# System Proposal: HomeGoods Inventory System Milestone 3


Green Team:

Perry, Jonathan

Ridge, Daniel

Ramsire, Tyrus

BCIS 4610.001

DUE: 2/17/15

# Table of Contents

[Publish Date]

# Introduction:

## Executive Summary:

HomeGoods is one of the leading department store chains in America today, with over 1000 stores in operation around the United States. HomeGoods is currently also opening operations in: the United Kingdom, Ireland, Germany, and Poland, boasting 343 stores in Europe. Despite their apparent business acumen, there are problems lurking beneath the surface that are threatening the growth of the business. The nature of the problem lies in their lacking inventory control systems and it is beginning to take a toll on the bottom line. Our development team has been tasked with finding the solution to their problems. In this report, we will demonstrate the key faults of the current inventory system, propose solutions and give instructions and estimates concerning the implementation of the system.

## Project Charter:

The Green Team Development Group intends to resolve the difficulties experienced by HomeGoods and its customers by and improve the shopping experience. It is clear that conditions at HomeGoods are suboptimal for all stakeholders and customers involved and that our help is needed to effect change. This charter marks the beginning of the creation of an inventory system for HomeGoods. The first phase of the plan will be submitted by February 17, 2015 with the design of the system starting shortly after approval.

Please note that the signing of the charter constitutes the approval of the proposal, which is detailed within this binder.

Name: _____

Signature: _____

Date: _____

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

## Overview:

**Date:** February 17, 2015

**Presented by:** Jonathan Perry

Tyrus Ramsire

Daniel Ridge

**Project name:** HomeGoods Inventory System

**Project leader:** Jonathan Perry

Tyrus Ramsire

Daniel Ridge

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

# System Service Request – HomeGoods Inventory System

Date: 02/08/2014
Requested By: John Doe (Manager)
Department: IT
Location: HomeGoods at Highland Village, Tx
Contact: JohnDoe@email.com (972) 317-4869
Project Sponser: John Joe (Regional Manager)

## Type of Request:

| | | | |
|---|---|---|---|
| [ X ] | New system | [ ] | Immediate: Operations Impaired |
| [ ] | System Enhancement | [ ] | Problems exist, but can be worked around |
| [ ] | System Error Condition | [ ] | Business losses can be tolerated |

## Problem Statement:

HomeGoods is a major national organization with an embarrassing Achilles' heel. The HomeGoods inventory system is so antiquated as to be almost entirely nonexistent. This causes angry and confused customers who are unable to hear learn whether the company has things in stock. Angry, confused customers are almost never repeat customers. This problem hampers employee productivity on two fronts. The Complete lack of organization leads to long periods of time spent searching for, taking stock, differentiating items from each other or even verifying the existence of an item. Employees morale is also damaged by angry and impatient customers, which leads to lower productivity overall. The combined force of these factors is losing sales and customers, which are defecting to Bed, Bath and Beyond and Target respectively. It is currently estimated that HomeGoods is losing $350 million in sales a year, and losing customers.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

## Service Request:

John Doe is requesting a new inventory system be put in place at the HomeGoods in Highland Village. This system should allow for easy searches of inventory currently in stock, handle all purchasing transactions, and most importantly bring a greater focus to our customers through a system that brings organization.

**----------TO BE COMPLETED BY SYSTEMS PRIORITY BOARD----------**

[ X ] Request Approved Assigned To:_____

Start Date:_____

[ ] Recommended Revision

[ ] Suggest User Development

[ ] Reject for Reason

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

# Project Scope Statement

## Business Problem:

The Home goods inventory system is inferior to the 21st century standards. There is an absence of an efficient inventory system. In addition, customers do not like the wait times to search for inventory, unorganized inventory, and outdated inventory. Furthermore, a new inventory system needs to be put into place. Once a new system is intact no more business will be lost.

## Alternate Solutions:

There are several other alternatives instead of using creating their own inventory system. We recommend a user friendly software called inFlow. Essentially, the software is plug and play and will give extra options to work with external hardware. However, their prices vary, and contacting customer service and requesting a quote will be the best alternative.

## Goals and Objectives:

The primary objective of this project is to build an inventory system that helps Home Goods better understand their company and better understand their customers. Due to the lack of an inventory system, organization of inventory is nonexistence. Building a database inventory system where the information contained within it is current is another main objective of the project. Other secondary objectives include storing the demographics about all our customers along with the certain products they have bought so we can gain a better understanding of what our customers like. Our objectives for our database include:

- Integrity and Reliability
  - Through good hardware, our database system has a low percentage of failure, and when that happens your data is backed on by another computer system.
- Self-Sustaining System
  - Our registers will be a key part in keeping the database relevant, products will be brought into the system when new merchandise arrives and will be taken out when a customer checks out with a specific item.
- Provide high performance and scalability

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

- With the hardware we recommend to get the job done, it'll provide not only high performance when searching through the database, it'll provide room to grow.

## Project Description:

A new inventory system will be put in place for HomeGoods. This system will store information about all of the store's products, store our customer's demographics and the certain products they buy. The system in place will also stay current to meet the demands of a fast paced business environment to get instant feedback on what products are currently in stock. This current system will also recognize which products have been in the store for too long, or possibly point out which products have been stolen, lost, or broken for easy recognition in loss prevention. It will also be able to report which products are being bought the most, and which products aren't being bought at all in order for management to better decide which products to sell in order to make a higher profit after enough data has been obtained.

## Benefits:

- Improved Quality – Our database will provide accurate feedback you can always rely on
- Improved Services – Associates will have better relations, and more time with customers
- Improved Inventory Management – Our database will allow you to keep records of all inventory in stock

## Justification/Deliverables:

- Inventory training
- Inventory documentation
- Inventory user guide

## Estimated Duration:

- 2 months

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

# System Description

## Current Environment:

Currently, Home Goods has no inventory system present to look up what's currently in stock for each individual retail store. Home Goods operates on a fast changing inventory system, meaning that the products they get in stock one week can be vastly different than the inventory they'll get in the next week. Managers know they're getting a shipment in, but have no idea what products lie within the shipment.

Everything is done by hand, if a customer calls in wanting to know if a product is in stock then associates have to look throughout that specific section in the store to find it. Sometimes, without an accurate description of the product from the customer, searching for these products can be time consuming and steer the associate away from objectives needed to be complete for the day.

This system in place also uses up a lot of valuable time that can be used for other tasks, and most importantly take the attention away from customers currently in store. While the system and processes used for Home Goods to function on a day-to-day basis do work, it is easy to see that it's an inefficient system that's causing them to slowly lose ground for both maximizing customer service and customer morale.

## Issues with current System:

- Lack of an inventory control system
- Delayed responses to customers on if certain product is in stock
- Diverts less attention to customers in store
- Minimizes customer's overall experience
- Inability to see if other stores have certain products in stock causes frustration for customers.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## Proposed Issue Resolution:

The new system being proposed should cut back on frustration with the customers, and give a better experience with customer support for both over the phone and in the store. Through a database system that's built off the characteristics of having integrity, reliability, high performance and scalability this is remarkably possible.

We highly recommend a server or computer that can store a heavy amount of data. This server should be connected with the cash registers at the front of the store, and along with a couple of barcode scanners. These two put together will help keep the inventory system current, even with a fast-paced and complex inventory system already in place. By placing an extra employee to help with processing, he or she can take the duty of scanning merchandise as they're unloaded from the truck. The scanner synced with our server, will automatically add the merchandise one at a time into the appropriate destination of our database system. For the cash registers in the front, when a customer purchases a certain product, the product will be automatically taken out of the system or be subtracted individually from the quantity currently in stock. If the customer returns the product, an associate can use a scanner to bring the merchandise back into the database system. With this system in place, Home Goods can keep an accurate and current inventory system.

The software that's going to be used is Microsoft's Access 2013. Through this software, we will store information separately by each category. For example, the database will store separate categories such as furniture and subcategories associated with furniture. Meaning, the furniture category would store data about its end-tables, coffee tables, couches, and chairs for optimal organization.

Each category will be connected to a centralized category that consists of every product. This will implement referential integrity, and allow for faster and easier searches from the system to the user making the request. For example, if you want to see what lamps are in stock, you can click the department number associated with lamps to expand a view showing all lamps currently in stock.

Another category we are proposing that's not connected with our other categories will store information about our customers. Through a rewards program, we can store the demographics about our customers and the products that they buy from Home Goods. From this system, Home Goods can learn more about its customers in regard to what they're buying and more importantly see what customers are not buying. This can help Home Goods have a better idea of what merchandise to stock up on, and which not to buy to maximize profit.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

Our database proposal will also allow for the search of products that have been in the store for too long, this is a big benefit for loss prevention. At Home Goods, associates have to individually scan every product in the store to see which products to mark down. After associates find products to mark down, they have to print a new bar code out and place it over the old bar code. With our database, you can perform a query (a search) of every product to get a list of what to mark down. Even better, you can take those results in the database and mark all of them off by a certain percent in only a matter of seconds. Since the registers are connected to our database system, a customer can unknowingly bring the marked-down product and the registers will catch this and show the final discounted price. (On a side note, the labels at Home Goods all have a white background color. For faster access to finding these products in store, managers can color code the products by season to save time searching the store.)

