CPET 565/CPET 499 Mobile Computing Systems
Assignment 3 – Kick-Off Phase
Enterprise Mobility – Mobile Project
Data Modeling and requirements
10/29/14
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Kick-off Phase of this Enterprise Mobility Project

The mobile technology we feel will help the company stay innovative, competitive and possibly increase their capabilities, revenue, sales and give them a step up in the market place is an android based portable inventory management system. This system will allow the shipping and receiving department to track, manage and control the inbound and/or outbound inventory for the entire organization.
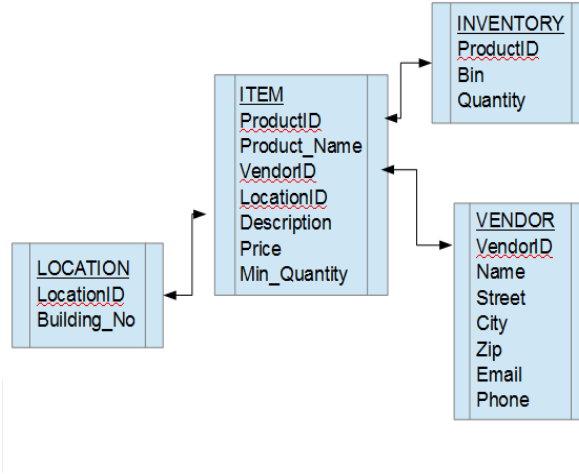
Just-In-Time Study:

Mobile Application data: This application will utilize a barcode scanner available on an android phone to capture the UPC (Universal Product Code) from a purchased item in order to add the item into the inventory tracking software. The application will sync wirelessly or wired through the companies intranet in order to add the scanned item to the inventory database.

Data Requirements: The data requirement will consist of the inventory items UPC. The UPC code for a particular items will reference the items name, description, price, vendor, quantity and location
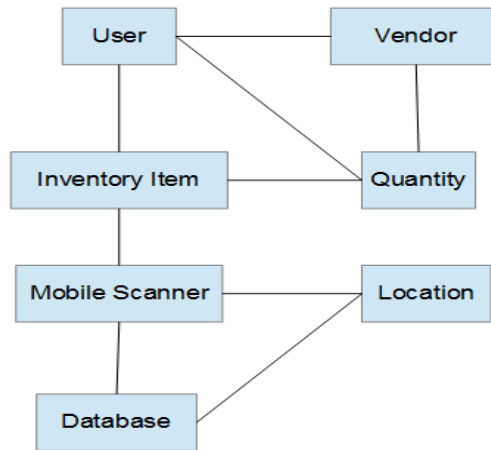
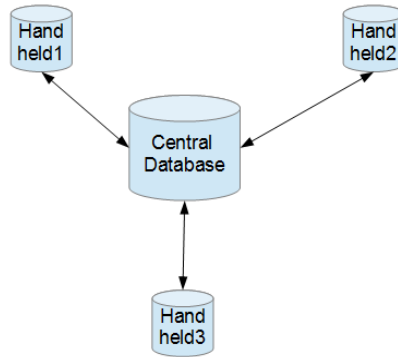# Kick-off Phase of this Enterprise Mobility Project

Data Modeling:

INVENTORY
ProductID
Bin
Quantity

ITEM
ProductID
Product_Name
VendorID
LocationID
Description
Price
Min_Quantity

LOCATION
LocationID
Building_No

VENDOR
VendorID
Name
Street
City
Zip
Email
Phone

Kick-off Phase of this Enterprise Mobility Project

Data Structures:

User		Vendor

Inventory Item		Quantity

Mobile Scanner		Location

Database		

Kick-off Phase of this Enterprise Mobility Project

Data Stores:

Kick-off Phase of this Enterprise Mobility Project

Data Access: The on hand inventory data will be accessible through a SharePoint dashboard. Each inventory item will be available under specific categories on the dashboard. Showing their current inventory volumes and locations.
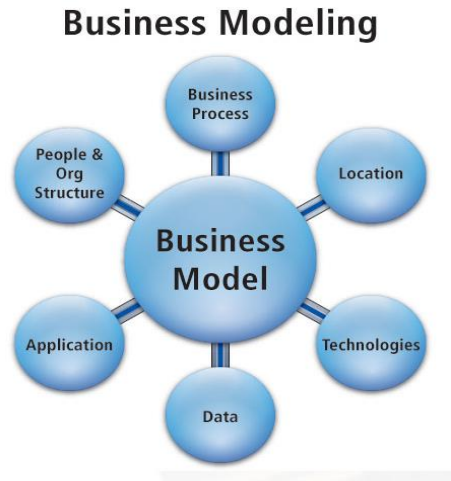
Query Processing: The inventory items will be queried using the SharePoint Dashboard with the following database elements:
- ProductID
- VendorID
- LocationID
- Quantity
- Min_Quantity

Data Presentation: The data will be presented must likely in a graphical and textual form via the SharePoint Dashboard.

