Name: _____ TUid: _____ Date: _____

Systems Analysis: Process Decomposition with Swim Lane Diagrams - 1

After completing this activity you will be able to:

- Interpret a swim-lane diagram
- Construct a simple swim-lane diagram

Step 1: Individually

Reference the swim lane diagram shown on screen. Prepare 3 questions that can be answered with the diagram: (e.g., what happens before/after X, who does Y)

1.

2.

3.

Step 2: In small groups.

Ask other group members your questions. Reach a consensus on the correct answers.

Step 3: In small groups.

Review the following narrative & create a swim lane diagram that describes the hiring process:

Mike is the HR manager at Playwicki Financial Services. They need to hire a new systems analyst. The job has been posted on the company's web site and a few people have applied for the position. The hiring process starts when Mike reviews the applications and matches them up with the job requirements to identify the best candidate. Once the best candidate has been identified, their resume is sent to the hiring manager to review. If the hiring manager is not interested they ask Mike for another candidate and Mike starts looking for another candidate. If the hiring manager is interested in interviewing the candidate, they let Mike know and Mike schedules a phone interview with the hiring manager. The hiring manager conducts the phone interview with the candidate. If the hiring manager is not happy with the candidate, they ask Mike for another candidate and the process starts over again. If the hiring manger is happy with the candidate, then they let Mike know and Mike schedules a face-to-face interview for the candidate with the hiring manager. The hiring manager conducts the interview. If the hiring manager is not happy with the candidate, they let Mike know and the process starts over again. If the hiring manager is happy with the candidate, they notify Mike that they'd like to hire the candidate. Mike call the candidate to offer them the position over the phone. If the candidate is interested, Mike assembles the formal offer and mails it to the candidate. The candidate signs the offer, returns it to Mike and the new employee is officially hired.

Step 4: Draw diagram and discuss as a class

Step 5: Answer three short-answer questions (individually)

1. In which situations is it useful to draw a swim lane diagram?

2. Describes the main elements included in a swim lane diagram:

3. Do you think you could utilize swim land diagrams in some of your other classes? If so, what classes and how would you use them?

Step 6: Rate this activity (individually)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	Rating (1 to 5)
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Systems Analysis: Process Decomposition with Swim Lane Diagrams - 2

After completing this activity you will be able to:

- Construct a simple swim-lane diagram

Step 1: Individually – Read the Following Narrative

Chris is the cake decorator at Cold Stone Creamery. Chris works part-time and is responsible for decorating all of the cakes that Cold Stone sells including both stock cakes and custom orders. Chris can't do this alone. She needs the help of other people at the store to do this.

It all starts in the morning before the store opens when the store manager takes inventory of what cakes they have in stock. While taking the inventory the manager checks the expiration dates for all cakes that are in stock. If a cake has reached its expiration date, it is removed from stock and discarded. If a cake is within a week of reaching its expiration date, it is tagged as a "Manager's Special" and the price is reduced by 25%. The store manager compares what they have in inventory to the "par sheet" which lists how many of each type of cake the store would like to have in stock. Based on the difference between what they already have in stock and what the par sheet says they should have in stock, the manager creates a list of cakes that need to be made by the crew members. The manager also looks at orders for both stock cakes and custom cakes. If there are any orders then the manager adds these cakes to the list of cakes to be built.

Throughout the day the crew members build the cakes on this list. Building a cake does not include decorating a cake. Building a cake involves cutting out the right sized/shape piece of cake from a large sheet of cake (i.e. small round, large round, small rectangle, large rectangle in either chocolate or vanilla) which will form the bottom layer of the cake and mixing the ice cream (a combination of ice cream flavors and mix-ins) that will form the top layer of the cake and putting the cake and mixed ice cream into the appropriate pan which serves as a mold. The cake is then put into the blast freezer to deep freeze the cake overnight.

The next day Chris pulls the newly built cakes out of the blast freezer and decorates the cakes as needed to fill orders and replenish stock. As part of decorating the cakes, Chris packages the cakes into containers, labels each cake correctly with the type of cake and the expiration date for the cake. Chris puts the stock cakes out in the display freezer to be sold and the orders in the freezer in the back so they will be waiting for the customer when they come in to pick up their cake.

Step 2: In small groups (2-3) create a swimlane diagram to document this process.

Step 3: Draw diagram on board and discuss as a class

Step 4: Rate this activity (<u>individually</u>)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	Rating (1 to 5)
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Systems Analysis: Entity Relationship Diagrams - 1

After completing this activity you will be able to:

- Interpret an entity relationship diagram
- Construct a simple entity relationship diagram

Step 1: Individually

Reference the entity relationship diagram shown on screen. Prepare 3 questions that can be answered with the diagram:

1.

2.

3.

Step 2: In small groups (2-3 students).

Ask other group members your questions. Reach a consensus on the correct answers.

Step 3: In small groups, construct an ERD diagram by identifying the entities, attributes and relationships in the following scenario

Mike is the HR manager at Playwicki Financial Services. They need to hire a new systems analyst. The job has been posted on the company's web site and a few people have applied for the position. The hiring process starts when Mike reviews the applications and matches them up with the job requirements to identify the best candidate. Once the best candidate has been identified, their resume is sent to the hiring manager to review. If the hiring manager is not interested they ask Mike for another candidate and Mike starts looking for another candidate. If the hiring manager is interested in interviewing the candidate, they let Mike know and Mike schedules a phone interview with the hiring manager. The hiring manager conducts the phone interview with the candidate. If the hiring manager is not happy with the candidate, they ask Mike for another candidate and the process starts over again. If the hiring manger is happy with the candidate, then they let Mike know and Mike schedules a face-to-face interview for the candidate with the hiring manager. The hiring manager conducts the interview. If the hiring manager is not happy with the candidate, they let Mike know and the process starts over again. If the hiring manager is happy with the candidate, they notify Mike that they'd like to hire the candidate. Mike call the candidate to offer them the position over the phone. If the candidate is interested, Mike assembles the formal offer and mails it to the candidate. The candidate signs the offer, returns it to Mike and the new employee is officially hired.

Step 4: Draw your ERD here:

Step 5: Students called upon at random to help draw diagram on board and discuss

Step 7: Rate this activity (<u>individually</u>)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	Rating (1 to 5)
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Systems Analysis: Entity Relationship Diagrams - 2

After completing this activity you will be able to:

- Construct a simple entity relationship diagram

Step 1: In small groups (2-3) identify the entities, attributes and relationship and construct an ERD based on the following narrative

Chris is the cake decorator at Cold Stone Creamery. Chris works part-time and is responsible for decorating all of the cakes that Cold Stone sells including both stock cakes and custom orders. Chris can't do this alone. She needs the help of other people at the store to do this.

It all starts in the morning before the store opens when the store manager takes inventory of what cakes they have in stock. While taking the inventory the manager checks the expiration dates for all cakes that are in stock. If a cake has reached its expiration date, it is removed from stock and discarded. If a cake is within a week of reaching its expiration date, it is tagged as a "Manager's Special" and the price is reduced by 25%. The store manager compares what they have in inventory to the "par sheet" which lists how many of each type of cake the store would like to have in stock. Based on the difference between what they already have in stock and what the par sheet says they should have in stock, the manager creates a list of cakes that need to be made by the crew members. The manager also looks at orders for both stock cakes and custom cakes. If there are any orders, then the manager adds these cakes to the list of cakes to be built.

