

California State University Fullerton

CPSC 462



Object Oriented Software Design Vision and Business Case for the



High Velocity Sales Technology System

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1.1	November 9, 2020	<ul style="list-style-type: none"> Cover page titles redesigned Rewording of Business Opportunity section to allow for more specific pricing details. Rewording of Product Position Statement section to allow for more specific market share details. Adjustment of priority levels within Key-High Level Goals to better fit future iteration goals. Adjustment of User-Level goals to for more elaboration of goals. Increased detail in cost analysis within the Summary of Benefits. Increased detail in Pricing Summary. Increased detail in Adjustments and Dependencies. 	Ryan McDonald Alexander Frederick Benjamin Baesu
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1 Executive Summary

High Velocity Sales Technology (HVST) is designed to be a system that allows our enterprise level company, High Velocity Clothing, to connect their displays to our system in a way that allows for a streamlined process of inventory management and sales. The goal of HVST is to take our storefront company into the modern era and introduce an e-commerce environment that would allow for an increased growth of customers and increase our market share in our industry. By introducing this system, we would allow for an increase of purchases and sales made while reducing the physical employee requirement.

HVST is designed in a way that customers can purchase products on their own with a 3rd party external payment authorization that authenticates and authorizes credit card and debit card purchases. HVST is flexible enough than in the event of a failure of 3rd party payment authorization we could swap to either in house payment authorization or move to another 3rd party authorization system without impacting our system uptime. With our system customers would be able to make new purchases as well as view their previous purchase history in one simple location.

From an internal position, HVST allows for authorized users to be able to modify and edit the on-hand inventory as well as view sales analytics for any purchases made through the system. HVST is designed in a way that creates a single environment where any actions regarding inventory management, customer or supplier information management, or wholesale sales opportunities can be conducted.

HVST can help create an easily readable environment for sales analysis. This allows the company to monitor the sales the sales that have been made through the system while determining profit for any designated time period. The total cost for HVST would be \$100,000 for the entire project. While this is an upfront cost, the increase of sales would cause the project to pay for itself within a small period of time.

Overall HVST allows the company to expand its market share in the current digital era. It introduces a virtual environment that will bring in more customers and has a tier system in place to ensure that all ends of the process remain streamlined for ease of use for all actors within our system.

2 Positioning

2.1 Business Opportunity

High Velocity Clothing (HVC) existing sales system is only in place for storefront business and is not viable for an online system. There is the opportunity for HVC to expand its market share to roughly \$1.5 million in the next year and begin to have an online presence in the e-commerce clothing industry. By using a High Velocity Sales Technology system, HVC can centralize our storefront system with an online system in order to expand our current market share. This has the potential to increase the number of sales and increase profits for HVC.

2.2 Problem Statement

High Velocity Clothing (HVC) does not have any system in place for an e-commerce or digital marketplace. As such HVC is losing a large chunk of potential customers that would purchase their products. The current system in place for in-store sales does not have any potential integration to an online system and this could lead to inventory management issues if the in-store system does not talk to similar resources as a digital system. This could affect customers, managers, and sales representatives.

2.3 Product Position Statement

For a company that wants to expand into the online sales industry, HVST delivers a streamlined system that makes it easy and straightforward to control every aspect of online sales. Unlike other systems, HVST will directly allow inventory management and purchases to be made, as well as show market analytics and manage customers. By the end of 2021 year, we hope to cover roughly 25% of market shares between similar products.

2.4 Alternates and Competition

There are a few other software alternatives already in place that offer similar features such as “Fishbowl Inventory Manufacturing Software”, “NetSuite Software”, and “Lead Commerce Software”.

3 Stakeholder Descriptions

3.1 Market Demographics

Due to High Velocity Clothing(HVC) already being an established clothing company, the demographic for our system will be any of the current customer base for HVC (ages 18-50 in the US). However, due to creating an online presence this may lower the age of our average user in our demographics as the tendency for online shopping increases among younger individuals worldwide(16-25).

3.2 Non-User Summary

3.2.1 Company CFO

The Company CFO has interest in the sales analytics and sales data from our system to analyze sales data and determine profitability.

3.2.2 Offices in Charge of State Tax Authorities

As an e-commerce-based system, state tax authorities are a stakeholder in our system as they will want their share of sales taxes for each sale made.