Kick-off Phase of this Enterprise Mobility Project

Business Process Modeling: [1]

Business Modeling

Kick-off Phase of this Enterprise Mobility Project

Web Services: The web services for this project will be handled through the company intranet. Once the inventory data has been added to the mobile application it will be download to the one of the company servers. Once on the company server the information will be available for SharePoint to grab and display.

Service-Oriented Architecture: A service-oriented architecture (SOA) is the underlying structure supporting communications between services. SOA defines how two computing entities, such as programs, interact in such a way as to enable one entity to perform a unit of work on behalf of another entity.[2]

  In the case of our inventory tracking system the SOA will be the Android application that will capture the physical data.
  The software used to store the captured data, which may be off the self or specially made for the process.
  The connectivity will be through either WIFI or hard lined sources.
  And, lastly the integration will be with the existing system and SharePoint.

Cloud computing: This inventory system will not utilize cloud computing at this point in time.

Web Search Comparable Technology Inventory applications companies:

SOS Inventory [3]
- Integrates with QuickBooks
- Supports multiple locations
- Streamline order management
- Track cost history for specific item
- Track items by serial number

Retail Inventory [4]
- Scans Barcodes
- Quantity Entry
- Sync with point-of-sale
- Export Inventory

Web Search Comparable Technology Inventory applications companies:

Lettuce [5]
- Simple order management
- Online Inventory management
- Shipping management
- Customer management
- Online invoices
- Wholesale E-commerce
- Multi-channel selling

JumpStock[6]
- Better visibility of inventory
- Automated recoding of inventory supplies
- Reduced inventory management time
- Reduce overstocked supplies
- Reduce overspending
- Barcode scanner

Web Search Comparable Technology Inventory applications companies:

Goods Order Inventory [7]
- Centralized data
- Real time data synchronization
- Security and accessibility
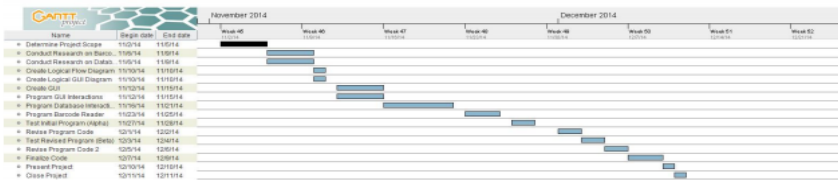- Track and transfer stock
- Cloud computing

Risk Assessment of the Mobile Enterprise pilot project:

	Negligible	Marginal	Critical	Catastrophic
Certain	Initial Errors in Programming (Alpha)			
Likely	Initial Errors in Programming (Beta)			
Possible		Local Carrier Network Unreliable	Major Errors in Final Code (Unsolvable)	
Unlikely		Local ISP Unreliable	Required Libraries are Closed-Source	Management Does Not Approve Project
Rare				Code is Lost Before Backups Can Be Made (Hardware Failure)

Project plan for the Mobile Enterprise pilot project:

Tasks List			
Name	**Begin date**	**End date**	**Resources**
Determine Project Scope	11/2/14	11/5/14	David Rash
			Chris Meisner
Conduct Research on Barcode Scanner Library	11/6/14	11/9/14	Chris Meisner
Conduct Research on Database Technologies (SQLite)	11/6/14	11/9/14	David Rash
Create Logical Flow Diagram	11/10/14	11/10/14	Chris Meisner
Create Logical GUI Diagram	11/10/14	11/10/14	David Rash
Create GUI	11/12/14	11/15/14	Chris Meisner
Program GUI Interactions	11/12/14	11/15/14	David Rash
Program Database Interactions	11/16/14	11/21/14	David Rash
Program Barcode Reader	11/23/14	11/25/14	Chris Meisner
Test Initial Program (Alpha)	11/27/14	11/28/14	David Rash
			Chris Meisner
Revise Program Code	12/1/14	12/2/14	Chris Meisner
			David Rash
Test Revised Program (Beta)	12/3/14	12/4/14	David Rash
			Chris Meisner
Revise Program Code 2	12/5/14	12/6/14	David Rash
Finalize Code	12/7/14	12/9/14	David Rash
			Chris Meisner
Present Project	12/10/14	12/10/14	David Rash
			Chris Meisner
Close Project	12/11/14	12/11/14	Chris Meisner
			David Rash

Gantt Chart

References:

[1] Unknown. "IT Business Consulting". 2009, Available Online:
http://www.sigmagroup.ca/sigmaglobal/21_service4.htm
[2] M Rouse "service-oriented architecture". August 2008, Available Online:
http://searchsoa.techtarget.com/definition/service-oriented-architecture
[3] http://appcenter.intuit.com/sos-inventory
[4] https://www.cashierlive.com/inventory#
[5] https://lettuceapps.com/
[6] http://www.jumptech.com/content/what-jumpstock%E2%84%A2-can-do-you
[7] https://www.goodsorderinventory.com/