Throughout the day the crew members build the cakes on this list. Building a cake does not include decorating a cake. Building a cake involves cutting out the right sized/shape piece of cake from a large sheet of cake (i.e. small round, large round, small rectangle, large rectangle in either chocolate or vanilla) which will form the bottom layer of the cake and mixing the ice cream (a combination of ice cream flavors and mix-ins) that will form the top layer of the cake and putting the cake and mixed ice cream into the appropriate pan which serves as a mold. The cake is then put into the blast freezer to deep freeze the cake overnight.

The next day Chris pulls the newly built cakes out of the blast freezer and decorates the cakes as needed to fill orders and replenish stock. As part of decorating the cakes, Chris packages the cakes into containers, labels each cake correctly with the type of cake and the expiration date for the cake. Chris puts the stock cakes out in the display freezer to be sold and the orders in the freezer in the back so they will be waiting for the customer when they come in to pick up their cake.

Step 2: Draw your ERD here:

Step 3: Students called upon at random to help draw diagram on board and discuss

Step 4: Rate this activity (<u>individually</u>)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	Rating (1 to 5)
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Systems Analysis: Conceptual Architecture Diagram

After completing this activity you will be able to:

- Construct a simple conceptual architecture diagram and ERD

Step 1: Individually – Review the following narrative

In part of MIS2501 – Enterprise IT Architecture, students are challenged to propose innovative products and services that can be delivered through a variety or digital ecosystems. In the spring of 2015 an MIS2501 student, Alex Savon, proposed a new application for the Apple Watch. After doing his research he determined that the accelerometer in the Apple Watch was sensitive enough to detect seizures in a person who has epilepsy and is wearing the watch.

Alex's proposal was for an application that would detect seizures and measure/report the duration and intensity of the seizure along with the person's heart rate throughout the event to the person's physician. In addition, information about this event would be sent via text messages to the loved ones of the person experiencing the seizure. With the detailed information provided by the application, the physician would be able to fine tune the treatment plan including adjusting medications. The end result is better health outcomes and an improved quality of life for the patient. Finally, as a result of the improved health outcomes, patients would need to see their physician less frequently which will result in a significant reduction in health care costs. Due to these financial benefits, the proposal was to provide this service to patients with their health insurance companies paying for the service.

With this use of technology, everybody wins. Patients experience better health outcomes and an improved quality of life and insurance companies reduce costs.

Step 2: In small groups (2-3 students) then discuss as a class.

Discuss the narrative and create a conceptual architecture diagram that describes this system.

Who are the users of this system and what are the interfaces used by each user?

What are the processes that this system needs to support?

What resources (data) needs to be collected and managed by this system?

Create a conceptual architecture diagram here:

Step 3: In small groups (2-3 students) then discuss as a class.

Create an ERD here that models the data requirements for this new application here:

Step 4: Rate this activity (<u>individually</u>)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Working in small teams (2-3) answer the following questions based on the narrative and diagrams which follow

1. For the box labeled "A", what would be the most appropriate description of this step in the process?
    a. Verify Production Plan Before Ordering
    b. Create & Send Purchase Requisition to Supplier and Accounting
    c. Create & Send Purchase Order to Supplier and Accounting
    d. Negotiate Terms/Conditions with Supplier
    e. None of the above
2. For the box labeled "B", what would be the most appropriate description of this step in the process?
    a. Post Goods Receipt and Send to Accounting
    b. Post Receipt of Materials in the General Ledger
    c. Use Raw Materials to Make Snack Bars
    d. Notify Plant Manager
    e. None of the above
3. What would be the best name for the actor labeled "C"?
    a. Anne
    b. Accounts Receivable
    c. Invoice
    d. Accounting
    e. None of the above
4. For the diamond labeled "D" what would be the most appropriate description of this step in the process?
    a. PO Created?
    b. Requisition Approved?
    c. Raw Materials Needed?
    d. Production Plan Scheduled?
    e. None of the above
5. For the diamond labeled "E" what would be the most appropriate description of this step in the process?
    a. Three Way Match?
    b. Goods Receipt Posted?
    c. General Ledger Updated?
    d. Invoice Paid?
    e. None of the above
6. For the box labeled "F", what would be the most appropriate description of this step in the process?
    a. Schedule Delivery
    b. Invoice Vendor
    c. Inform Plant Manager
    d. Create Invoice
    e. None of the above

7. For the box labeled “G”, what would be the most appropriate description of this step in the process?
    a. Invoice Vendor
    b. Update General Ledger
    c. Pay Invoice
    d. Schedule Delivery
    e. None of the above
8. For the entity labeled “A”, what would be the most appropriate name for this entity?
    a. Purchase Requisition
    b. Purchase Order
    c. Goods Receipt
    d. MSDS Sheet
    e. None of the above
9. For the entity labeled “B”, what would be the most appropriate name for this entity?
    a. Purchase Requisition
    b. Purchase Order
    c. MSDS Sheet
    d. Goods Receipt
    e. None of the above
10. For the entity labeled “C”, what would be the most appropriate name for this entity?
    a. Purchase Requisition
    b. Purchase Order
    c. MSDS Sheet
    d. Goods Receipt
    e. None of the above
11. What of the following attributes is missing from the Invoice entity?
    a. Requisitioner
    b. Supplier
    c. Received By
    d. Budget Line Item
    e. None of the above
12. What of the following attributes is missing from the entity labeled “B”?
    a. Lot number
    b. Lead Time
    c. Received By
    d. Agreed Price
    e. None of the above

Step 4: Rate this activity (<u>individually</u>) and submit completed activity sheet

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
This activity helped me learn more about today’s topic.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Read the following narrative and review the following diagrams

You work for a company called FitterSnacker. Your company makes the best snack bars on the planet! There are lots of things that go into the snack bars like oats, sugar, raisins, etc. You started working for FitterSnacker a year ago and your job isn't very glamorous. You work on the receiving dock in the warehouse. Depending on what FitterSnacker is going to make and when they are going to make it, Paul, the plant manager, sends a purchase requisition to the procurement department and the raw materials show up on the loading dock. You store the raw materials in the warehouse where they are used to make snack bars.

