**CS691 - Computer Science, Spring 2021**

**Project Initiation Document**

Project: Trox

Project Manager: Saurabh Rai

Start Date: February 14, 2022

Completion Date:

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Document Details

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|  |  |  |  |

Approvals

This document requires the following approvals:

| Name | Role | Signature | Date | Version |
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Distribution

This document has been distributed to:

| Name | Role | Date of Issue | Version |
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# Document Purpose (assigned to Saurabh)

This document has been created to record the basic information needed to manage the project. The document will

describe the scope, objectives, tasks, roles and responsibilities, costs and deliverables related to Trox(e-commerce)

Web Application.

The PID dictates the following critical aspects:

· Details of the approach to be adopted for the implementation of the Trox Web Application

Project.

· Details of the roles and responsibilities.

· Description of functions and activities.

· Explanation of the processes.

· Details of the communication plan between team members and with the stakeholders.

· Quality records, risks, project controls and exceptions.

The sections of this document are dynamic and could potentially change over the lifetime of the project. The

changes will be recorded in the PID document. The PID will be referred each time when a major decision is taken

about the project. Also, the PID document will be used at the end of the project to measure whether the project was

managed successfully or not and weather all deliverables were produced in timely manner or not

# Background to the Proposed Work (assigned to Saurabh)

Trox (Ecommerce) website offers business a whole range of opportunities, from marketing opportunities to increasing your product ranges to generating more sales and with an optimized and well developed website you can not only achieve these goals but also offer your customers a round the clock, convenient service that can boost your business. Every customer can buy/sell their products without any middleMan, So that transaction will be transparent.

“Trox” is a business-to-consumer (websites such as Amazon), and consumer-to-consumer(websites such as ebay).

Through “Trox” website we can achieve so many things such as:

### MORE CONVENIENT

An online store is available all day, every day meaning your customers can visit your store at all times, no matter what their schedule might be. These days people don’t always have the time to physically go shopping, instead more and more people are choosing to shop online to find the items they want or need and if your business can offer this for your customers there’s no you shouldn’t appeal to a wider range of customers all looking for a convenient and flexible experience.

### INCREASE YOUR REACH

Due to the internet’s accessibility, millions of people across the world can view your website at any time, meaning that for those looking to expand their businesses and reach out to a larger audience, you have many more opportunities to do so. Compare the amount of people you can reach through a website to the amount you can reach through a high street store or local advertising, there’s no reason you shouldn’t look at taking your business online if you’re looking to improve your reach.

### GIVES YOU MARKETING OPPORTUNITIES

Your website is one of the best marketing tools your business has, not only can the use of SEO when building your site lead to more chances of your business getting found in search engines, but a huge number of marketing techniques can also work alongside your website, including pay per click advertising, your social media marketing and your email marketing, all of which can include links back to your website.

### SCALABLE

As your business grows it’s very likely you’ll want to grow your product range and your target audience, as well as develop your business for customer requirements and consumer demand. An ecommerce site lets you scale your business accordingly, allowing you to add more lines, add more payment options and even grow when you choose to ship to, without having to worry about changing your location or moving to a larger premises like you might with a brick and mortar store.

# Vision(Assigned to Ankit)

We plan to provide products and services to customers directly from the vendors or other customers, eliminating the need of middlemen. The main goal we are trying to achieve from this project is to offer a variety of products at a wide range of prices, by letting the customers buy new, used products from vendors/ other customers.

# Project Objectives(Assigned to Ankit)

This section includes how the purpose of the project breaks down into individual objectives and the specific, measurable results expected upon project completion.

Objectives in this section need to be outlined in a way that will enable them to measure the success of the project.

Objectives of the project:

**Requirement analysis**: The first objective is to collect data about the resources, information and partners required/involved in developing the website.

At the end of this objective, our team will have all the necessary information required for the development of the website

**Design process**: Here we allocate the resources to hardware and software based on the specifications/ requirements we collected in the requirement analysis step.

This process will help us to deliver a system architecture that is a prototype design of how “Trox” would function and look like. Here we can specify how the website would show the products, how the products are bought or sold, how a customer would approach for support purposes etc..

**Coding**: Based on the architecture derived from the design process, the coding of the website would take place. Coding will be performed unit wise i.e firstly the database would be connected to the website , then the home page would be designed and so on.

At the end of this phase, a basic website with basic functionality would be delivered

**Testing**: In this phase, each unit of the code would be tested where each unit would have to pass through a set of test cases.

At the end of this step, a bug and error free website can be seen to be functioning..