Finally, the system we are proposing will cut down on waiting times for customers who request if a product is in stock. This will give more room for associates to focus on other tasks and give an overall better customer experience. It'll give Home Goods an organized approach to knowing what's in stock or what's been in stock for too long, while also knowing and learning what products they're customers like and dislike.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

# Feasibility Assessment

## Economic Feasibility

The Economic Feasibility of this project is very much incumbent upon both available cash reserves and the overall focus of the company towards long or short term expenditures and profit. If the company is constrained by a limited cash flow in the present, then it may be advisable to wait until the cash flow situation improves. If the company prefers to take a long run view, this project is very highly advisable. Regardless of the orientation of the company, it is extremely important that this project is completed in the near future.

## Cost Benefit Analysis

| Tangible Benefits | | | | | | |
|---|---|---|---|---|---|---|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
| Erroneous Order Reduction | $ - | $ 4,000,000.00 | $ 4,000,000.00 | $ 4,000,000.00 | $ 4,000,000.00 | $ 16,000,000.00 |
| Increased Customer Care Efficiency | $0 | $20,000 | $20,000 | $20,000 | $20,000 | $80,000 |
| Increased Sales (due to higher customer retention) | $0 | $100,000 | $100,000 | $100,000 | $100,000 | $400,000 |
| Increased Stocking Efficiency | $0 | $520,000 | $520,000 | $520,000 | $520,000 | $2,080,000 |
| Total Tangible Benefits | $ - | $ 4,640,000.00 | $ 4,640,000.00 | $ 4,640,000.00 | $ 4,640,000.00 | $ 37,120,000.00 |
| | | | | | | |
| Development Costs | | | | | | |
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
| Inventory Control Computers | $60,000 | $0 | $0 | $0 | $0 | $60,000 |
| Master Inventory Control Server | $10,000,000 | $0 | $0 | $0 | $0 | $10,000,000 |
| Development Labor | $100,000 | $0 | $0 | $0 | $0 | $100,000 |
| Total Development Costs | $10,160,000 | $0 | $0 | $0 | $0 | $10,160,000 |
| | | | | | | |
| Operational Costs | | | | | | |
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
| Hardware Maintenance | | $60,000 | $60,000 | $60,000 | $60,000 | $240,000 |
| Software Maintenance | | $60,000 | $60,000 | $60,000 | $60,000 | $240,000 |
| Training | | $250,000 | $250,000 | $250,000 | $250,000 | $1,000,000 |
| Total Operational Costs | | $370,000 | $370,000 | $370,000 | $370,000 | $2,960,000 |
| | | | | | | |
| Total Costs | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | |
| Total Benefits | $0 | $4,640,000 | $4,640,000 | $4,640,000 | $4,640,000 | |
| Total Costs | -$10,160,000 | -$370,000 | -$370,000 | -$370,000 | -$370,000 | |
| Yearly Cash Flow | -$10,160,000 | $4,270,000 | $4,270,000 | $4,270,000 | $4,270,000 | |
| Cumulative Net Cash Flow | -$10,160,000 | -$5,890,000 | -$1,620,000 | $2,650,000 | $6,920,000 | |

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## Technical Feasibility

This project is eminently feasible. This project is not innovative, this technology is very much commonplace. Succinctly put, this can be done relatively simply in theory. The danger in the project lies in its relatively broad scope, as the undertaking of larger projects can sometimes limit the ultimate success of the project In this regard, it will be extraordinarily important to prevent scope creep (or growth in the scope of the project while it is being undertaken) from distorting the key goals. Another important potential impediment to watch for is the possibility that outdated technology in registers and scanners may not work with the new technology.

## Operational Feasibility

The program is very likely that the project will attain desired objectives. This project will bring inventory systems for HomeGoods into the modern era of inventory systems. This objective will be accomplished by the creation of the systems described earlier. This will create a more fluid and dynamic inventory system that will decrease time wasted caused by outmoded manual systems and increase efficiency by creating synergistic connectivity among locations

## Scheduling Feasibility

The timeframe to accomplish this project is a year. While this may be considered an ambitious time frame, I feel it would be possible to accomplish this project. It will likely take: three months for physical design, three months for logical design, four months to program and two months to test and debug.

## Legal Feasibility

Other than a contract with Green Team Technology Group, there will be no foreseeable legal issues.

## Political Feasibility

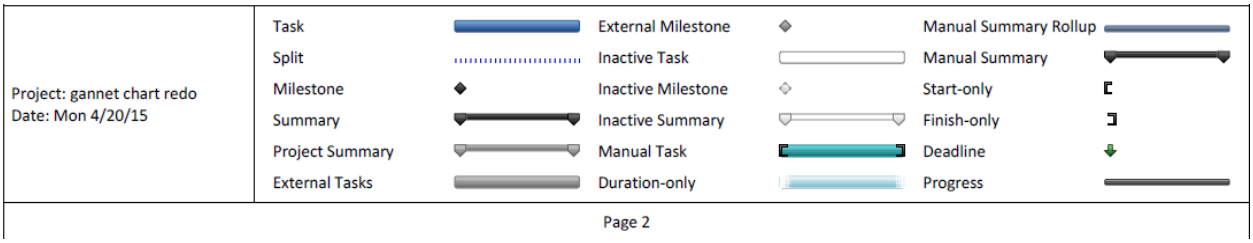
This is one of our more concerning issues. The lack of modern inventory control is perhaps indicative of a culture that is openly scornful of technology. This could prove problematic to obtain support for this system in such a climate. This may also result in workers not wanting to work with the new system and may resist the changes and not undergo training in good faith. Project support from the upper management will play a large role in the successful transition to an electronic inventory management system.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

