business Operations for R & S Entertainment Services, at her office. Miss Webster scheduled the interview with Mrs. Brooks in order to learn more about the current system and ask questions about the current business processes when dealing with assets.*

Marge: Good Morning Kira! How are you today?

Kira: Fine thank you. How are you Mrs. Brooks.

Marge: Very well thank you and please call me Marge. What can I do for you today.

Kira: Well, I want to learn as much as I can about your current system and its business processes.

Marge: We don't really have a current system. I mean we don't utilize the computer for anything that we do.

Kira: Just because your processes are not automated doesn't mean you don't have a system. A system can be made up of manual processes using a typewriter, file cabinets and the like.

Marge: I see. I didn't know that. Where would you like me to start?

Kira: Let's start with the purchase of new equipment, the machines you install at a business location. What triggers the purchasing process and how is it performed?

Marge: The demand to purchase new machines is usually driven by the event of us getting a new location.

Kira: What do you mean?

Marge: When a business establishment such as a pizza parlor, wants us to install machines at their location, we sign a new contract with the business for us to install amusement machines for a percentage of the revenue that

the machine earns. If we don't have the necessary machines in our warehouse, or installed at another location we have to purchased them.

Kira: I see. Do you make that decision?

Marge: Not by myself. The office managers determine the need and submit a request to me.

Kira: Let's see if I understand this. If a new location needs machines installed, the office managers check the available inventory and if no such machines exist, they submit a request to you to purchase them.

Marge: That's correct. Also, we may purchase machines to replace outdated stock, machines that are broke, machines that have been stolen, or ones that are not performing the way they should. And of course we may purchase any new game that is released by the manufacturer because our customers always demand the "latest and greatest" machines.

Kira: Interesting. How do you actually do the purchasing?

Marge: Once we determine we need to place an order, I complete a purchase order with the items we want to order and fax it to the vendor.

Kira: Is the purchase order a form that you complete by hand?

Marge: No, we have pre-printed forms that we buy from an office supply store and I use a typewriter to type in the information.

Kira: How long does it usually take to prepare a purchase order and how many purchase orders do you process in a month?

Marge: Well, once we determine what we want to order, I search the catalogs of the vendors or call them to get the best price. We have four vendors we typically deal with. Once I have that information, I fill out the purchase order. Depending on the number of items, it may take me two to four hours to complete a single purchase order. I do on an average, ten per week - that means about 40-50 per month.

Kira: Is taking two-four hours to do a purchase order acceptable to you?

Marge: By all means no! I despise typing. Honestly, we should be able to generate a purchase order in 15-30 minutes. That would give me time to do other things I need to do.

Kira: Have you ever found that you ordered something that you didn't need, or received and billed for something you didn't order?

Marge: Of course! One of the biggest problems we have around here is not accurately tracking our inventory of machines. We don't really have an accurate count of how many machines we have, where they are installed at, or how well they are doing. We order approximately $1,500,000 worth of new equipment every year. I would estimate about 25% of that is unnecessary. If we knew the status and whereabouts of all our equipment, we could save ourselves a lot of money. In terms of receiving things we didn't order, yes, that does happen sometimes. When it does happen, a lot of times it too late too correct it.

Kira: What do you mean?

Marge: I mean the boys in the back have already unpacked it, prepped it, and put it on the truck ready to be installed somewhere. By that time it's too late to put it on a truck and ship it back. We tried to make the policy that all new shipments need to be confirmed by Diana or myself, but it didn't work out. By the time Diana or I had the time to do it, found the correct paperwork, and reconciled all the numbers, two days have past. The boys in the back weren't very happy with us. Especially the managers, who had to deal with the unhappy customers.

Kira: What would be acceptable?

Marge: Well, as soon as the equipment is delivered, all the paperwork should be checked out and verified. It should take no longer than one hour.

Kira: Do you ever verify the equipment you receive?

Marge: Yes. Later when we have time, we take the shipment statement, that was shipped along with the equipment, and reconcile it with the purchase order or orders on which the equipment was ordered. We keep all pending purchase orders in a file. When a piece of equipment comes in, we attach the shipping statement to the proper purchase order, then write on the purchase order "received" next to the appropriate line item. When we receive the invoice, we do the same thing. And when we pay the bill, we make a copy of the check, and attach it also. That is our way of tracking the ordering

and receiving of a machine. Once all the equipment of a particular purchase order has been received and paid for, the purchase order and all of it's attachments are filed away. You can see why it is such a nightmare and time consuming process to have to track anything down.

Kira: Yes, I can. Do you ever use the purchase order and all it's attachments again?

Marge: At the end of the year we pull them all out and give them to our accountant for tax purposes.

Kira: What do they do with them?

Marge: I believe he enters all the information into his computer system so he can prepare our tax statements. I know he charges us an arm and a leg for doing it! It's probably for all the time he has to go through to make sense of our paperwork and then re-enter it into his system. He does the same thing with our ledger that contains a record for all our collections of revenues. If we could provide him the data in a better format, I'm sure we could save thousands of dollars in accountant fees.

Kira: I will see what I can do. Let's get back to the machines. Exactly how does the technicians know where to install a machine?

Marge: The site managers, Mike, Mark, or Foster will prepare a move order indicating where a particular machine is to be moved from (de-installed) or moved to (installed). There can be several of these install/de-installs on one order.

Kira: How does the manager know what machines to be moved?