# Project Scope (Assigned to Nihal)

This section will define the scope of the project, including:

Our E-commerce website offers buying/selling products hassle free from one customer to another.

Features :

* User registration and login function using email ID/Phone number
* Products search option using text search or image search
* Bidding of products.
* Security payment process.
* delivery of products through third party logistics such as USPS.
* User will be provided with email confirmation once he buys a product from seller
* Seller ratings will be available for sellers.

Technical :

* Apply the best UI/UX for hassle free buying /selling process for the customers.
* Using a reliable cloud based database
* install required software.
* Ensuring all team members have required skills to perform their duties.
* Using the necessary SDLC.
* Using targeted Advertising concept for greater profits.

# Business Case

This section will justify the project so the board can then decide if it gets to go ahead. Benefits should be quantified and balanced against the cost and timing being estimated during the creation of the project plan.

Large projects may summarize and include a link to the full business case.

*Business Case :*

| **Application Name** | Trox(E-commerce) |
| --- | --- |
| **Type of business model** | **Advertising** (display and make money from ads), **Brokerage** ( charge transaction fees), **Subscription** (have paid contracts (accounts) with Vendors), **Freemium** (Customers will have free accounts). |
| **Target audience of external users**  **(Customer Segments)** | For whom are we creating value?  Customers looking to find a good deal on products from direct vendors /Brand and customers who want to sell their product.  Who are our most important customers?  Everyone – buyer/sellers(Anyone can buy and sell product on website) |
| **Groups of internal stakeholders, business users** | *Indicate who will be using the system.*  Do we need a product development group?  Yes  Do we need a sales group?  No  Do we need a finance group (accounts payable, receivable)?  No  Do we need a customer support team?  Yes  Do we need an advertising management group?  Yes – (Google ads) |
| **Value propositions** | What value do we deliver to the customer?  Offering products from direct vendors and sellers at a better deal for customers.  Which one of our customer’s problems are we helping to solve?  Customers who are paying extra(3rd party) and hidden fees for the products.  What bundles of products and services are we offering to each Customer Segment?  Customer who wants to buy used Products from a direct seller.  Customers who want to buy new products from Vendors and Brands.  Every range of products are offered on the website.  Which customer needs are we satisfying?  Customer who wants to buy a variety of products at a wide range of prices. |
| **Key resources** | What Key Resources do our Value Propositions require?  Customers, Sellers, Vendors, Website, Products, IT support  Our Distribution Channels?  Web Browser  Customer Relationships?  24/7 Customer support number/automated bot, Product review, Feedbacks  Revenue Streams?  ads, Transaction fees % of sale, On board Venders. |
| **How the system is used** | What are the main business use scenarios?   * Customers can buy products, bid on products, and sell products(Brand, Vendors also) on websites. * Customers and sellers will get notification through email after any sale or purchase. * Customer - Search product - Find ideal product/pricing- Add to cart/ Bid on Product - Vendor notified of sale. * Seller – sign up, upload product, price product, deliver upon sale * Customers can add reviews to the products. * For Delivery we will be using Delivery services offered by companies like UPS, UPPS, FedEx, etc. |
| **Revenue generation, Revenue streams** | ads, Transaction fees % of sale, On board Venders. |
| **Key Partners/Suppliers**  **(Stakeholders)** | Buyers, sellers, vendors, PayPal, Credit Card vendors |
| **Expected Benefits** | Ease of purchasing product, saving money, no hidden fees, customer to customer/ Vendors |
| **Known Prototypes** | Reference some known portals on the Internet that are similar to your business case. You will use these prototypes for developing business, user requirements.  EBay, Poshmark, DePop, Amazon, Facebook Marketplace |
| **Front-end Technology** | Indicate what technology will be used to develop the front-end of your application.  React, React Material, React Native for Mobile apps |
| **Back-end, Database Technology** | Indicate what technology will be used to develop the back-end, database of your application. The database should be relational.  NodeJS, MySQL, Azure/GCP(cloud) |

# Assumptions

This section will include assumptions made before the requirements specifications have been documented. It may look something like this:

| Assumption | Validated by | Status | Comments |
| --- | --- | --- | --- |
| The development team would be available from development to support | Saurabh rai | Open |  |
| Ads will be generated across the page | Saurabh rai | Open |  |
| Best fares would be provided to the customer | Saurabh rai | Open |  |
| Discounts and sales would be included | Saurabh rai | Open |  |
| Fundraiser for the project | Saurabh rai | Open |  |
| All key [project team](https://www.inloox.com/project-management-glossary/project-team/) members are available and have the necessary skills and knowledge to work on the project | Saurabh rai | Open |  |
| Estimated cost of the project | Saurabh rai | Open |  |
| Correct number of handheld devices arrive on target delivery date with no delays | Saurabh rai | Open |  |
| Project delivery estimated time | Saurabh rai | Open |  |
| Impact of the new features in the market | Saurabh rai | Open |  |