3.3 User Summary

3.3.1 System Administrator

The system administrator is a key component in ensuring that our system stays safe in a security manner. The system administrator oversees the user groups, user login information and authorization level. If any values are incorrect within these sections it could be detrimental to the privacy of our customers as well as the integrity of our on hand data.

3.3.2 Manager

The manager is in charge of monitoring on hand inventory and keeping inventory quantity up to date. If inventory is low the manger needs to be able to purchase more products in order to replenish our inventory. The manager also needs to be able to modify customer information in case of any events of address changes or wrongfully inputted information.

3.3.3 Sales Representative

A sales representative’s primary purpose within HVST is to generate sales and invoices for any wholesale customers. Sales representatives need to be able to access customer information and view inventory so that they can correctly generate the sales and invoices required in order to facilitate our wholesale customers.

3.3.4 Customer

The customer is a key user of our system. The customer will use HVST to make purchases of products that are in our inventory and make payments so that their orders will be shipped to them in a timely manner. The customer seems to have a streamlined process in which they can view the on-hand inventory, view their past purchases for their records, and make new purchases.

3.4 Key High-Level Goals and Problems of Stakeholders

Stakeholder	High-Level Goal	Priority	Issues / Problems	Interests / Solutions
Company CFO	Increase Sales and Market Reach	High	Brick and mortar storefronts do not reach a large enough audience	Ensure the application provides an avenue for market growth.
State Tax Authorities	Collect tax revenue	High	Incorrect tax amounts and taxes paid to incorrect states	Ensure the correct taxes are applied to each sale and reported to the correct state.
Systems Administrator	Increase efficiency to control users within the network	Low	User groups need to be easily controlled and maintained	Allow user groups to be edited from a centralized location.
Manager	Increase efficiency of inventory, purchase orders, and sales	Medium	Inventory needs to be updated regularly. Purchase orders need to be made and then verified. Sales need to be tracked and correct.	Allow inventory to be managed from a centralized location. Make purchase orders a double verified function. Ensure sales are easily sorted and tracked.
Sales Representative	Increase efficiency of sales and customer management	Medium	Customer information needs to be easily accessed. Sales should be made quickly and correctly.	Ensure customer information is easily searchable. Allow sales to be made efficiently and only use updated inventory.
Customer	Increase ease of access to company products	High	Products should be easy to find and simple to purchase.	Ensure user access is simple and easily searchable.

3.5 User-level Goals

3.5.1 Tier 4: System Administrator

- The System Administrator would like to change usernames and passwords so that usernames and passwords may not be easily or accidentally changed by other users of the system.
- The System Administrator would like to modify authorization values so that system users will have opportunity to have their authorization values be dynamic, if needed.

3.5.2 Tier 3: Manager

- The manager would like access to customer information to assist with customer error or changes.
- The manager would like to access all purchases made in order to be able to assist with item orders and company statistics and trends.
- The manager would like to make a purchase order for product replenishment to ensure proper stock of all items.

3.5.3 Tier 2: Sales Representative

- The sales representative would like to access customer information to better assist customer sales in shipment and payment.
- The sales representative would like to generate invoices and purchases for customer and store records.
- The sales representative would like to access on-hand and out of stock inventory to properly inform customers for sales.
- The sales representative would like to access purchase history for individual customers to view trends.

3.5.4 Tier 1: Customer

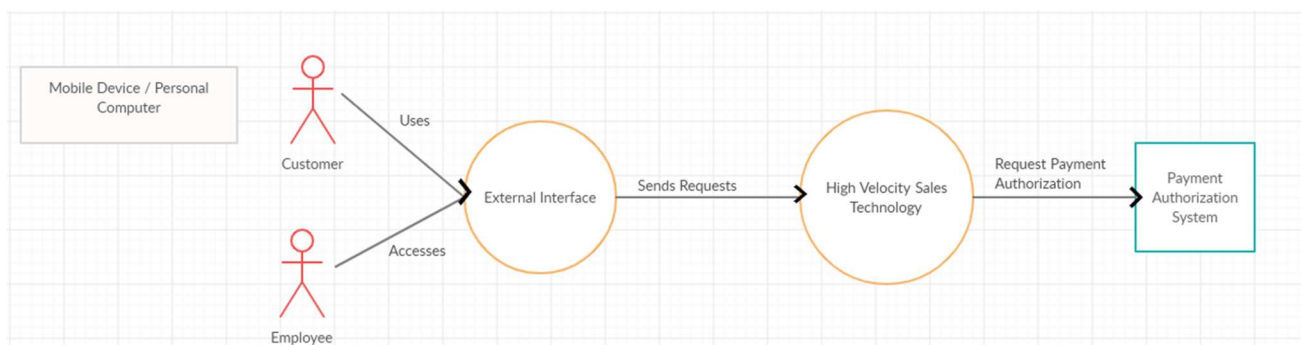
- The customer would like to access purchase history.
- The customer would like to purchase products.
- The customer would like to access store inventory to view in-stock items.