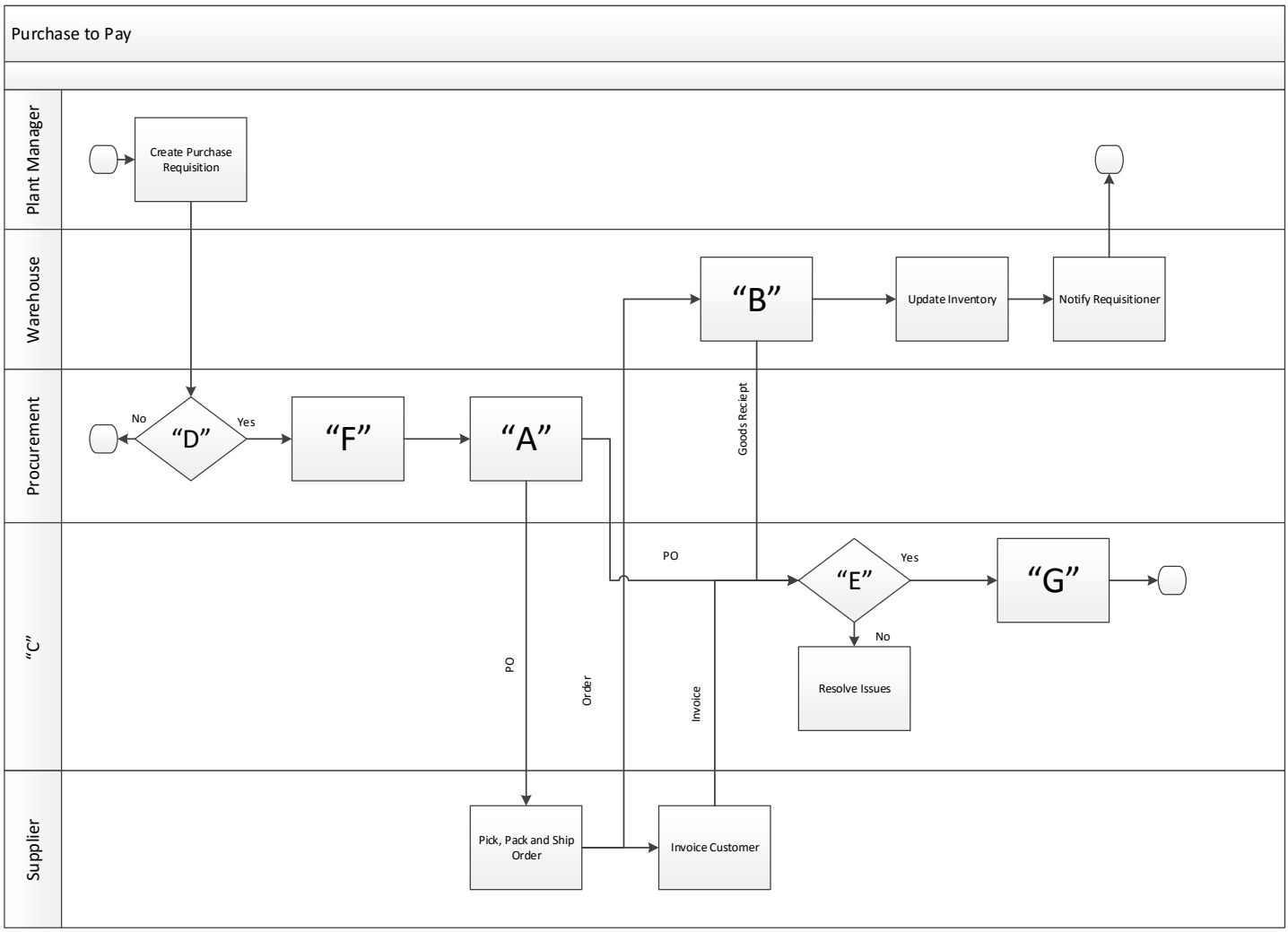
You don't want to spend your entire life working on the receiving dock so you've been talking with other people in the company trying to learn what they do so you will know more about how the business operates and can apply for a new position when one opens up. But for now you're stuck working on the receiving dock! As raw materials come in you create a goods receipt and send the good receipt to accounting to let them know exactly what raw materials have been received. You also update the inventory for raw materials and let the plant manager know when new raw materials have been received.

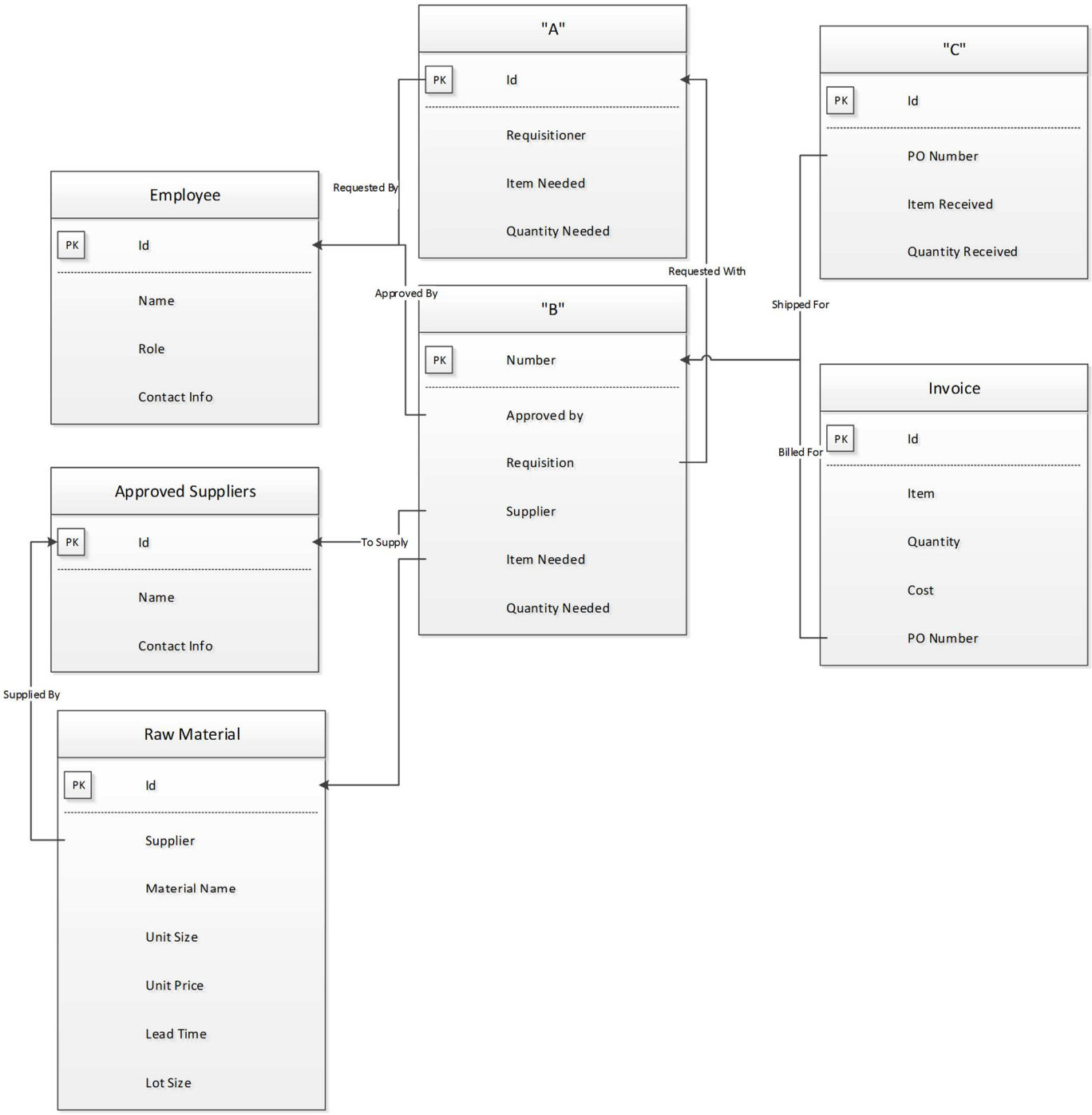
Your friend, Ann in accounting, has been telling you what she does with the goods receipt you send to accounting when you receive raw materials. When suppliers send you raw materials they also send the bill or what Ann calls an invoice to the accounting department. Before Ann pays the invoice she needs to do something called a 3-way match where she matches up the purchase order generated by the procurement department which lists everything that was ordered with the goods receipt you created listing what we received and the invoice that was sent to Ann from the supplier. If everything matches up then she pays the invoice. If things don't match up then she needs to resolve the issues.

You've also been talking to a friend, Patrice from procurement. Patrice actually buys all of the things that we need to make snack bars. She's not exactly sure what we need but she receives purchase requisitions from Paul the plant manager that lets her know what we need, how much of it we need and when we need it. Patrice needs to make sure that Paul has enough money in his raw materials budget before she orders the raw materials. If he doesn't have enough money in his budget then she will cancel the purchase requisition. If the money is in his budget then she will approve the purchase requisition. Patrice can buy things like oats and sugar from a number of different suppliers so the first thing she needs to do is select the best supplier based on what we need, when we need it and the pricing offered by the various suppliers. Once Patrice has selected the best vendor she creates a purchase order (PO) and sends it to the supplier. The PO is basically a contract that tells the supplier what we want to order from them, how much of it we want and the price we agreed to buy it from them. Patrice also sends a copy of the PO to Ann in accounting because she will eventually need it to pay the bills.