# Baseline Project Plan

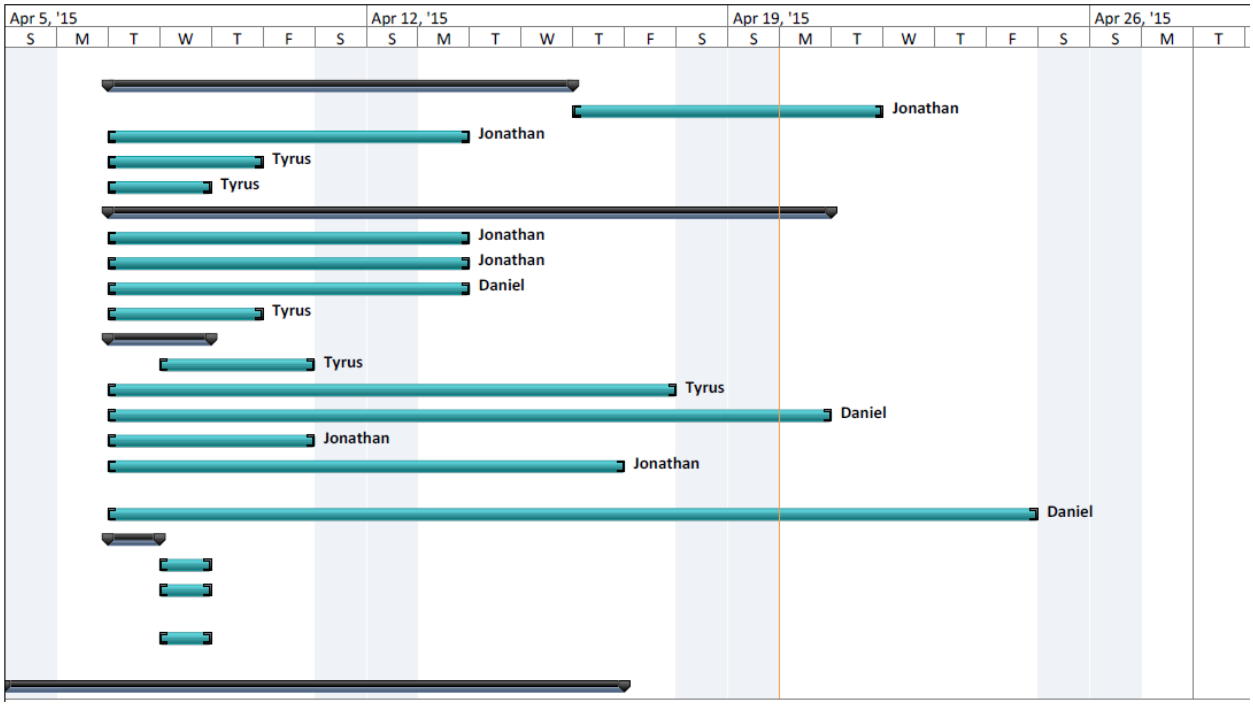
## Gantt Chart

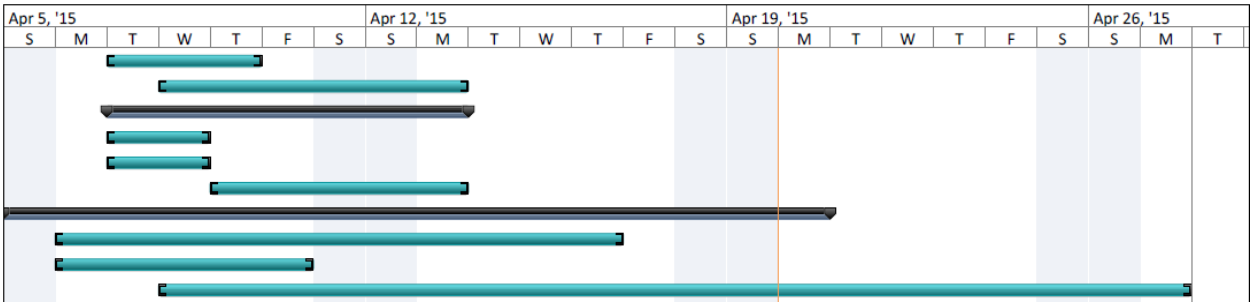
| ID | Task Mode | Task Name | Duration | Start | Finish | Predecessors | Resource Names | Baseline Cost |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | **System Introduction** | **7 days** | **Tue 4/7/15** | **Wed 4/15/15** | | **Daniel** | **$10,000.00** |
| 3 | | Executive Summary | 4 days | Thu 4/16/15 | Tue 4/21/15 | | Jonathan | $8,000.00 |
| 4 | | Problem | 5 days | Tue 4/7/15 | Mon 4/13/15 | | Jonathan | $50,000.00 |
| 5 | | Project Charter | 3 days | Tue 4/7/15 | Thu 4/9/15 | | Tyrus | $20,000.00 |
| 6 | | Overview | 2 days | Tue 4/7/15 | Wed 4/8/15 | | Tyrus | $10,000.00 |
| 7 | | **System Service Request** | **2 wks** | **Tue 4/7/15** | **Mon 4/20/15** | | **Jonathan** | **$5,000.00** |
| 8 | | Type of request | 1 wk | Tue 4/7/15 | Mon 4/13/15 | | Jonathan | $3,500.00 |
| 9 | | Problem Statement | 1 wk | Tue 4/7/15 | Mon 4/13/15 | | Jonathan | $3,500.00 |
| 10 | | Service request | 5 days | Tue 4/7/15 | Mon 4/13/15 | | Daniel | $1,000.00 |
| 11 | | Benefits | 3 days | Tue 4/7/15 | Thu 4/9/15 | | Tyrus | $8,000.00 |
| 12 | | **Project Scope Statement** | **2 days** | **Tue 4/7/15** | **Wed 4/8/15** | | **Daniel** | **$1,000.00** |
| 13 | | Business Problem | 3 days | Wed 4/8/15 | Fri 4/10/15 | | Tyrus | $20,500.00 |
| 14 | | Alternate Solutions | 9 days | Tue 4/7/15 | Fri 4/17/15 | | Tyrus | $5,000.00 |
| 15 | | Goals and objectives | 10 days | Tue 4/7/15 | Mon 4/20/15 | | Daniel | $9,600.00 |
| 16 | | Project Description | 4 days | Tue 4/7/15 | Fri 4/10/15 | | Jonathan | $60,000.00 |
| 17 | | Justification and deliverables | 8 days | Tue 4/7/15 | Thu 4/16/15 | | Jonathan | $10,000.00 |
| 18 | | Estimated duration | 14 days | Tue 4/7/15 | Fri 4/24/15 | | Daniel | $100,000.00 |
| 19 | | **System Description** | **1 day** | **Tue 4/7/15** | **Tue 4/7/15** | | | **$60,000.00** |
| 20 | | Current Environment | 1 day | Wed 4/8/15 | Wed 4/8/15 | | | $15,000.00 |
| 21 | | Issues with current system | 1 day | Wed 4/8/15 | Wed 4/8/15 | | | $80,000.00 |
| 22 | | Proposed issue resolution | 1 day | Wed 4/8/15 | Wed 4/8/15 | | | $100,000.00 |
| 23 | | **Feasibility Assessment** | **10 days** | **Sun 4/5/15** | **Thu 4/16/15** | | | **$25,000.00** |
| 24 | | Operational feasibility | 3 days | Tue 4/7/15 | Thu 4/9/15 | | | $20,000.00 |
| 25 | | Cost benefit Analysis | 4 days | Wed 4/8/15 | Mon 4/13/15 | | | $10,000.00 |
| 26 | | **Baseline Project Plan** | **5 days** | **Tue 4/7/15** | **Mon 4/13/15** | | | **$15,000.00** |
| 27 | | Gannet Chart | 2 days | Tue 4/7/15 | Wed 4/8/15 | | | $1,000.00 |
| 28 | | Network Diagram | 2 days | Tue 4/7/15 | Wed 4/8/15 | | | $1,000.00 |
| 29 | | Project Cost Breakdown | 3 days | Thu 4/9/15 | Mon 4/13/15 | | | $1,000.00 |
| 30 | | **System Overview** | **12 days** | **Sun 4/5/15** | **Mon 4/20/15** | | | **$5,000.00** |
| 31 | | Current System | 9 days | Mon 4/6/15 | Thu 4/16/15 | | | $40,000.00 |
| 32 | | Proposed System | 5 days | Mon 4/6/15 | Fri 4/10/15 | | | $20,000.00 |
| 33 | | System ERD | 14 days | Wed 4/8/15 | Mon 4/27/15 | | | $1,000.00 |