4 Product Overview

4.1 Product Perspective

Customers and employees would use an external interface to connect to the High Velocity Sales Technology system. This interface displays the interface that is returned by the system in a manner that is readable to the users. Any time a user makes a request to the external interface it directly sends a request to our system which our system would then respond to. HVST provides services to users and collaborates with the other systems as listed below in the system context diagram.

4.2 System context diagram showing Primary and Supporting Actors



5 Summary of Benefits

Supporting Feature	Stakeholder Benefit
Functionality, the system will provide a network facing portal for employees and customers to better access products	-Customer and employee ease of access -Managers gain more efficient employee's and work environment
Functionality, the system will centralize employee tasks, management tasks, as well as IT tasks.	-Employee/Manager no longer need to be on site to access work related tasks -Systems Admin can control user access from a central location
Increased access to the organizations products though the network facing interface.	-CFO will see an increase in sales that are performed internally. Sales will increase by roughly \$1 million over the next year. -Customers will have a better access point to our products

6 Summary of System Features

- External payment authorization (credit/debit).
- In-house sales processing when failure of external systems occurs (check).
- System administrator for users and security management.

- Real time transactions logged with sales information, tax calculated, inventory updated and payment authorization.
- Inventory/product management (add, edit, delete items).

7 Investment Summary

7.1 Cost Summary

The cost of the project as a whole will be \$1,000,000 for the development team, 3rd party contracts, and any technology upgrades the company will require.

7.2 Pricing Summary

The project will allow the company to control its own online facing storefront, rather than paying for another organization to develop, service, and maintain. Based on potential sales growth this project should pay for itself within the first year of launch. The product is projected to cost \$1 million. We project that the price point of our product will cost customers roughly \$8,000 for purchase of a full implementation. At a projected sale rate of between 170-180 purchases in the next year, we are projecting to make \$1.5 million, with a \$500,000 company profit.

7.3 Schedule Summary

7.3.1 Iteration Plan

Timeline (dates)	Phase / Iteration	Features & Use Cases Provided	Constraints / Dependencies	Degree of Freedom / Alternatives
28 September	Inception	Vision and Business Case Documents Risk List & Risk Management Documents Use Case Model 3 fully dressed use cases General Domain Rules Glossary	Due to time constraints ensure that most important documents are completed first. Ensure that cases are within the purview of the overall project	Documentation only, in order to decide on a go or no-go for the project

Timeline (dates)	Phase / Iteration	Features & Use Cases Provided	Constraints / Dependencies	Degree of Freedom / Alternatives
1 November	Elaboration Phase 1	Manage User Groups Manage Customer Information Manage Inventory View Inventory Make a Purchase Make a Sale	User Groups and Customer information will be depended on by many of the following use cases Manage/View inventory will be depended on for sale	Users will need to be defined first and foremost Following users is inventory systems Following inventory is the purchase and sale systems
22 November	Elaboration Phase 2	Manage Supplier Information Make a Purchase Order View Purchase History	Supplier information will be a further distinction from customer information Purchase order is a more specialized sale using the supplier information Purchase history will require Customer information, sale information, and inventory information	Depending on completion status of all Elaboration Phase 1 features. Supplier information must be complete before purchase order. Purchase history can be completed at any time

8 Assumptions and Dependencies

- The purchasing organization/customer has an internal database for inventory, sales, customer information.
- We assume that the purchasing organization/customer has a point of sale (POS) system that interfaces with the system.
- We depend on the 3rd party authorization for credit card sales.
- For tax purposes, orders through the system can only be made to US based customers.

9 Go / No-Go Decision

Based on the information provided in this vision and business case we are recommending that we move forward with the implementation of the HVST as we believe it will increase the market share and bring in additional revenue for the company without incurring major costs that could not be overcome. The benefits and goals of the system would allow for an increase in revenue and would ultimately lead to the growth of our company.