# Constraints (Assigned to Viktorija)

-Each team member in this group is a full time student also working long work hours. A large constraint will be collaborating and finding time for everyone to work together as a team. Due to the hectic work days, team members will need to be able to find these meeting times when adequate knowledge exchange and heavy productivity occurs. Each and every group member must be present to get the most out of these meetings and so we each fully understand the scope.

-Missing group members and lack of other members' knowledge of this person’s specific deliverables.

-Throughout a Waterfall methodology, we must ensure that each deliverable is strictly met before we can proceed to the next sprint. If a deadline is not met, we must work diligently and overtime to ensure it is met to proceed to the next step.

-Our requirements must be followed and completed based on outlined information as discussed in pre-project planning meetings. If these requirements were to change, we must agree as a group and properly document.

# Risk Management Strategy (Assigned to Ankit)

Risk management planning is the process to review potential risks to the project. The planning includes various steps such as setting the objectives, risk identification, risk assessment, risk analysis, risk tolerance and risk mitigation.

Set the objectives:

The team members should review the business objectives and any outsourcing done by the organization

Risk identification:

It involves reviewing the digital assets such as systems, networks, software, devices, vendors, and data. Cataloging these assets then allows the team members to identify risks to the assets.

Risk assessment:

After identifying risks, the risk management team needs to assess the risk. Positive risks, such as early product delivery, can also lead to negative risks, such as a customer’s inability to meet a payment schedule. The organization needs to foresee risks in order to find a way to analyze their potential impact.

Risk analysis:

The team will analyze the likelihood of the event and measure the impact of the risk on the organization. Multiplying likelihood by the estimated impact can give insight into a risk’s effect.

Risk Tolerance:

After assigning risk ratings, the team works to determine whether it will accept, transfer, mitigate, or refuse a risk.

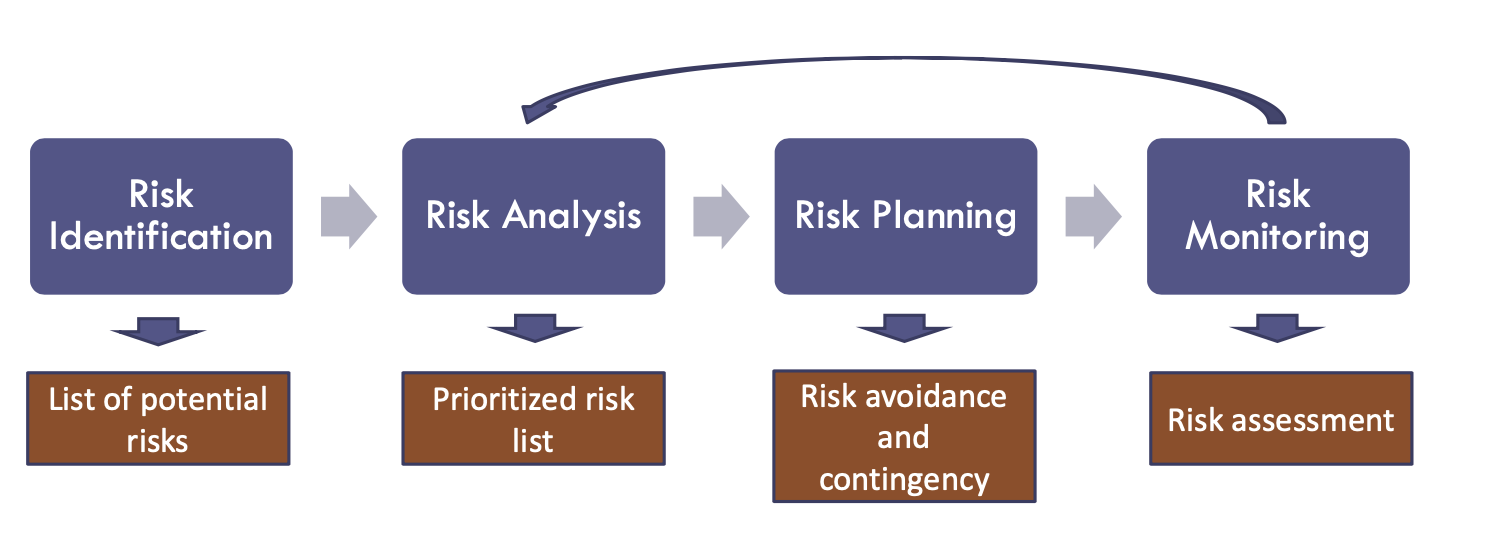
Risk mitigate:

Here, the team takes the necessary actions to make sure that such events won’t take place in the future. For every risk that an organization accepts or transfers, it needs to define responses to issues that can occur.