Once the supplier receives the PO they pick, pack and ship the materials to me in the warehouse and they send an invoice to the accounting department.

Review the following swim lane diagram and ERD. A number of pieces of information are missing. Based on the narrative provide the best answer to the questions above.


Purchase to Pay
Plant Manager
Warehouse
Procurement
"C"
Supplier
Create Purchase Requisition
"B"
Update Inventory
Notify Requisitioner
No
"D"
Yes
"F"
"A"
Goods Reciept
PO
"E"
Yes
"G"
No
Resolve Issues
PO
Order
Invoice
Pick, Pack and Ship Order
Invoice Customer


"A"
PK
Id
Requisitioner
Item Needed
Quantity Needed
"C"
PK
Id
PO Number
Item Received
Quantity Received
Employee
PK
Id
Name
Role
Contact Info
Requested By
Approved By
Requested With
Shipped For
"B"
PK
Number
Approved by
Requisition
Supplier
Item Needed
Quantity Needed
Invoice
PK
Id
Item
Quantity
Cost
PO Number
Billed For
Approved Suppliers
PK
Id
Name
Contact Info
To Supply
Supplied By
Raw Material
PK
Id
Supplier
Material Name
Unit Size
Unit Price
Lead Time
Lot Size

Name: _____ Date: _____

Consumer Systems: The Long Tail

After completing this activity you will be able to: explain what a long tail distribution is and why it matters.

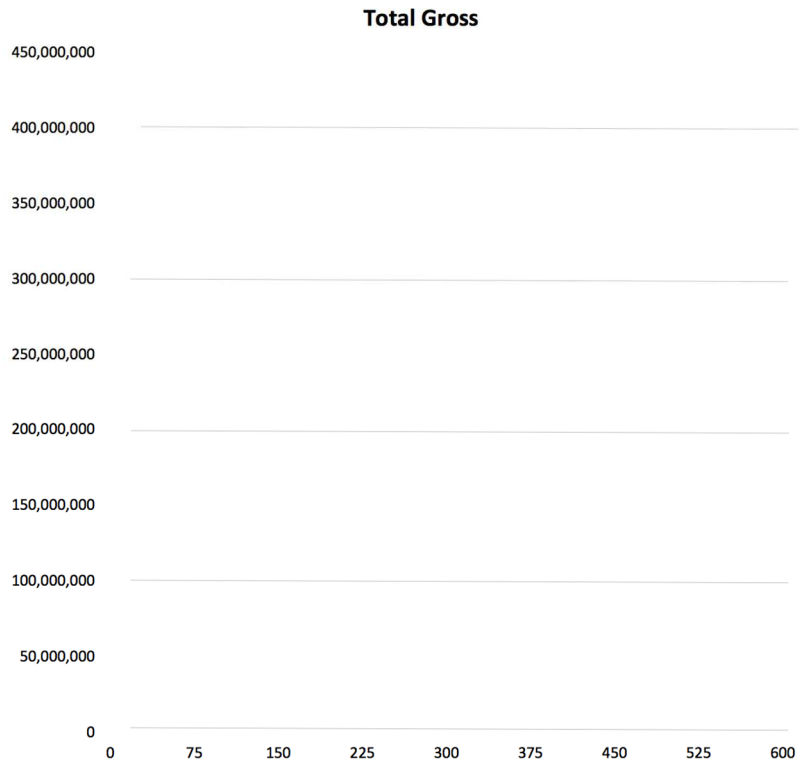
Step 1: Individually

Head to the website showing 2015 Domestic (US) Box Office Totals: http://www.boxofficemojo.com. Look under Box Office…Yearly and Select "2016" then complete this table:

Rank	Movie Title	Gross Sales		Rank	Movie Title	Gross Sales
1				225		
10				300		
25				375		
50				450		
75				525		
150				600		

Step 2: In Groups (2-3)

Compare your tables with other group members (e.g., reach agreement on the data!). Graph the data onto this chart:



Once all the data is charted, draw a line connecting the individual data points. Then answer these questions:

- There are 3 general measure of central tendency (e.g., average). How much money did the average movie make?
    - Mean:
    - Median:
    - Mode:

- If you totaled up box office receipts from the bottom N movies, about how many movies would it take to match the total for the top-grossing film?

- Do you think the top-ten ranking movies were the best movies of the year?

Step 3: Discuss as a Class

- Differences between mean, median, and mode in long-tail distribution vs. normal distribution.

Step 4: Answer these short-answer questions (individually)

1. Draw a long-tail distribution:

2. What is an example of a product or service (other than movies!) that follows the long-tail distribution?

3. Why does it matter what distribution products sales follow?

4. What is something you learned doing this activity?

Step 8: Rate this activity (individually)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
This activity helped me learn more about today's topic.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Mini-Case - Read the following narrative carefully:

You work for a company called Barb's Bikes. Barb's Bikes is a small company that purchases high-end bicycle parts (i.e. frames, wheels, tires, peddles), assembles these parts into bikes and then sells these bikes to small, high-end regional retailers. Barb's Bikes has recently implemented an ERP system that really helped streamline operations and has dramatically reduced the chaos and associated costs they encountered when they used to run separate order processing, inventory, manufacturing and procurement systems.

Before the ERP system was implemented, managing inventory was a nightmare! What the sales people were selling never seemed to be in stock and what we had in stock was never what the sales people were selling. The sales people were not communicating with the production people and the production people were not communicating with the procurement people. It was a mess! The new ERP system solved most of these problems by generating better forecasts, managing the production plan and acquiring the parts we need when we need them to make the bikes to meet demand.

Using historical sales data and information about marketing campaigns that we are currently running, the system generates a forecast of what we expect to sell week by week over the next quarter. The system then compares this sale forecast against the finished goods that we will have in stock week by week over the next quarter. Note that this is not what we currently have in stock but what we will have in stock by referencing the current production plan showing what bikes we will be building week by week over the next quarter.

If the supply is not expected to meet demand, then the system will automatically update the production plan scheduling so that we will make the additional bikes we will need to meet demand.

When the production plan is updated, the system checks the inventory levels of the raw materials (i.e. frames, wheels, tires, etc.) to ensure that we have the raw materials needed to execute the production plan. The system has information about all of our suppliers including what we can purchase from them, how much they charge for each item and how long it takes to receive a shipment from the supplier, also known as "lead time". If we don't have the needed raw materials the system reviews the suppliers of the needed raw materials and selects the supplier that can get us the needed raw materials at the lowest cost in time to assemble the bikes we need to execute the production plan. The system sends out purchase orders to these suppliers who ship the raw materials.

The production plan is executed like clockwork. Every day the production team receives raw materials and then assembles the bikes as specified by the production plan. All of the necessary raw materials are delivered by the lowest cost supplier shortly before the bikes are assembled. As the production team finishes the assembly of a bike, they store it in the warehouse and then update inventory. The entire process starts all over again the next week.