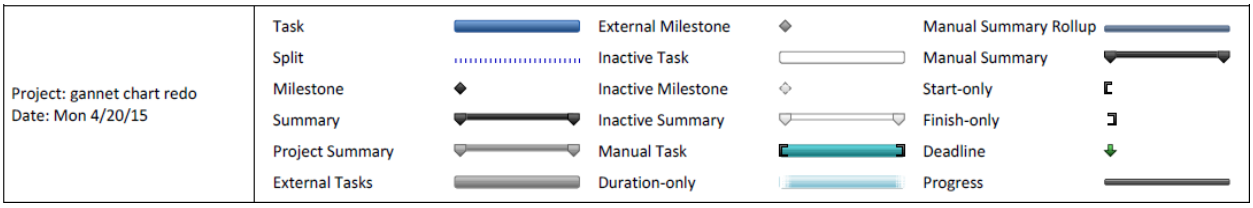



Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

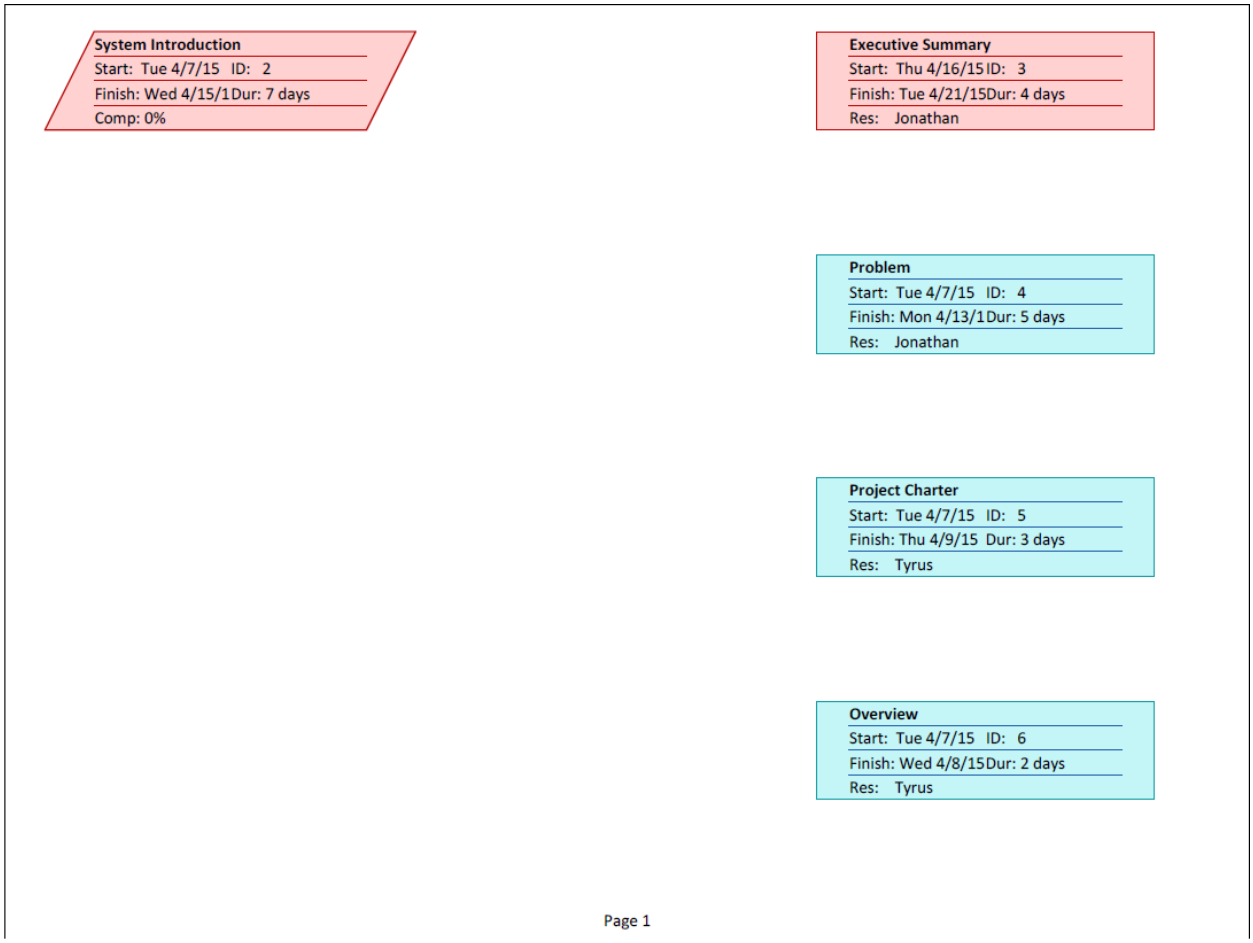


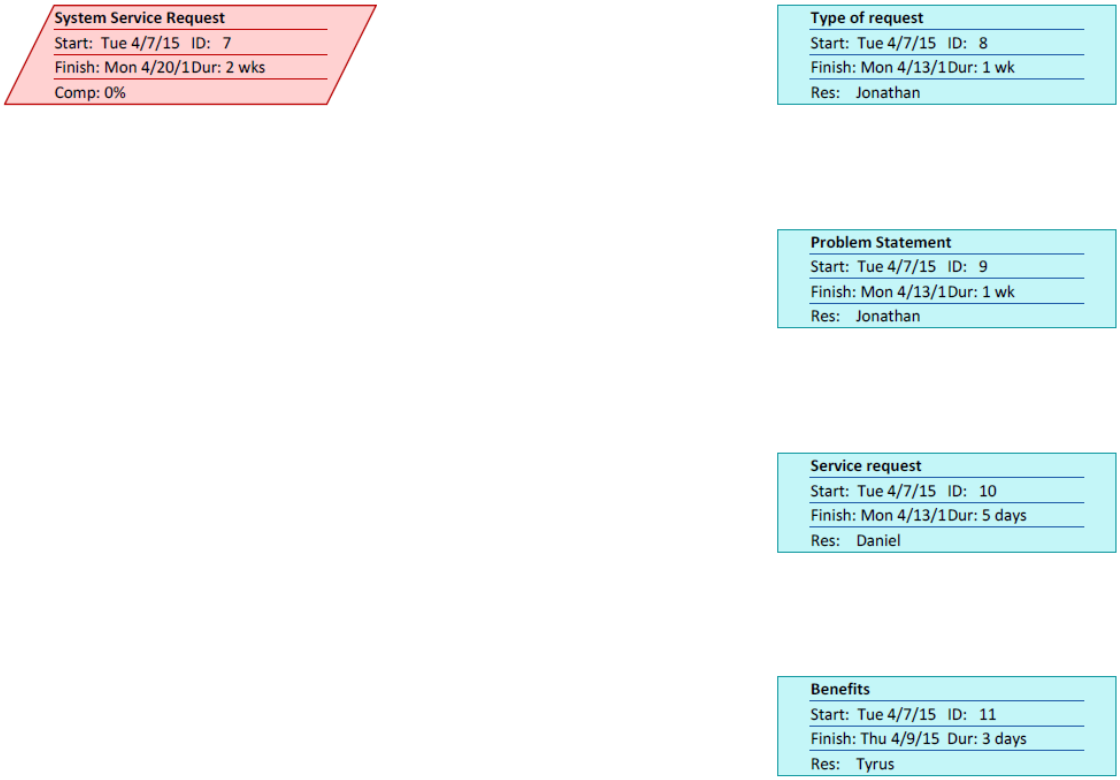




Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

# Network Diagram

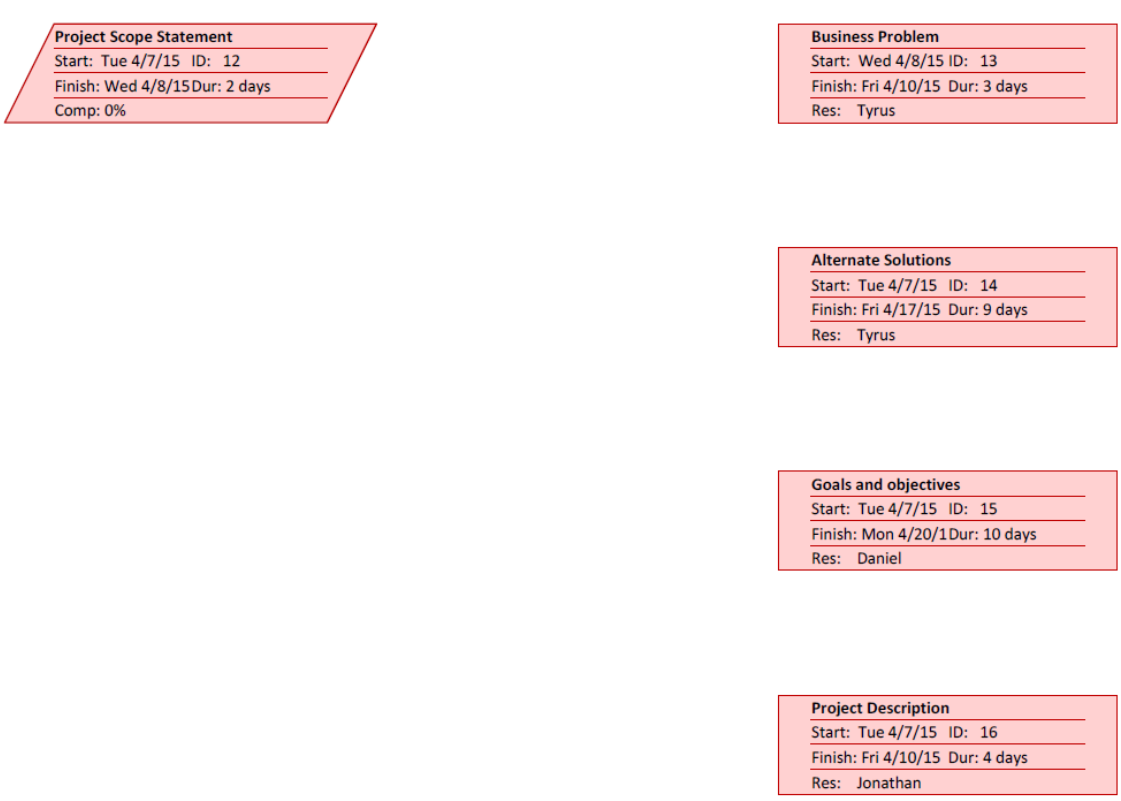



Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus



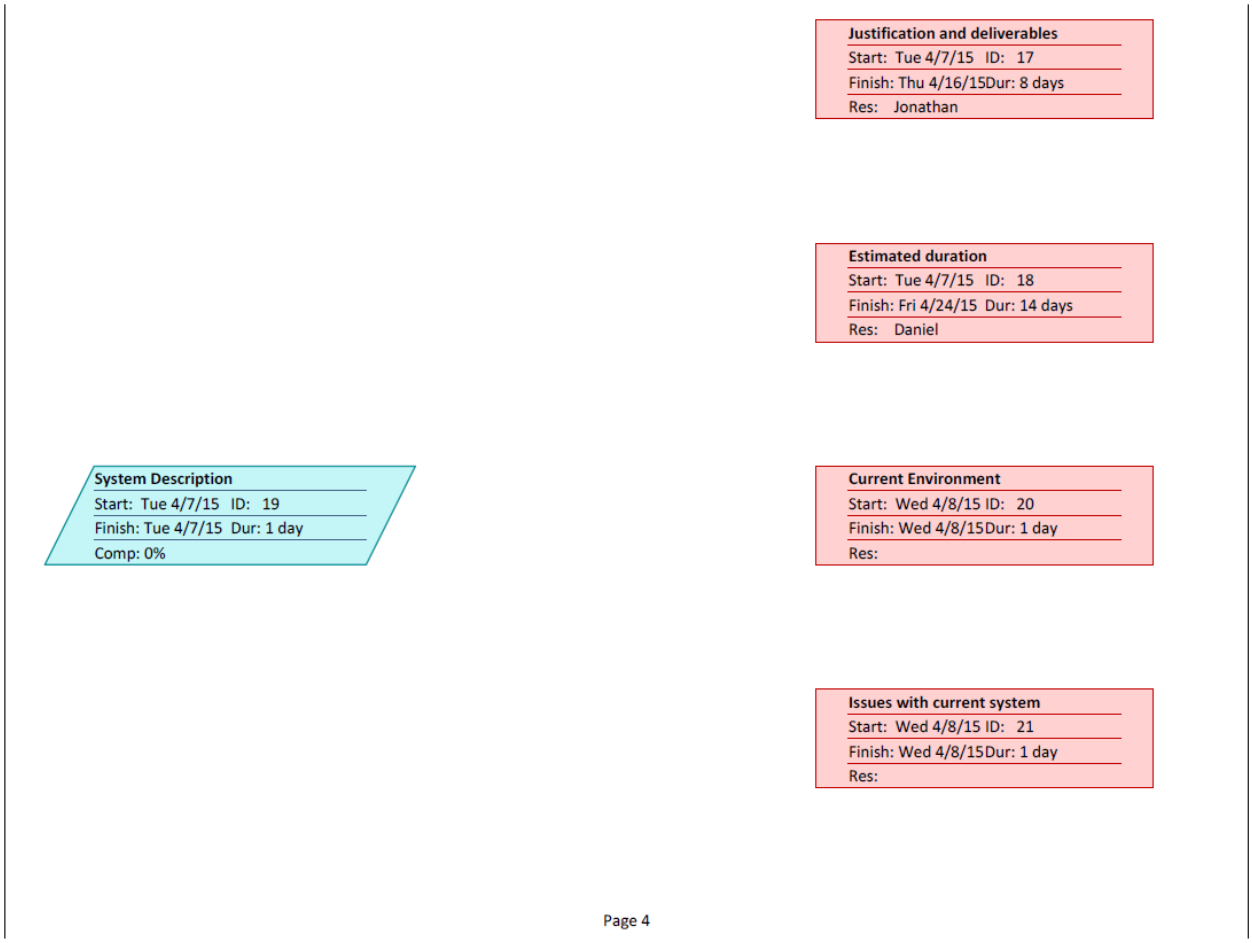



Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus



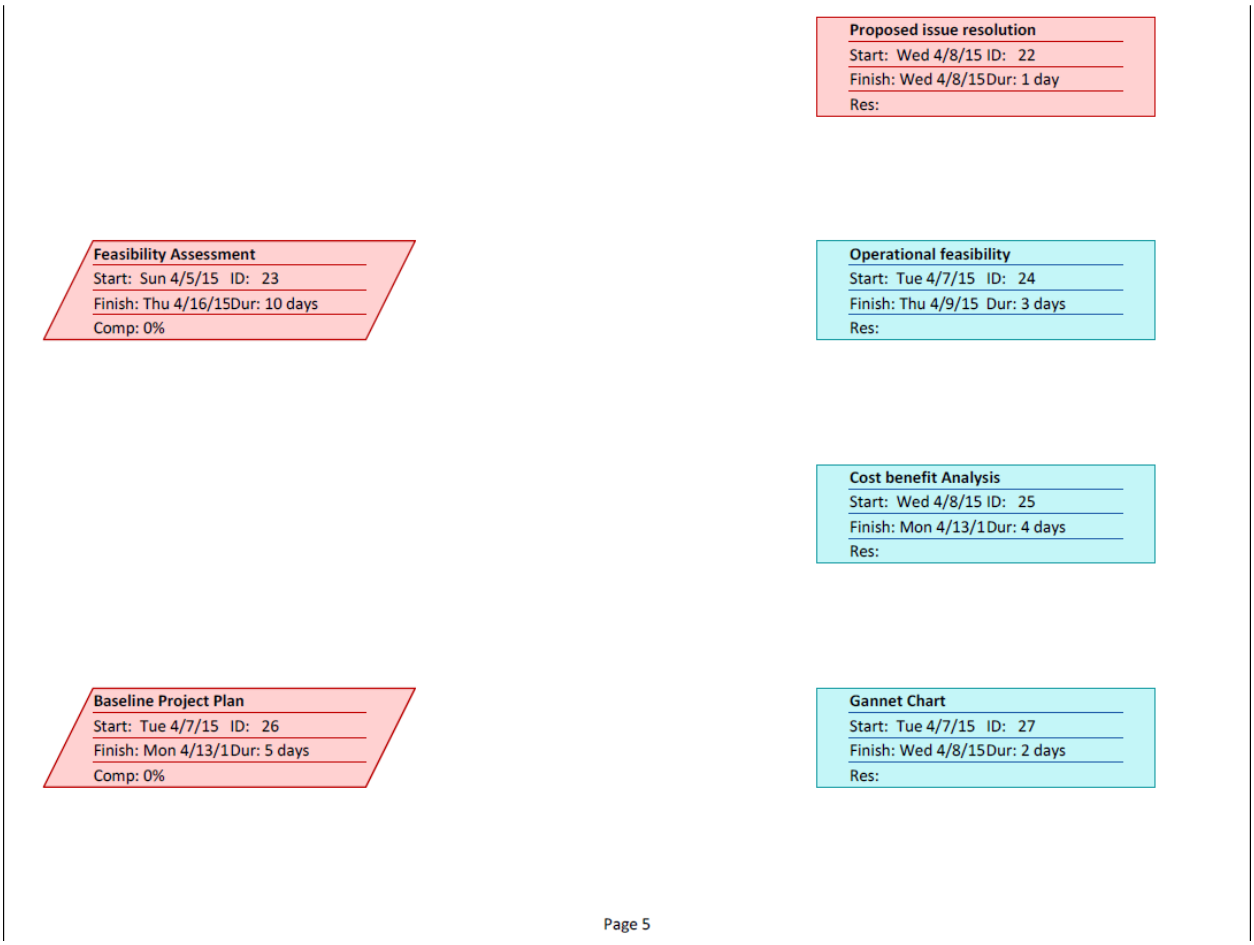


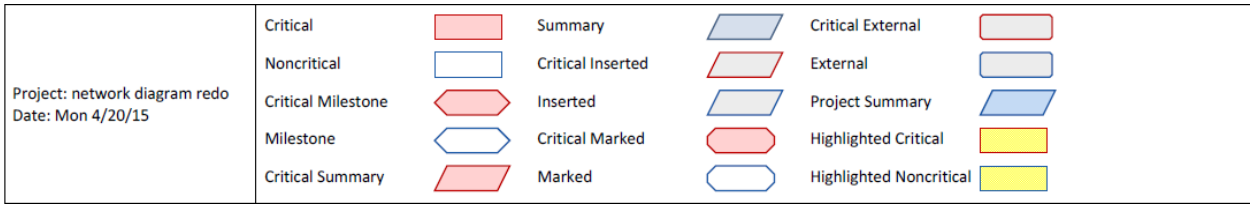

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus






Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus



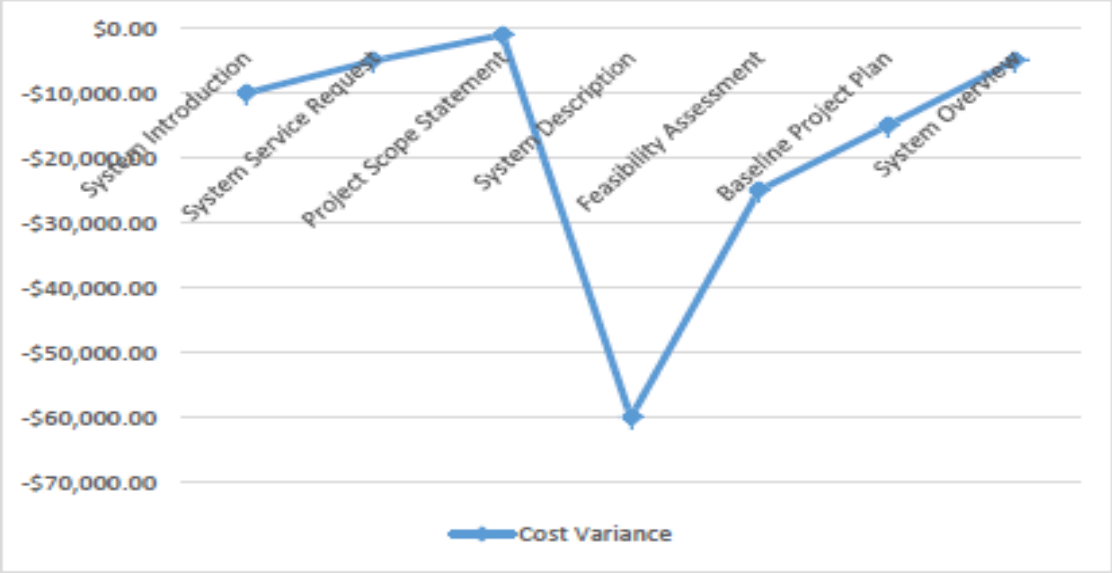




Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## Project Costs Breakdown

TASK COST VARIANCE

Cost variance for all top-level tasks in the project.




| Name | % Complete | Cost | Baseline Cost | Cost Variance |
|---|---|---|---|---|
| System Introduction | 0% | $0.00 | $10,000.00 | ($10,000.00) |
| System Service Request | 0% | $0.00 | $5,000.00 | ($5,000.00) |
| Project Scope Statement | 0% | $0.00 | $1,000.00 | ($1,000.00) |
| System Description | 0% | $0.00 | $60,000.00 | ($60,000.00) |
| Feasibility Assessment | 0% | $0.00 | $25,000.00 | ($25,000.00) |
| Baseline Project Plan | 0% | $0.00 | $15,000.00 | ($15,000.00) |

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

# System Overview

## Current System in Place

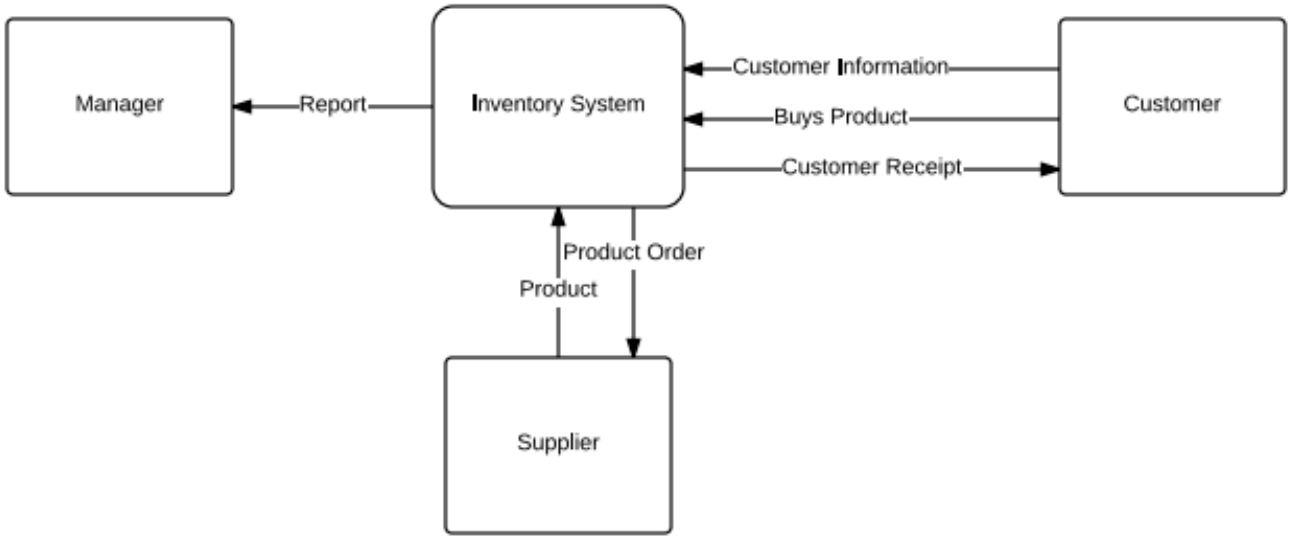
As an old employee of HomeGoods who did processing of inventory, shipments of new products was weekly for the most part. Managers would actually physically observe merchandise that was currently on the store's sales floor and in the backroom, used of these inputs in order to make a decision on whether or not to request more merchandise. For the most part, this system worked. But on the few chances that it didn't work, this would create a huge problem for the store. This created two problems for the store, one problem would be the backroom would be overfilled with stock, making it quite difficult and dangerous for employees to navigate around the backroom; it was a true overcrowding issue and fire hazard. The second problem resulted from negligence from managers, mistakes can be made but it can be deemed critical in regard to whether or not your store makes $10,000 in a week, or if your store makes double that. The issue we are addressing is that managers wouldn't restock the merchandise in time, resulting in the store's sale floor being pretty much empty – and causing customers who came in wanting to buy something leaving empty handed. This is a real issue here is losing customers and losing potential money that you would have had if the store's merchandise were in stock. The system we are proposing will bring organization and give managers an easier time with making decisions on whether to restock or not.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