This section will include the risk mitigation and management techniques and strategies that will be applied to the project. This may be presented in the following format:

| Risk | Probability | Impact | Mitigation Method |
| --- | --- | --- | --- |
| Aligning the team at productive times | High | High | Coordinate calendar schedules for each member and find weekly times to meet and stick to it. |
| Missing a group member(s) | High | High | Each group member should understand each other’s role. |
| Not meeting business requirements | Low | Medium | Requirements can change as the tech world changes, and consumer demand changes. |
| Timeline not followed | Medium | High | In Waterfall, timelines must be followed very closely in order to proceed to the next step. You MUST complete each sprint. |

The below chart outlines the entire risk management framework – identify the problem with its risks and WHO will assist in fixing the risk; analyzing the risk with priorities (critical, high, medium, low) and understanding which risks need to be tackled first; risk planning which is like a response plan for the risk; and lastly, there is monitoring which is where the PM must continually monitor the status of the risk. This very simple risk management process should allow for the team to understand, review, solve and keep these risks under control.

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# Deliverables (assigned to Kunxi)

This section should include the main deliverables and outcomes the project is expected to achieve. It may be presented in the following format (see the project delivery schedule on Blackboard):

| No | Artifact Name | Responsible Party |
| --- | --- | --- |
| 1 | Project Plan | PM |
| 2 | PID Document | PM |
| 3 | BRM Diagram; User Roles | Product Owner |
| 4 | Context Diagram; System Interface Table | Lead BA |
| 5 | Architecture Diagrams (Logical, Process views) | Leard Dev/ DBA |
| 6 | Business Requirements | Product Owner |
| 7 | RCT (includes func. decomp., suppl. reqs) | Lead BA |
| 8 | Use-Case Diagrams (UML) | Lead BA |
| 9 | Activity Diagram (UML) | Lead BA |
| 10 | Data-flow Diagrams (logical, physical) | Lead BA |
| 11 | Functionarl Requirements (user stories) | Lead BA |
| 12 | Class Diagrams | Lead Dev |
| 13 | Sequence Diagrams | Lead Dev |
| 14 | ER Diagrams (conceptual, logical) | DBA |
| 15 | Table Specifications (Data Dictionary) | DBA |
| 16 | Source Code sample (part of Demo) + GitHub repository slides (images) | Lead Dev |
| 17 | Test Plan document | Lead QA |
| 18 | Application Demo, Presentation PowerPoint | All |

Take a list of deliverables from the Project Delivery Schedule excel document.

# Stakeholders (assigned to Kunxi)

*Project Stakeholder – the party who is involved in or affected by your project.*

This section will include a list of all known stakeholders and their interests in the project. It may be presented in the following format:

*Include Internal stakeholders (your company business users) and External stakeholders (partners, banks, credit card vendors, etc.). Note, your project team members are not considered stakeholders.*

| Stakeholder | Interest |
| --- | --- |
| Buyers | Users who are buying products from our application |
| Sellers | Users who are selling products from out application |
| Vendors | Sell and provide product to the consumer/buyer |
| Financial Intermediaries | Provide payment services between users |
| Express Carriers | Service providers that enture door-to-door transport from vendor to buyer |