-------- *Based on the narrative provide the best answer to the following questions about the swimlane and ERD diagrams:*

1. What would be the best name for the actor labeled "A"?
    a. ERP
    b. Warehouse
    c. Procurement
    d. Production Team
    e. None of the above

2. For the box labeled "B", what would be the most appropriate description of this step in the process?
    a. Check with Accounting Department for Available Credit
    b. Compare Forecast to Future Finished Goods Inventory
    c. Compare Forecast to Production Plan
    d. In stock?
    e. None of the above

3. For the diamond labeled "C" what would be the most appropriate description of this step in the process?
    a. Production Plan Updated
    b. Create Purchase Requisitions
    c. Customer Notified of Delivery Date?
    d. Assembly Scheduled?
    e. None of the above

Name: _____ TUid: _____ Date: _____

4. For the box labeled “D” what would be the most appropriate description of this step in the process?
    a. Select Optimal Vendor Based on Cost and Delivery Times
    b. Production Plan Updated
    c. Create Purchase Requisition
    d. Acquire Approval for Purchases
    e. None of the above

5. For the box labeled “E” what would be the most appropriate description of this step in the process?
    a. Pick, Pack and Ship Order
    b. Update Production Plan
    c. Update Inventory
    d. Compare Forecast to Future Finished Goods Inventory
    e. None of the above

6. For the entity labeled “F”, what would be the most appropriate name for this entity?
    a. Purchase Order
    b. Bill
    c. Invoice
    d. Inventory Sheet
    e. None of the above

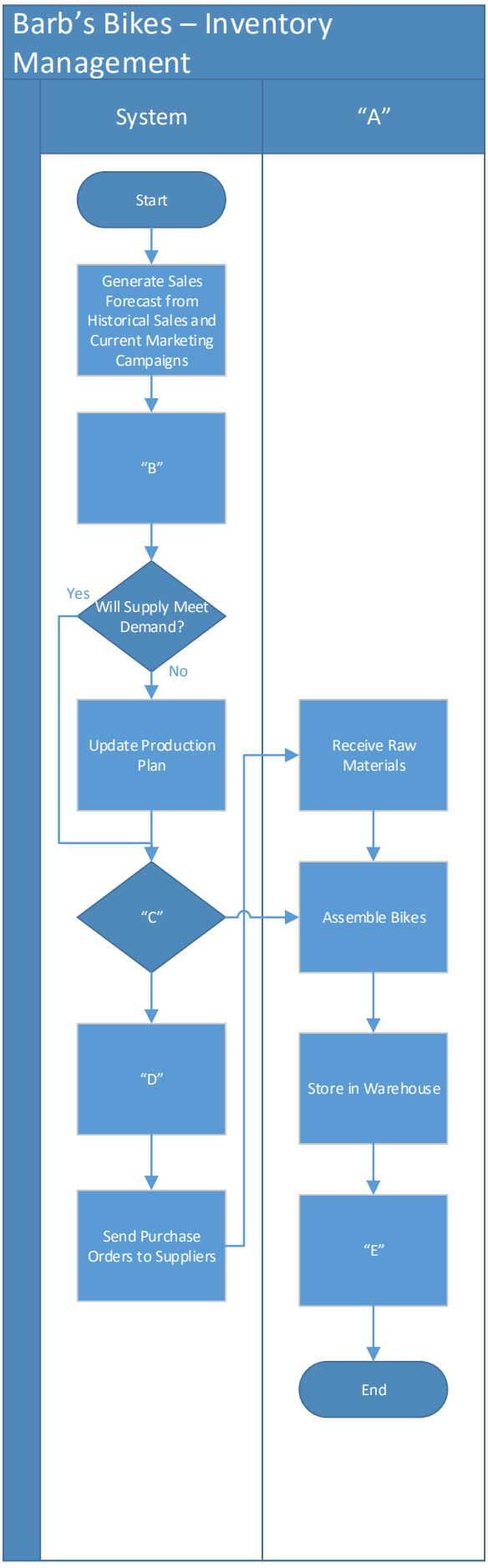
7. For the entity labeled “G”, what would be the most appropriate name for this entity?
    a. Items to Purchase
    b. Material Location
    c. Inventory Forecast
    d. Production Plan Request
    e. None of the above

8. For the relationship labeled “H”, what would be the most appropriate name for this relationship?
    a. Invoices
    b. Creates PO
    c. Pays For
    d. Provides
    e. None of the above

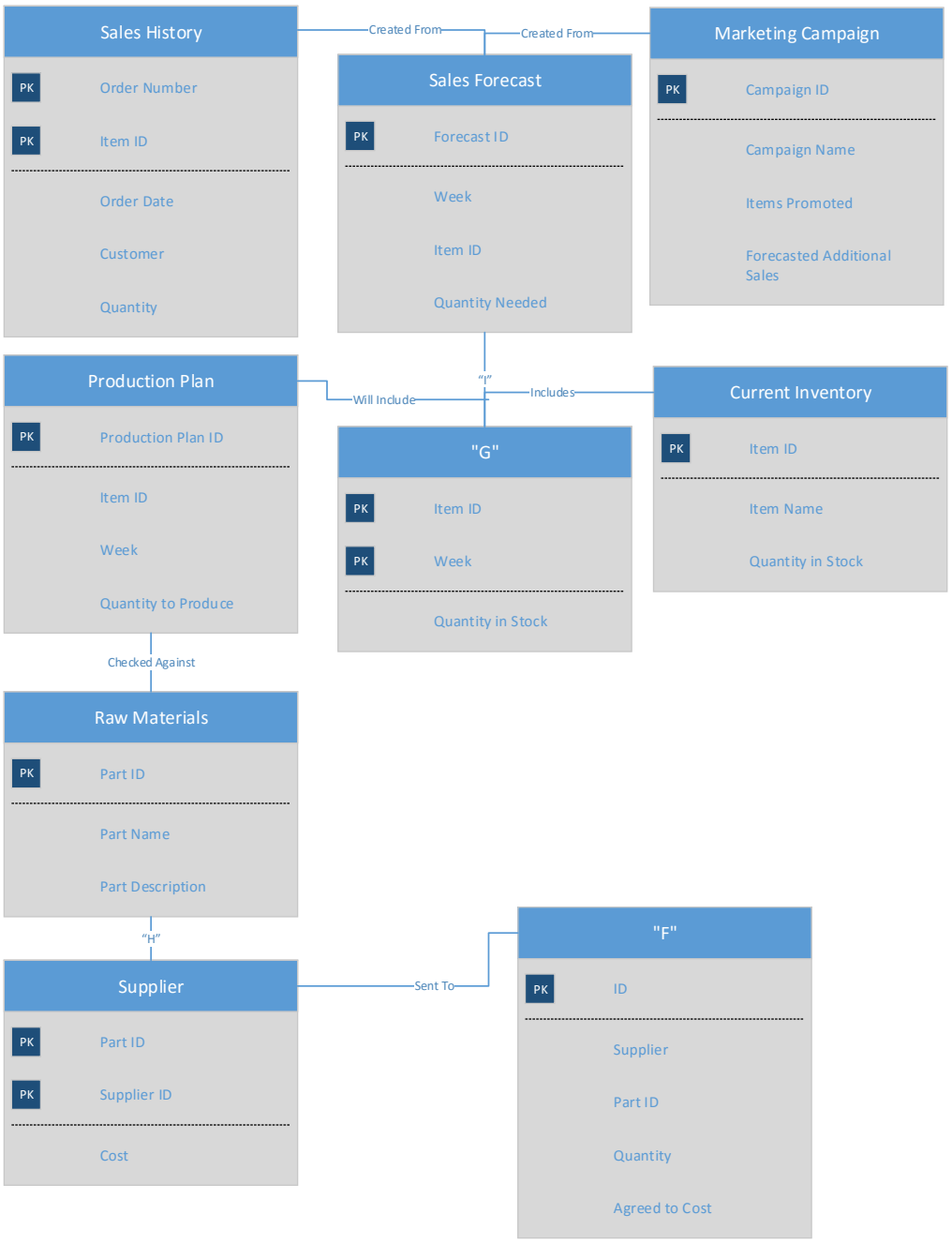
9. For the relationship labeled “I”, what would be the most appropriate name for this relationship?
    a. Does Include
    b. Is Compared To
    c. Does Not Include
    d. Ordered By
    e. None of the above

10. What of the following attributes is missing from the Supplier entity?
    a. Lead Time
    b. Purchase Order Number
    c. Invoice Number
    d. Quantity
    e. None of the above

Name: _____ TUid: _____ Date: _____



Name: _____ TUid: _____ Date: _____



Name: _____ TUid: _____ Date: _____

Tracking Customer and Service Information

After completing this activity you will be able to:

- Understand how information is collected and routed in an information system.
- Review the narrative and break it down into several diagrams.