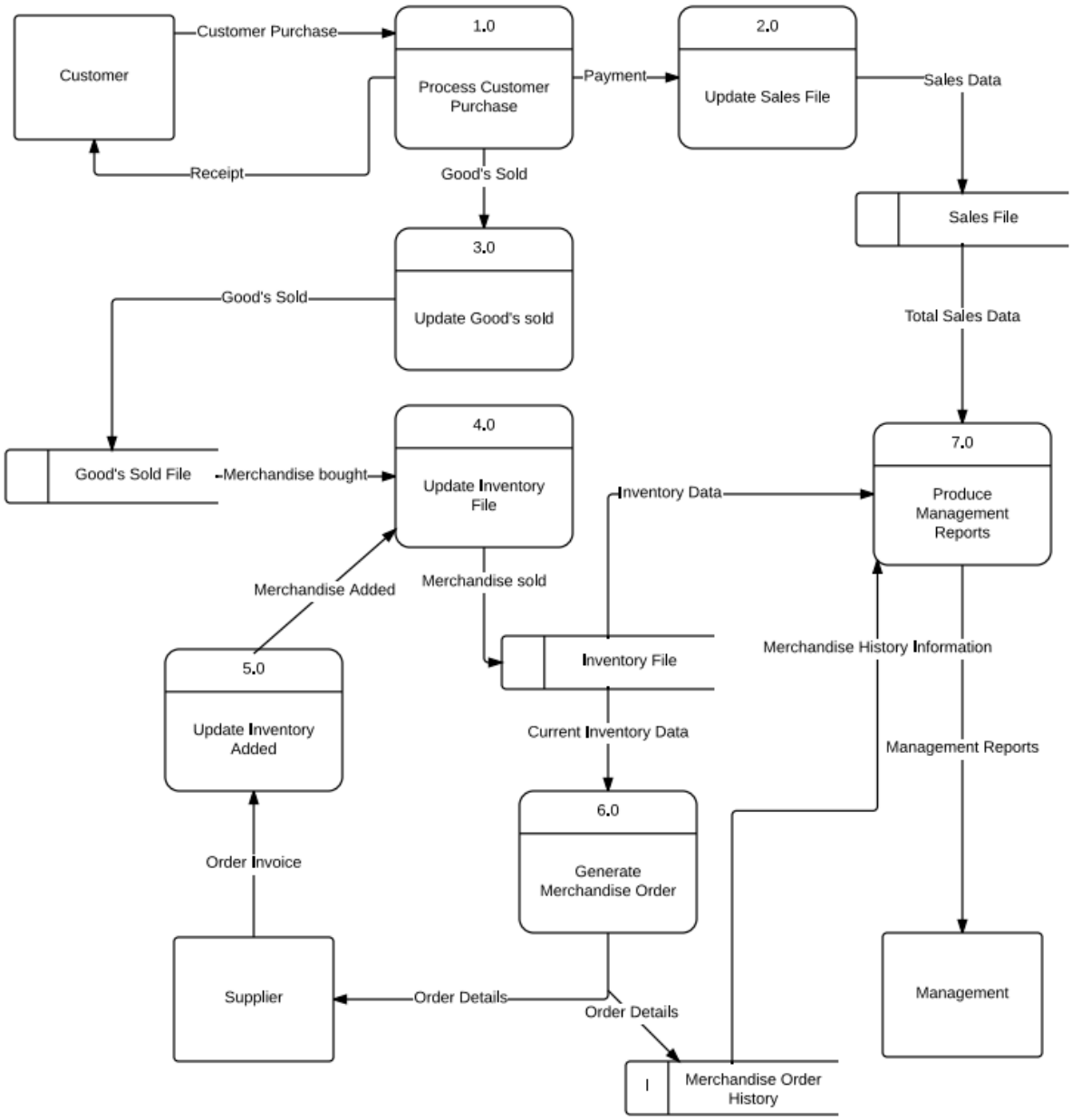
## Proposed System

HomeGood's Inventory System – Context Diagram




Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

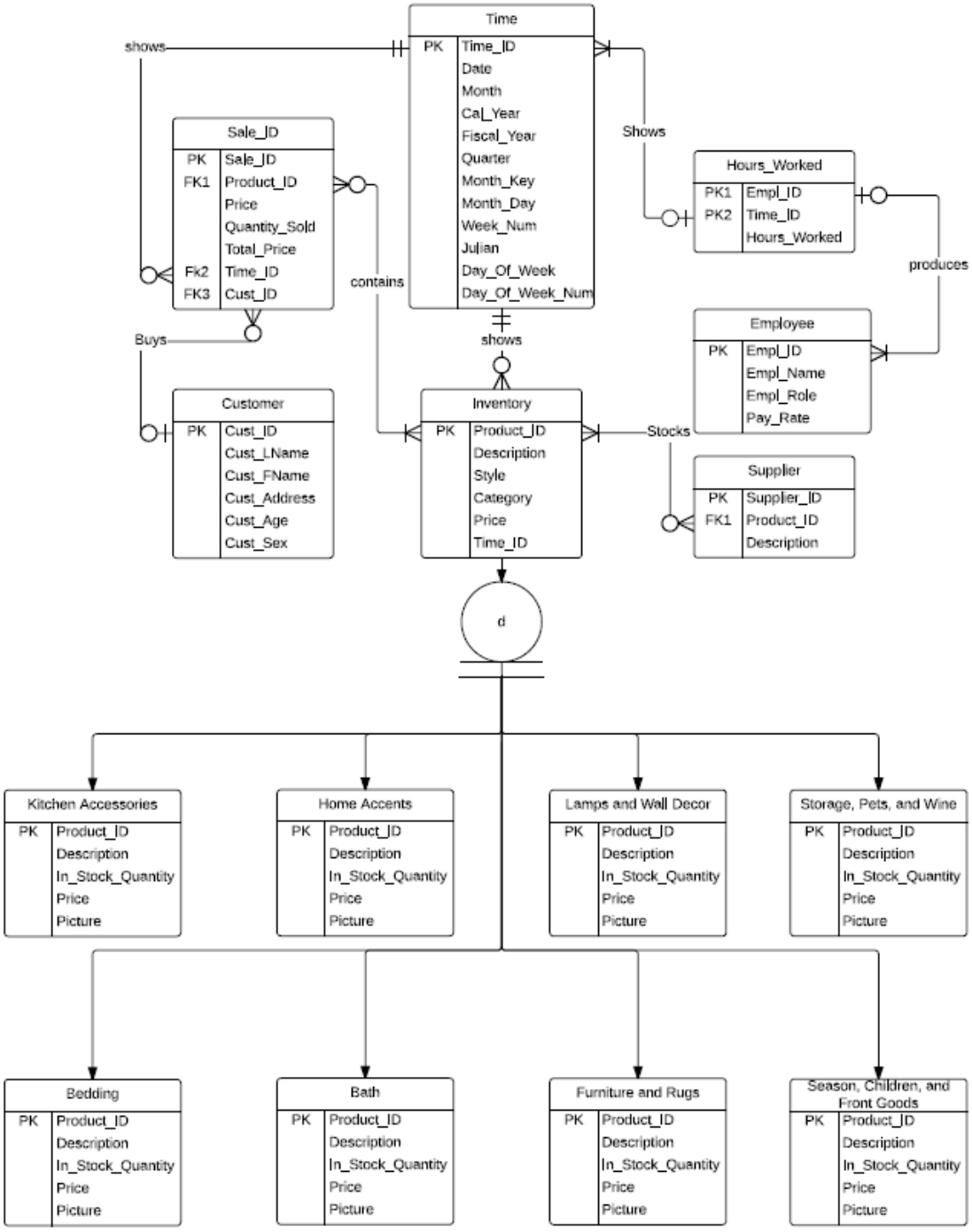
## HomeGood's Inventory System – level-0 DFD




Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

## System Entity Relationship Diagram




Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## General Comments Regarding System ERD:

We know that in all businesses time means everything, so that is exactly the idea we had to build our entity relationship diagram off of. With an entity/table that stores information regarding time, businesses can capture and record information that occurs on a day-to-day cycle, as any business would operate on. With our system, managers will have an easy time keeping track of and accessing information in these categories:

- Employee Data – Managers can keep track of hours worked by employees, and individual pay rates for each employee. This allows for:
  - ✓ Easy system to show hours worked by employees – whether individually or as a whole.
  - ✓ Easy for payroll to determine the amount an employee should be paid.
- Sales Data – Managers can keep track of what products are selling, and when they're selling. This allows for:
  - ✓ Method to determine what the most popular products are currently being sold.
  - ✓ Determining which products are not selling, in order to know what to restock on next.
  - ✓ Determining an accurate monthly revenue due to all sale's transactions being placed into our system automatically.
  - ✓ With or without the customer information in relation to sale's data, this can introduce the start of data analytics by analyzing what products are being bought, and by which demographics.
- Inventory Data – Managers can keep track of what of what is currently in inventory, and when inventory first arrives to the store. This allows for:
  - ✓ Ability to determine when to restock to keep up with demand.
  - ✓ Ability to determine what products have been in the store for too long so those products can specifically be marked down in the system by the database itself.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## Product Breakdown

HomeGoods currently has quite a few products they are selling, we have designed our database to capture every single product being sold. You can see that our database is split up almost directly the way HomeGoods in store is split up by sections:

- Kitchen Accessories – This will contain the current department ID's of: 31, 21, 54, 42, 34, and 41.
  - Specifically these departments are: Dinnerware, table linens, food, cook/bakeware, glassware/vases, and kitchen accessories.
- Home Accents – This will contain the current department ID's of: 37, 34, 33, 24
  - Specifically these departments are: Window Treatment, candles, decorative accessories, and decorative pillows.
- Lamps and Wall Decor – This will contain the current department ID's of: 43, 49, 48, 44
  - Specifically these departments are: Lamps, mirrors, wall decorations, and frames.
- Storage, Pets, and Wine– This will contain the current department ID's of: 55, 52, 22
  - Specifically these departments are: Stationary, storage, and pets.
- Bed – This will contain the current department ID's of: 12, 13, 14, 45
  - Specifically these departments are: Bed pillows, bedding, sheets, throws, blankets, and floral.
- Bath – This will contain the current department ID's of: 17, 11,36
  - Specifically these departments are: Bath/scatter rugs, bath, and towels.
- Furniture and Rugs – This will contain the current department ID's of: 23, 46, 53
  - Specifically these departments are: Hanging rugs, furniture, and accent furnishing.
- Seasonal, Children, Front Goods– This will contain the current department ID's of: 56, 47, 58, 51
  - Specifically these departments are: Registers (front goods items), seasonal, children, and wine.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

# What Our Database Has To Offer

## Security

Security is the most important aspect of this whole project. Having an outsider gain access into our system would be a major vulnerability. Confidential data such as information about your employees, customers, products, or vendors are data you want to be secure. Another issue that could occur is a frustrated employee with practically full rights going into your database and altering data. One of the most important and preventative ways to stop this is by setting NTFS rights within your server.

### Setting NTFS Rights on the Server

Setting NTFS (New Technology File System) rights will allow you rest assure knowing a possible disgruntled employee won't harm your database. For regular part-time employees, you can set their rights to read and execute only. Specifically, setting read and execute rights will allow your users to list folders/read data, read attributes, execute files, and read extended attributes. This will allow your users to open up the HomeGoods access database, and will allow them perform searches of certain products in stock. The read and execute rights will not allow your users make add any changes to the database, and will not allow them to delete any data within the database.

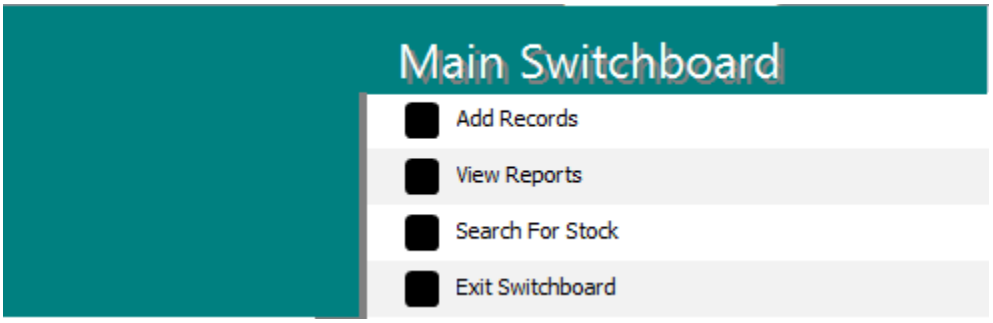
You can also set up the NTFS rights for the managers, having them be different from regular employees with different rights. You can set the managers NTFS rights up as modify rights or full rights, depending on the person of course. Modify rights will allow managers to do everything read and execute rights can perform, but also allow you to create files/write data, create folders/append data, write attributes, and write extended attributes. This will allow managers to add new fields in the database such as new customers, employees, vendors, and products.

## Training Made Easy

Using our HomeGoods database, managers and employees will find an easy time using our database. Managers will be able to use our database to add in new products, customers, employees, suppliers at ease. You do not have to be an expert with Microsoft Access to succeed. We have created a simple prototype to show you what we mean.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## First Look - Demonstration:



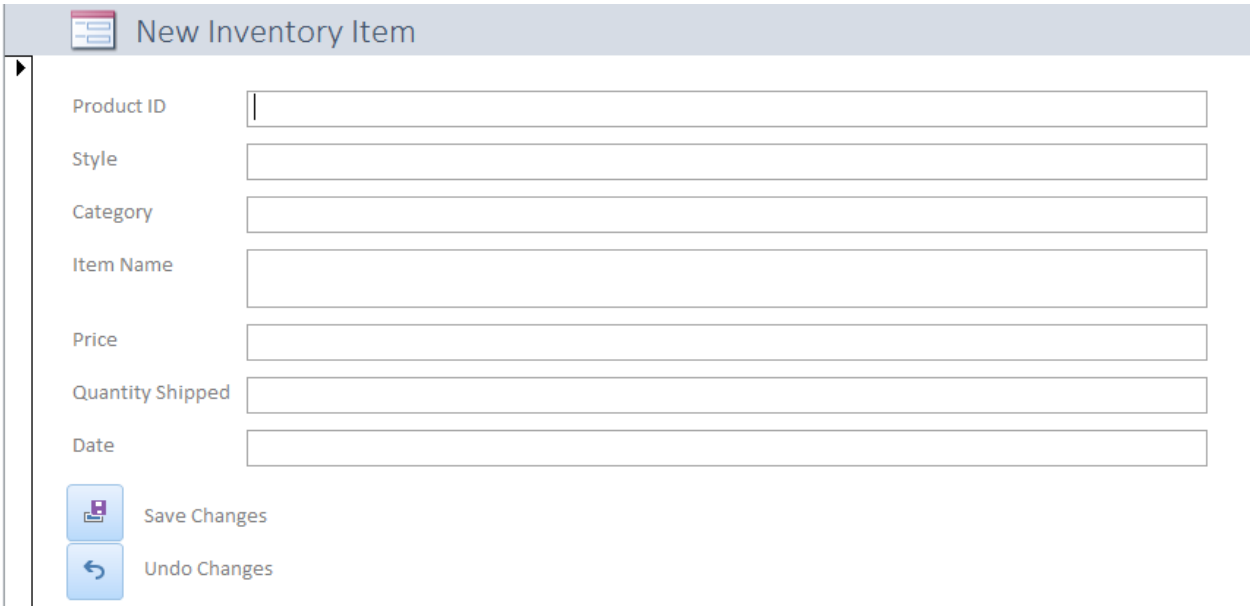

This is the main view of our switchboard. A switchboard is a form that allows you to navigate around your Access database. The switchboard is made of buttons that you can click. These buttons can open forms, reports, and queries. On our main switchboard, we have included a "Exit Switchboad" button to exit once you have completed the tasks needed.

*Add Records:*


Notice the "Go Back" button, if you navigated too far we have this button programmed to allow you to go back.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## Add Inventory:




- Each of our records allow you to save changes or undo changes while editing documents.