# Project Team (Assigned to Saurabh)

The project team includes the following roles

● Project Manager

● Product Owner

● Lead Developer

● Business Analyst

● QA Lead

● DBA

|  |  | **Project Roles** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Phase** | **Project Tasks** | Project Manager | Product Owner | Dev Lead | Developer | BA Lead | Business Analyst | QA Lead | Tester | DBA |
| Project Management | Develop a project plan | A,R | C | C | I | C | I | C | I | I |
| Provide cost estimate | A,R | C | I | I | C | I | C | I | I |
| Hire resources | A,R | C | R | I | I | I | R | I | C |
| Establish a project documentation portal | A,R | I | C | C | I | I | R | I | I |
| Maintain a project risk and issue log | A,R | I | C | C | C | I | C | I | C |
| Provide project status reports | A | I | R | C | I | I | R | I | I |
| Requirements | Perform requirements analysts | A | C | C | C | R | R | I | C | I |
| Gather business requirements | A | R | I | C | R | C | I | I | I |
| Produce functional requirements | A | C | C | C | R | R | I | I | I |
| Design | Produce high-level design specs | A | I | R | C | I | C | I | I | C |
| Produce data model | A | I | R | I | I | C | I | I | R |
| Produce detailed design specs | A | I | R | I | I | C | I | I | C |
| Coding | Establish a code repository (GitHub) | A | I | R | R | C | I | I | I | C |
| Develop component code | A | I | R | R | I | I | I | I | I |
| Testing | Develop a test plan | A | C | C | C | C | I | R | I | C |
| Establish a test repository | A | I | C | C | I | I | R | I | C |
| Develop test specifications | A | I | I | C | I | I | R | R | I |
| Execute testing, report defects | A | C | I | C | C | I | C | R | I |
| Conduct defect review calls | A | C | C | C | I | I | R | C | I |
| Produce, deliver defect metrics | A | C | C | I | I | I | R | R | I |
| Support test environments | A | I | R | C | I | I | C | C | R |
| Deployment | Produce a deployment plan | A | I | R | I | I | I | C | I | R |
| Produce deployment procedures | A | I | R | I | I | I | I | I | R |
| Deploy software into production | A | I | R | I | I | I | I | I | R |

# Project Plan (Assigned to Saurabh)

The project will follow Agile project management methodology. The project will use SCRUM as the development process. The Product Owner will mainly be responsible for product management and product quality. The Lead BA will act as Scrum Master.

There will be a few SCRUM Sprints. Each Sprint will last two weeks. Sprint will start with a Sprint Planning Meeting and will end with a Sprint Retrospective meeting. Besides Sprint Planning Meeting and Sprint Retrospective meeting, there will also be a ten to fifteen minutes Sprint Review Meeting every week. Development tool that will be used to supplement SCRUM is Google Sheets. The Agile board will be created in Google Sheets.

URL to our Agile Board:[1. Project Plan.xlsx](https://docs.google.com/spreadsheets/d/1ORR6z7mve0Mv-3gXYnB6fWpiiJPjaacX/edit?usp=sharing&ouid=110074351772125606275&rtpof=true&sd=true)

Milestones:

MS1: Initial Project Plan (02/21/2022)

MS2: Requirements Completed (03/06/2022)

MS3: Design Completed (04/03/2022)

MS4: Coding Completed (04/10/2022)

MS5: Testing Completed (04/17/2022)

MS6: Project Presentation (05/08/2022)

# Project Controls (Assigned to Nihar)

The project’s official language will be English. Official meetings will be conducted in English. All project documentation and presentation will be in English as well.

The project manager will plan two weekly meetings. Each team member is assigned work that must be accomplished at the end of each week.

If a member is unable to attend the meeting, the management should defer it to a further date or hold it online using Zoom/Skype/Google Hangouts. The majority of asynchronous communication will take place via Zoom for business.

During the session, important themes and subjects will be covered. Final choices will be taken by the conclusion of meetings, taking everyone’s input into consideration.

The project manager will keep weekly meeting minutes, which will detail the status of the project phases. The manager will also keep track of deadlines and verify that everyone is performing their duties correctly.

Slack and Google Drive will be utilized by the manager to keep every member updated on critical information and to share documents.

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# Communication Plan (Assigned to Nihar)

| Stakeholder | Frequency | Type | Purpose |
| --- | --- | --- | --- |
| Professor | Key stages- meetings and deliverable drafts | Email/Slack | To provide final approval to the project’s implementation and direction. Provide necessary insights to rectify potential issues. |
| Project Manager | Daily | Email, skype/zoom for business, personal meetings, phone | To discuss the team's working progress, estimations, requirement prioritization, and roles and duties. To address any difficulties with team members' communication or issues concerning team members. |
| Project Team | Daily | Email, Skype/Zoom for business, personal meetings | To discuss the status of work, new requirements, mission or inaccurate requirements, flaws and their remedies, and possible concerns. |
| End Users | Possibly both during the testing period and after the release. | Email, online testing session | To obtain feedbacks |
| Quality Management Team | Daily | Email, Skype/Zoom for business | To guarantee that all important procedures are appropriately implemented. |