Step 1: Individually – Review the following narrative:

Molly's Coffee Company wants to make sure they fully understand the process for entering and tracking customer issues on their website. They have interviewed the related departments and are interested in making sure that they provide the correct support for any customer related inquiries that come through the door. Their hired consultants developed the following narrative from their interviews and then created a Swim Lane diagram to map out the process.

The customer submits their error via a Web form and enters customer contact information, including name, email address and error information. They also include a .jpg screenshot of the error they are receiving. The Sales team receives all tickets first.

When the Sales team reviews the issue, they determine whether or not it is a sales ticket or a technical support issue. A typical Sales ticket is created when the customer receives an error about inventory out of stock or indicates that they received the wrong shipment. If it is determined to be a Sales related ticket, it is routed to the Sales team for review and resolution. The Sales Team reviews the ticket, makes updates or resolves it, confirms the correction or update has been made with the customer and marks the ticket as resolved. The customer is emailed with all of the details of the ticket, including the original issue and the resolution.

If it is not a Sales related issue, the ticket is routed to Tech Support. The Tech Support team determines if the issue is a new issue or one that is currently being addressed. If it is a new issue, the team works on a fix and then sends the fix to the Testers to ensure the fix actually "fixes" the issue. If the testers can reproduce the issue with the data provided, they create an error log, which is sent to the Development team who provide an analysis of the issue and write the code to resolve the issue. They then send the code back to the Tester where the tester ensures the fix is working. If the Tester confirms that the fix works, the code is provided to Tech Support who confirms with the customer that their issue is resolved – if it is resolved & the customer confirms resolution, the ticket is closed. The customer is emailed with all of the details of the ticket, including the original issue and the resolution.

If the issue cannot be reproduced with the Tester, they go back to the Customer for more details. Once they have more details, they go back through the process of reproducing the error and technical analysis. This process is repeated until the issue is resolved and the customer has confirmed resolution. As stated above, the customer is emailed with all of the details of the ticket, including the original issue and the resolution.

Step 2: In Small Groups (2-3)

Develop a Swim Lane Diagram that represents the above process.

Step 3: Class Discussion

Review the Swim Lane Diagram as a class and ensure that everyone is clear on the steps.

Step 4: In Small Groups (2-3)

Develop a simple ERD for the data that Molly's App Company will need to track.

Step 5: Short Answer/Discussion Questions

1. Why is it important for companies to track issues & their resolutions – whether technical or non-technical?

2. How do you feel when you contact a company and you have to re-detail your entire customer history every time you call?

Step 6: Rate this activity (<u>individually</u>)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Platform Business Models: Pros and Cons

After completing this activity you will be able to:

- Understand pros and cons of building a business on a proprietary platform vs. leveraging an existing platform.

Step 1: Individually – Review the following narrative:

You are the CEO and co-founder of a new media publishing company, looking to launch their first publication. Your CTO co-founder wants to launch via exclusive partnerships with existing social platforms like Facebook, Snapchat, and Medium, leveraging their existing audience of users. You fear it's risky to tie distribution exclusively to these networks, because a policy decision or change to interface could adversely affect how many views your publication receives. You would prefer to launch as a standalone, distributed through the mobile platform Newstands (iOS and Android) and your own website.

Based on this week's readings, list what you see as the pros and cons to a publishing strategy that leverages existing platforms. Then list the pros and cons to building a standalone publication distributed through the mobile app stores, and proprietary website.

Step 3: Small Groups (3-4)

If your group is on the left side of the room, further discuss and explore the pros and cons of publishing on your own new platform.

If your group is on the right side of the room, further discuss and explore the pros and cons of publishing through other content platforms.

Step 4: Class Discussion

Discuss your answers as a class, listing pros and cons for each business model on the whiteboard.

Step 3: Small Groups (3-4)

If your group is on the left side of the room, devise a marketing strategy for your publication on your own platform.

If your group is on the right side of the room, devise a marketing strategy for your publication, leveraging Facebook's platform.

Step 4: Class Discussion

Discuss your answers as a class.

Step 7: Answer the following questions (Individually)

How would your technology strategy differ if you were building your own network, versus leveraging Facebook's platform?

Assuming you charge for subscriptions, how would your transaction system differ on your own platform, versus through Facebook's platform?

How would customer support services differ?

If you, or Facebook, were to decide terminate the partnership, how would you exit and pivot away to a standalone business model? What elements of your business strategy would have to change to adjust? Where would additional costs be incurred, and would they be one-time or recurring in nature?

Step 7: Rate this activity (individually)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Cloud Computing

After completing this activity you will be able to:

- Understand the Gartner Magic Quadrant and some differences between cloud computing vs. on premise solutions

Step 1: Individually – Review the following narrative:

The Owl Business School recently suffered from some negative PR as a result of a malicious hacking incident. In an effort to improve customer relations and proactively connect with all its customers, the Owl Business School would like to implement a CRM. You have been assigned the role of selecting the top 3 CRM solutions in the marketplace and presenting it to the Senior Provost Office (SPO) Leadership team so they can decide on the final CRM solution to implement. It is critical that the top three CRM solutions you pick meet the features and requirements for acceptance at the Owl Business School.

Step 2: Class Discussion

Determine the CRM requirements for the Owl Business School after speaking with the Dean (Instructor). Some questions to consider: Budget? In-House Development vs. Outsourced? Cloud vs. On Premise? Backup of Data? Recovery of Data? Reporting and Analytics? Number of Users? Recurring vs. One-Time Cost? Maintenance? Support? Talent? Features? Security? Data Privacy? Other questions?

Step 3: Class Discussion

Document some of the pros and cons between a cloud solution vs. an on premise solution.

Cloud	**On Premise**
Pros	Pros
Cons	Cons

Step 4: Class Discussion

Review the Gartner Magic Quadrant for the CRM Customer Engagement Center. Use this chart to determine some leading CRM vendor solutions in the marketplace. (***Note***: Temple University provides you with a free subscription to Gartner. This can be accessed through TUportal. Once logged in, look under TUapplications > Gartner Gateway and search for Magic Quadrant for the CRM Customer Engagement Center. The authenticated link for this activity's Magic Quadrant is: http://gtnr.it/1LFVmeJ)

Select 4 vendors from the Leaders and Visionaries quadrants and using the information available on the vendor's website, categorize and evaluate them based on how the vendor's CRM solution is ***typically*** implemented:

	Vendor Name	SaaS	PaaS	IaaS	On Premise
1					
2					
3					
4					

Step 5: Small Groups (3-4)

Add any additional requirements that your Dean provided in Step 2 to the Requirements column. Assign 1 point to each vendor that meets the criteria for the requirement. The top 3 vendors with the most points are the vendors you'll present to the SPO Leadership Team.