## View Reports – Quantity in Stock


Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

## Quantity-In-Stock

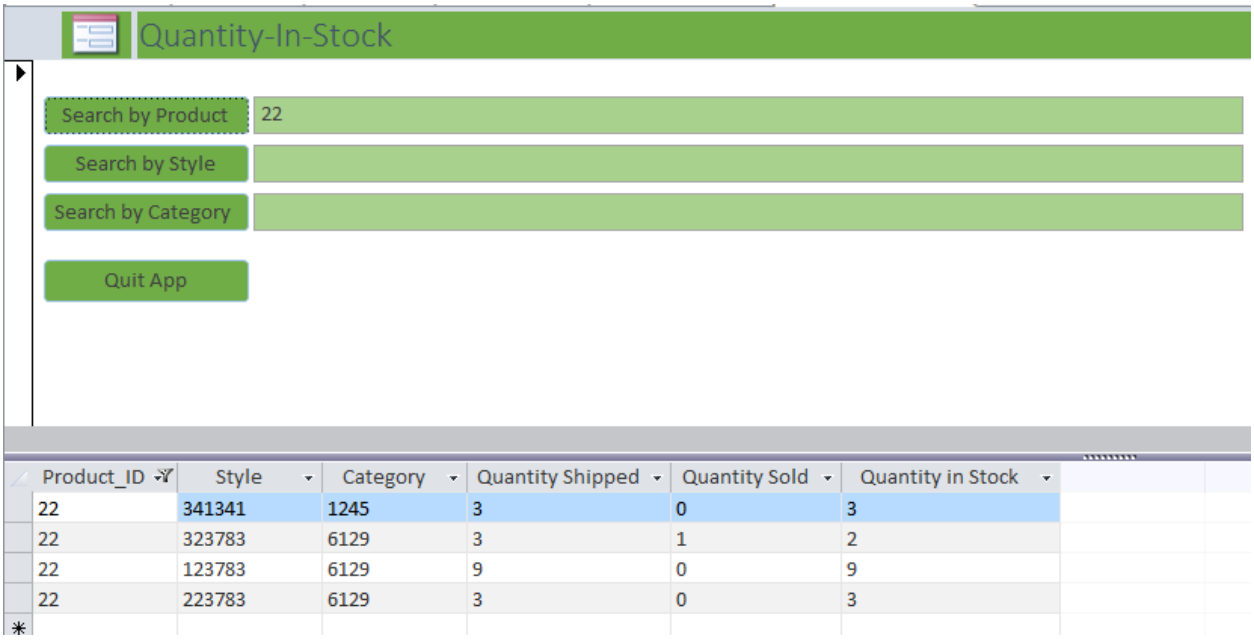
| Product_ID | Style | Category | Quantity | Quantity_Sold | Quantity_In_Stock |
|---|---|---|---|---|---|
| 11 | | | | | |
| | 223787 | 6123 | 2 | 1 | 1 |
| | 123787 | 6123 | 4 | 0 | 4 |
| | 323787 | 6123 | 3 | 0 | 3 |
| 12 | | | | | |
| | 223788 | 5124 | 3 | 0 | 3 |
| | 123788 | 5124 | 3 | 1 | 2 |
| | 323788 | 5124 | 2 | 0 | 2 |
| 13 | | | | | |
| | 123789 | 4125 | 6 | 0 | 6 |
| | 223789 | 4125 | 3 | 0 | 3 |
| | 323789 | 4125 | 1 | 1 | 0 |
| 14 | | | | | |
| | 223780 | 3126 | 3 | 0 | 3 |
| | 323780 | 3126 | 3 | 0 | 3 |
| | 123780 | 3126 | 3 | 0 | 3 |
| 17 | | | | | |
| | 123781 | 3127 | 3 | 0 | 3 |
| | 323781 | 3127 | 2 | 0 | 2 |
| | 223781 | 3127 | 2 | 0 | 2 |
| 21 | | | | | |
| | 123782 | 6128 | 3 | 0 | 3 |
| | 323782 | 6128 | 3 | 0 | 3 |
| | 123796 | 3139 | 3 | 0 | 3 |
| | 223782 | 6128 | 3 | 1 | 2 |
| 22 | | | | | |
| | 223783 | 6129 | 3 | 0 | 3 |
| | 323783 | 6129 | 3 | 1 | 2 |
| | 341341 | 1245 | 3 | 0 | 3 |
| | 123783 | 6129 | 9 | 0 | 9 |

For our quantity-in-stock report, we have grouped our Product_ID's together for redundancy and organizational purposes. We have also created a current inventory system that takes the approximate quantity shipped minus the quantity sold of the related products. A product that hasn't been sold yet will show as "0", through our programming we encountered a problem where products not sold would be shown as null. We altered our programming to return as 0, where quantity sold was null thereby giving us an accurate number for quantity in stock. This report will give managers an easier time making decisions in regard to restocking.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

[Publish Date]

## Search for Stock:



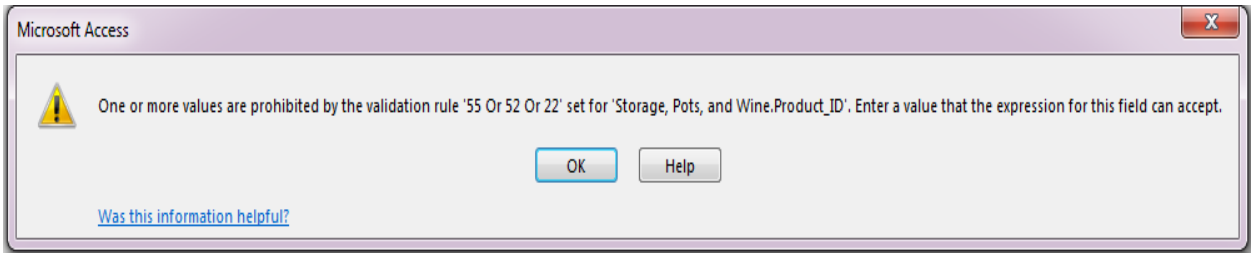

| Product_ID | Style | Category | Quantity Shipped | Quantity Sold | Quantity in Stock |
|---|---|---|---|---|---|
| 22 | 341341 | 1245 | 3 | 0 | 3 |
| 22 | 323783 | 6129 | 3 | 1 | 2 |
| 22 | 123783 | 6129 | 9 | 0 | 9 |
| 22 | 223783 | 6129 | 3 | 0 | 3 |

With our search for stock option, employees can check instantly for products anywhere in the store from a computer in front of them. This will allow for more time to spent with customers, and cut back on frustration experienced by the customers. You can search by product, style, category number or the combination of the three to find products within the store. Another great feature is if you leave the criteria blank for product, style, and category you'll receive all the inventory currently in HomeGoods.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## Preventing Duplicate Data:

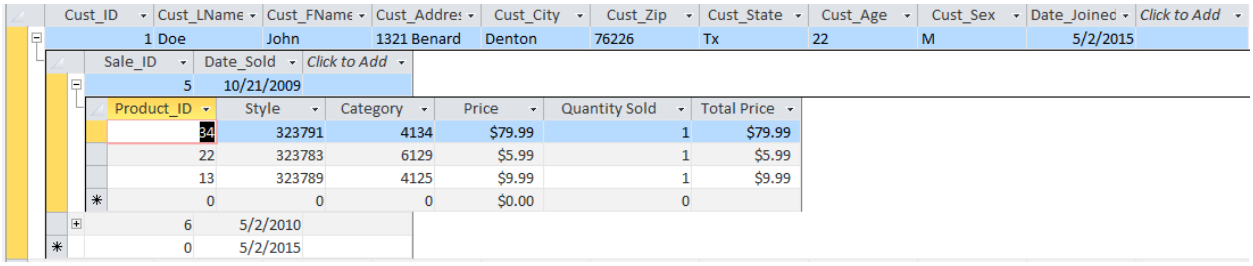
Worried about entering in wrong data? We have set certain validation rules that only allow certain type of data into the database. Our validation rules will catch any errors and provide you with an error message similar to what we have provided below.




# Other Views of the Database:

## Customer:

We wanted to show more of our database to end-users such as managers specifically some extra features of our database.



| Cust_ID | Cust_LName | Cust_FName | Cust_Addres | Cust_City | Cust_Zip | Cust_State | Cust_Age | Cust_Sex | Date_Joined | Click to Add |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Doe | John | 1321 Benard | Denton | 76226 | Tx | 22 | M | 5/2/2015 | |

| Sale_ID | Date_Sold | Click to Add |
|---|---|---|
| 5 | 10/21/2009 | |

| Product_ID | Style | Category | Price | Quantity Sold | Total Price |
|---|---|---|---|---|---|
| 34 | 323791 | 4134 | $79.99 | 1 | $79.99 |
| 22 | 323783 | 6129 | $5.99 | 1 | $5.99 |
| 13 | 323789 | 4125 | $9.99 | 1 | $9.99 |
| 0 | 0 | 0 | $0.00 | 0 | |

| Sale_ID | Date_Sold |
|---|---|
| 6 | 5/2/2010 |
| 0 | 5/2/2015 |

With this example, we have the customer table being shown. Next to the Customer ID you can see a plus mark (+), when you click this it'll expand and you'll see the many "Sale_ID's" or transactions associated with that customer. Once you expand that transaction, you will be able to see the specific products bought by that customer and the price associated with it.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

## Inventory:

| Product_ID | Description | Click to Add |
|---|---|---|
| 0 | | |
| 11 | Bath | |

| Style | Category | Item_Name | Price | Quantity Shipped | Date |
|---|---|---|---|---|---|
| 123787 | 6123 | Blue Bath Towel | $11.99 | 4 | 5/2/2014 |
| 223787 | 6123 | Orange Bath Towel | $11.99 | 2 | 5/2/2014 |
| 323787 | 6123 | Red Bath Towel | $11.99 | 3 | 4/25/2014 |
| | | | $0.00 | 3 | 5/2/2015 |

| | |
|---|---|
| 12 | Bedding |
| 13 | Sheets |
| 14 | Blankets |
| 17 | Bath/Scatter Ru |
| 21 | Table Linens |
| 22 | Pets |
| 23 | Hanging Rugs |
| 24 | Decorative Pill |
| 31 | Dinnerware |
| 33 | Decorative |
| 34 | Glassware/Vas |
| 35 | Candles |
| 36 | Towels |
| 37 | Window Treatr |
| 41 | Kitchen Access |
| 42 | Cook/Bakewar |

| Style | Category | Item_Name | Price | Quantity Shipped | Date |
|---|---|---|---|---|---|
| 223796 | 3139 | Pots | $5.99 | 2 | 5/2/2014 |
| 323796 | 3139 | Pans | $7.99 | 5 | 4/25/2014 |
| | | | $0.00 | 3 | 5/2/2015 |

| | |
|---|---|
| 43 | Lamps |
| 44 | Mirrors |
| 45 | Floral |
| 46 | Furniture |
| 47 | Seasonal |
| 48 | Wall Décor |
| 51 | Wine |
| 52 | Storage |
| 53 | Accent Furnitu |
| 54 | Food |
| 55 | Stationary |
| 56 | Registers |

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus

With our inventory table, you will be able to see all Product_ID's with HomeGoods. Once again, you can expand the views for each Product_ID's to see the specific items related to that department. You will be able to see the name of the item, price, and quantity shipped at the certain date.

Perry, Jonathan
Ridge,Daniel
Ramsire,Tyrus