Marge: Oh, they talk with the people that do the collections periodically and ask them which machines are doing poorly. Or, a repair technician may report that a machine is broke or needs servicing. Or, we may have a new business location that needs set, or one that has went out of business and we need to pick all our machines up. Finally, we may have a special request from a business location for a particular machine. To keep that customer happy we will try to honor the request.

Kira: I see. How often are these move orders created.

Marge: I would say each site goes through about five orders per day. Each move order has up to ten individual machine moves.

Once an individual move has been completed, the technician signs and date stamps that particular move item. This is our way of tracking where the equipment is coming from and going to, plus when it got done and who did it. Once an order has been completed it gets filed away. Unfortunately, it's not a very good process.

Kira: What do you mean?

Marge: Right now we don't keep a history of the machines that have been installed at a business location. Therefore, we rely on the memory of the manager, collector, and the technician as to whether a certain kind of machine has been installed at the location before. It's much too time consuming to search through all the move orders for a particular location. There could be thousands. Sometimes when we are ready to install the machine we discover it has already been installed there before and performed poorly, or the location already has a similar machine installed. At any rate we don't look good in the customer's eyes, and we wasted the labor cost of a technician going up there and the gas and maintenance of the truck.

Kira: I see. Do you ever get rid of machines?

Marge: Yes we do. Periodically we sell used equipment to people who call up and want an authentic amusement machine for their recreation room or basement. We also have had machines stolen, destroyed by vandalism, and burnt up in fires. Once in awhile we will have a machine we can't sell and it is not good enough to be installed at a location. We usually just scavenge it for parts and then junk the rest. At any rate, we write down all the necessary information and give it to the accountant.

Kira: Good. Is there anything else you would like to tell me about how your system handles the amusement machines?

Marge: That's all I can think of right now.

Kira: OK. I'm going to review this information and give you my report of it next week. Thank you for your time today, Mrs. Brooks

Marge: You're welcome. I'll see you next week.

Exhibit 3.1

The following business form is a purchase order form that R&S Entertainment Services uses to order amusement machines from their vendors.

00045

PURCHASE ORDER

Date: 05/28/97

R & S
ENTERTAINMENT SERVICES
412 Main Street
Lafayette, IN 47905
(765) 743-7655

BUYER: Marge Brooks

VENDOR:
One Stop Amusement
Distributing Company
P. O. Box 20046
Pittsburgh, PA 15230
(412) 398-7789
Fax: (412) 398-0003

PRODUCT NO.	NAME -MANUF.	QTY	UNIT PRICE	TOTAL PRICE
66578	Jurassic Park pinball - Williams	2	$3250.00	$6500.00
J55642	CD150F jukebox - Rowe	1	$3700.00	$3700.00
P1000564	8E Maple pool table - Valley	4	$1750.00	$7000.00
		TOTAL ORDER AMOUNT		$17200.00

purchse order.
product
vendor
mfger

117

Exhibit 3.2

The following business form is an invoice, which is sent by the vendor following the shipment of purchased machines.

INVOICE

ONE S🛑OP AMUSEMENT DISTRIBUTING COMPANY

P.O. Box 20046   Pittsburgh, PA. 15230

PHONE (412) 398-7789

FAX (412) 398-0003

SOLD TO	SHIP TO
R & S ENTERTAINMENT SERVICES 412 Main Street Lafayette, IN 47905 (765) 743-7655	R & S ENTERTAINMENT SERVICES 412 Main Street Lafayette, IN 47905 (765) 743-7655

CUSTOMER NUMBER	INVOICE NUMBER	INVOICE DATE	SHIP DATE	TERMS
47755-000	322377	06/08/97	06/08/97	DUE UPON RECEIPT

PRODUCT DESCRIPTION Serial Numbers	QTY	UNIT PRICE	AMOUNT
66578-Williams - Jurassic Park pinball SN - 303558765, SN - 303558768	2	3250.00	6500.00
J55642-Rowe - CD150F jukebox SN - 14007	1	3700.00	3700.00
P1000564-Valley - 8E Maple pool table SN - 5207, SN - 5215, SN - 5237, SN - 5238	4	1750.00	7000.00

SUB TOTAL	17200.00
SHIPPING CHARGE	395.00
SALES TAX	860.00
CREDIT DUE	0.00
TOTAL DUE	18455.00

Invoice (118)

Exhibit 3.3

R & S Entertainment Services records the name and address of each business location in a rolodex. Following is an example of the data they would record.

John's Pizza King

2356 18TH Street

Lafayette, IN

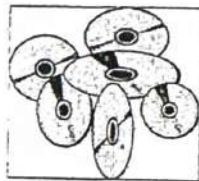*(765) 474-2212*

Date of Contract 05/08/95 — 05/08/2000

Owner — John Higgens (765) 233-8976

Manager — none

Picked up — 2/23/97 — Restaurant was sold.

Busines Location
Contract

Exhibit 3.4

The following business form is used by the managers to request the purchase of machines.

MACHINE PURCHASE REQUEST

DATE: _6/1/97_

LOCATION:		
John's Pizza King 2356 18TH Street Lafayette, IN (765) 474-2212	R&S ENTERTAINMENT SERVICES 412 Main Street Lafayette, IN 47905 (765) 743-7655	

Name		Qty	
William's Jurassic Park pinball		2	
Rowe CD1507 jukebox		1	
Valley 8E Maple pool tables		4	

COMMENTS

Need ASAP!

Foster Hines

purchase reper
(copy to
print and purchase req)
business location.

120