	Requirements	Vendor 1_	Vendor 2_	Vendor 3_	Vendor 4_
1	Lowest Monthly Cost				
2	Accessible/Section 508				
3	Responsive/Mobile Friendly				
4	Reporting/Analytics				
5	Customer Service/Support				
6	Maintenance/Patches				
7	Security				
8	Privacy				
9					
10					
	TOTAL POINTS				

Step 7: Rate this activity (<u>individually</u>)

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
I learned a lot completing this activity.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

The Turing Test and Mitsuku

After completing this activity you will be able to:

- Develop strategies to determine if you are speaking with a person or a computer.

Step 1: Individually (read the following)

"The **Turing test** is a test of a machine's ability to exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human. Alan Turing proposed that a human evaluator would judge natural language conversations between a human and a machine that is designed to generate human-like responses. The evaluator would be aware that one of the two partners in conversation is a machine, and all participants would be separated from one another. The conversation would be limited to a text-only channel such as a computer keyboard and screen so that the result would not be dependent on the machine's ability to render words as speech.[2] If the evaluator cannot reliably tell the machine from the human (Turing originally suggested that the machine would convince a human 70% of the time after five minutes of conversation), the machine is said to have passed the test. The test does not check the ability to give correct answers to questions, only how closely answers resemble those a human would give." -Wikipedia

What are three questions that you would ask as part of a Turing test to differentiate between a human and a computer?

1.

2.

3.

Step 2: Discuss as Teams (2-3 students)

Discuss your questions with the team and devise a strategy for formulating questions as part of a Turing test. List your strategy/questions here:

Step 3: Students will be called upon at random to discuss their strategies

Step 4: In groups

Visit the site http://www.mitsuku.com/ and initiate a chat with Mitsuku. Use the strategy/questions you developed to prove that Mitsuku is simply a primate bot that responds to text messages and doesn't really demonstrate human like responses. Was your strategy effective in proving this was a bot?

Visit the site http://www.square-bear.co.uk/mitsuku/turing/ where you can try an actual Turing Test. You will be connected with either a person who is impersonating a bot or a bot that is impersonating a person. Your job is to figure out if you connected with a person or a bot.

Circle one of the following: I was connected with **a bot** or I was connected with **a person**

Make notes of any interesting interactions here:

Step 5: Students will be called upon at random to comment on interesting interactions

Step 6: Answer these short-answer questions (individually)

1. What about Mitsuku did you find to be surprisingly human like?

2. What about Mitsuku did you find to be surprisingly machine like?

3. What is something you learned doing this activity?

Step 7: Rate this activity (individually) and submit completed activity sheet

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
This activity helped me learn more about today's topic.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Expert Systems

After completing this activity you will be able to:

- Develop a better understanding of expert systems by using an expert system.

Step 1: Individually (read the following)

"In artificial intelligence, an **expert system** is a computer system that emulates the decision-making ability of a human expert. Expert systems are designed to solve complex problems by reasoning about knowledge, represented primarily as if–then rules rather than through conventional procedural code. The first expert systems were created in the 1970s and then proliferated in the 1980s. Expert systems were among the first truly successful forms of AI software.

An expert system is divided into two sub-systems: the inference engine and the knowledge base. The knowledge base represents facts and rules. The inference engine applies the rules to the known facts to deduce new facts. Inference engines can also include explanation and debugging capabilities. " - Wikipedia

Expert systems are used in many different settings ranging from diagnosing problems with automobiles to health care. Visit the site http://www.easydiagnosis.com/ and review the list of expert systems that are available from this company.

Step 2: Discuss as Teams (2-3 students)

Being a college student can be exhausting! From preparing for class to studying for exams and completing assignments (not to mention the countless "distractions" that can lead a college student away from their studies), many college students suffer from fatigue. Fatigue can be a serious medical condition that can be caused by many things.

Excluding the "distractions" that can lead a college student away from their studies, make a list of legitimate medical issues that can contribute to fatigue in a college student?

1. _____
2. _____
3. _____
4. _____
5. _____

Follow the "FREE Module (Fatigue)" link found at http://www.easydiagnosis.com/. Assume the role of a college student who is suffering from fatigue, answer the questions and review the results.

Make a list of the questions that the expert system asked which got your attention:

1. _____
2. _____
3. _____

Step 3: Students will be called upon at random to discuss as a class

Step 4: Make lists as a team

Make a list of the pros of using a system like this to diagnose medical issues:

1. _____
2. _____
3. _____

Make a list of the cons of using a system like this to diagnose medical issues:

1. _____
2. _____
3. _____

Step 5: Students will be called upon at random to discuss as a class

Step 6: Answer these short-answer questions (individually)

1. Where can expert systems be best utilized in businesses?

2. Where might an expert system be worth the risk? Where might an expert system be not worth the risk?

3. What is something you learned doing this activity?

Step 7: Rate this activity (individually) and submit completed activity sheet

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
This activity helped me learn more about today's topic.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Course Reflection

After completing this activity you will be able to:

- Articulate where you will be able to apply the skills and knowledge developed in MIS2101 in both school and your career.

Step 1: Individually

Review the following topics that were covered in MIS2101.

Unit 1– Introduction to MIS – What is MIS? – MIS Careers	**Unit 4** – Externally Focused Systems **Supply Chain Management Systems (SCM)** - What is SCM? - Just In Time - Vendor Managed Inventory - RFID **Customer Relationship Management Systems (CRM)** - What is CRM? - Benefits of CRM - ERP vs. CRM
Unit 2 - Analyzing Organizations as Systems and Processes – Modeling Process with Swimlane Diagrams – Modeling Data with ERDs – Modeling Business Rules with Decision Trees – Conceptual Architecture Diagrams	**Unit 5** – Platforms and Cloud Computing **Platforms** - What is a Platform? - Network Effect **Cloud Computing** - What is Cloud Computing? - IaaS, PaaS, SaaS
Unit 3 - Enterprise Systems **ERP** - What is ERP? - ERP Challenges and Benefits **Decision Support** - Data Analytics - OLTP vs. OLAP - Hypercubes, Data Warehouses & Data Marts - Big Data **Knowledge Management** **Systems Management** - SDLC - Compliance issues **Digital Business Innovation** - Disruptive Innovation -The Long Tail	**Unit 6** – Artificial Intelligence - What is Artificial Intelligence? - ANI, AGI and ASI - AIG Tests - Watson

Step 2: Discuss as teams (2-3 students) and then as a class

The goal of this course is to help you develop skills and knowledge that you can apply in other classes while studying at Temple University and in your career after you leave Temple University. Identify the five topics that you think will create the most value to you and briefly explain how they will create value (in order of relevance):

1. _____
2. _____
3. _____
4. _____
5. _____

Some topics are clearly more relevant than others. Please identify the five topics that you feel were less relevant for you as a student and as a future business professional (in order of least relevance):

1. _____
2. _____
3. _____
4. _____
5. _____

Activity based learning is a key component of this course. The goal of activity based learning is to help student develop a deeper and more genuine understanding of material. The downside of activity based learning is that it takes time. You can certainly plow through far more material with the traditional 3 hours of lecture each week. Which approach is better for you? On a scale of 1 to 10, please rate this activity based learning approach and share your personal comments on this approach here:

Rating (1-10): ____

Thoughts on Activity Based Learning: _____

_____

_____

_____

_____

Step 3: Rate this activity (<u>individually</u>) and submit completed activity sheet

Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree

Statement	**Rating (1 to 5)**
This is an engaging activity.	
This activity helped me learn more about today's topic.	
This activity should be included in future classes.	
Anything else you want the instructor to know?	

Name: _____ TUid: _____ Date: _____

Mini-Case - Read the following narrative carefully:

It all starts before anyone even realizes that they need a ride. Uber drivers hit the road. They fire up the Uber driver's application on their smartphone letting the Uber platform know that they are ready to service riders and the type of car they are driving. Using the GPS on the driver's phone, the Uber driver's application lets the Uber platform know exactly where this driver and car is even when it is driving around town. The Uber platform marks the driver's status as "On-Duty" and ready to provide rides.

When an Uber passenger needs a ride they simply fire up the Uber application on their smart phone. They let the Uber platform know what type of car they need, where they are going and, using the GPS in the phone, where they are located. Once the pickup request is confirmed, the Uber platform updates the status of the rider to "Needs a Ride".

The Uber platform then identifies the closest driver with the right type of car that has not been dispatched and does not currently have a rider. They notify the driver that a passenger needs a ride, where they'd like to go and the driver can either accept or reject the request. If the driver accepts the request, then the driver is dispatched to pick up the rider. If the driver does not accept the request, the Uber platform identifies the next closest driver with the right type of car that has not been dispatched and does not currently have a rider and the process repeats itself until a driver is finally dispatched to pick up the rider.

When the driver arrives and picks up the rider, they indicate this on the Uber driver's application which gets passed to the Uber platform. With the help of the GPS on the driver's phone, the Uber driver's application tracks the route of the driver from the time the driver picks the rider up to the time when they have reached the destination. Once the driver reaches the destination the driver uses the Uber driver's application to indicate that the rider has reached their destination and this is passed along to the Uber platform.

After the rider has reached their destination the Uber platform calculates the cost of the ride based on the type of car, distance driven, time of day and other factors. The Uber platform then debits the rider's credit card (on file) to cover the cost of the ride and then credits the driver's account for their service. The Uber platform also keeps track of what they have paid drivers throughout the year so they can issue 1099 statements at the end of the year.

-------- *Based on the narrative provide the best answer to the following questions about the swimlane and ERD diagrams:*

1. What would be the best name for the actor labeled "A"?
    a. Dispatcher
    b. Driver
    c. Ride
    d. Rider
    e. None of the above

2. For the box labeled "B", what would be the most appropriate description of this step in the process?
    a. Assign driver to passenger
    b. Match closest "On-Duty" driver with the right type of car who is currently available with this rider
    c. Dispatch driver
    d. Driver available?
    e. None of the above

3. For the diamond labeled "C" what would be the most appropriate description of this step in the process?
    a. Does driver accept the rider?
    b. Change status of driver to "Dispatched"
    c. Rider accepts driver
    d. Match closest "On-Duty" driver with the right type of car who is currently available with this rider
    e. None of the above

Name: _____ TUid: _____ Date: _____

4. For the box labeled “D” what would be the most appropriate description of this step in the process?
    a. Arrive at destination
    b. Charge rider for ride
    c. Drop rider off at final destination and notify platform
    d. Change status of driver to “On-Duty”
    e. None of the above

5. For the box labeled “E” what would be the most appropriate description of this step in the process?
    a. Dispatch driver
    b. Driver charges rider
    c. Rider pays driver
    d. Pay driver for service and record payment for 1099
    e. None of the above

6. For the entity labeled “F”, what would be the most appropriate name for this entity?
    a. Passenger
    b. Platform
    c. Ride_Request
    d. Rider
    e. None of the above

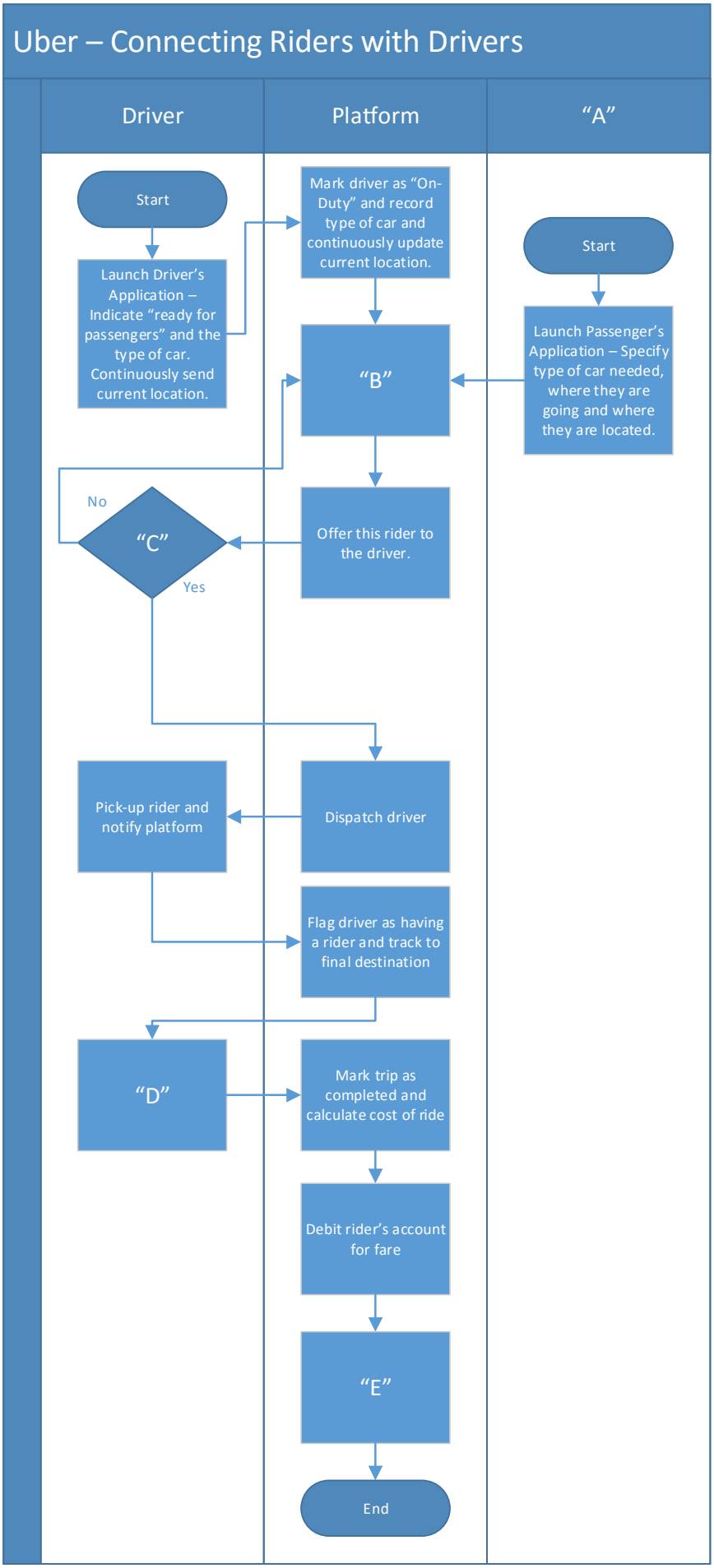
7. For the relationship labeled “G”, what would be the most appropriate name for this relationship?
    a. Requests
    b. Requires
    c. Provides
    d. Billed_For
    e. None of the above

8. Which of the following attributes is missing from the entity labeled “F”?
    a. Drivers_License_Number
    b. Cost
    c. Provider_ID
    d. Status
    e. None of the above

9. Which of the following attributes is missing from the entity labeled “Driver”?
    a. Pickup_Location
    b. Customer_Payment_Info
    c. Estimated_Time_of_Arrival
    d. Status
    e. None of the above

10. Which of the following attributes is missing from the entity labeled “Ride”?
    a. Drivers_License_Number
    b. Request_Car_Type
    c. Customer_Payment_Info
    d. Status
    e. None of the above

Name: _____ TUid: _____ Date: _____



Name: _____ TUid: _____ Date: _____