### **We need to prepare our project in this order.**

✅ **1. Project Charter** → Defines overall project scope  
✅ **2. Functional Requirements** → Describes system features  
✅ **3. Non-Functional Requirements** → Specifies system performance & constraints  
✅ **4. Use Case** → Identifies system interactions  
✅ **5. Use Case Document** → Provides detailed step-by-step process  
✅ **6. Test Case** → Verifies system functionality

**Functional and Non-Functional Requirements for Baby Goods Exchange**

* **Functional Requirements (What the system must do)**

1. User Registration & Login – Users should be able to sign up and log in securely.
2. Product Listing – Sellers must be able to upload product details, including images, descriptions, and prices.
3. Search & Filters – Users should be able to search for products using filters like category, price, and location.
4. Buy & Sell Transactions – The platform should support secure buying, selling, and product exchanges.
5. Messaging System – Buyers and sellers should be able to communicate within the platform.
6. Payment Integration – Secure payment gateways should be available for transactions.
7. Review & Ratings – Users should be able to leave feedback and rate buyers/sellers.
8. Product Safety Guidelines – The system should enforce rules for listing only safe and approved baby products.
9. Order Tracking & Notifications – Users should receive updates on their transactions via email or app notifications.
10. Admin Dashboard – Administrators should be able to manage users, products, and reported issues.

* **Non-Functional Requirements (How the system should perform)**

1. Security – User data and transactions must be encrypted and protected from fraud.
2. Scalability – The platform should handle a growing number of users and product listings.
3. Performance – Pages should load within 3 seconds for a smooth user experience.
4. Reliability – The system should have 99.9% uptime to ensure availability.
5. Usability – The interface should be easy to navigate for users of all technical levels.
6. Cross-Platform Compatibility – The system should work on desktop, mobile, and tablet devices.
7. Regulatory Compliance – The platform should follow consumer safety laws for second-hand baby items.
8. Backup & Recovery – The system should automatically back up data to prevent loss.
9. Accessibility – The website should meet WCAG standards (Web Content Accessibility Guidelines) to support users with disabilities.
10. Maintainability – The system should be easy to update and improve without major downtime.

* **User Story**

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|  | User Story | Acceptance Criteria |
| 1. | As a parent, I want to search for second-hand baby items so that I can find affordable baby products. | The search bar allows keyword-based searches like: Filters for price, category, and condition are available. |
| 2. | As a parent, I want to view item details so that I can check the product’s condition before purchasing. | Product details page displays images, descriptions, and seller information. |
| 3. | As a buyer, I want to securely pay for a product so that I can complete my purchase safely. | Payment gateway processes transactions securely. Users receive confirmation after payment. |
| 4. | As a buyer, I want to contact the seller via chat so that I can ask questions about the product. | Chat feature allows real-time messaging between buyers and sellers. |
| 5. | As a seller, I want to list my baby items for sale so that I can declutter and earn money | Sellers can upload product images and descriptions.  Listings require admin approval before going live. |
| 6. | As a seller, I want to set a price or enable an exchange option so that I can sell or swap my items. | Users can choose between selling or exchanging an item.  Prices can be adjusted before finalizing a sale. |
| 7. | As a seller, I want to track my listed items so that I can manage my inventory. | A dashboard shows the status of active, sold, or expired listings. |
| 8. | As a buyer, I want to track my order status so that I know when my item will arrive. | Order tracking page displays order status (Pending, Shipped, Delivered). |
| 9. | As a seller, I want to receive notifications when my item is sold so that I can arrange for delivery. | Notifications appear for successful sales via app or email. |
| 10. | As a buyer, I want to select a delivery or pickup option so that I can choose the most convenient way to receive my item. | Users can select from available delivery methods or schedule a pickup. |
| 11. | As a delivery agent, I want to access pickup and drop-off locations so that I can ensure smooth and timely deliveries. | The system provides delivery address details to assigned agents. |
| 12. | As a delivery agent, I want to update the order status so that buyers and sellers are informed about shipments. | Status updates include "Picked up," "In transit," and "Delivered." |
| 13. | As a buyer, I want to check seller ratings and reviews so that I can make informed purchase decisions. | Users can rate sellers and leave feedback after a transaction. |
| 14. | As a community moderator, I want to monitor user interactions so that I can prevent scams and maintain platform credibility. | A reporting system allows users to flag suspicious listings. |
| 15. | As an admin, I want to verify and approve listings so that only quality products are available on the platform. | Admin dashboard includes product approval workflows. |
| 16. | As an admin, I want to remove inappropriate listings so that the platform remains credible. | Listings violating terms of service can be reported and removed. |
| 17. | As a business owner, I want to track platform engagement so that I can make data-driven improvements. | Analytics dashboard provides insights on active users and transactions. |
| 18. | As an advertiser, I want to promote baby brands or eco-friendly products so that I can reach target customers effectively. | The platform supports sponsored ads and featured listings. |
| 19. | As a developer, I want to optimize app performance so that users have a smooth experience. | The app loads within 3 seconds and performs well under traffic. |
| 20. | As a buyer, I want to save items to my Wishlist so that I can easily find and purchase them later. | Users can add or remove items from their Wishlist.  Wishlist items are accessible from the user’s profile. |

* **Use Case Document**

Detailed Use Case -1

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| Name | Listing a Baby Product for Sale | |
| Unique ID | UC-1 | |
| Primary Actor | Seller (Parent who wants to sell a product) | |
| Secondary Actor | System, Admin | |
| Brief Description | This use case allows a seller to list a baby product for sale on the platform by entering details, uploading images, and submitting the product for approval. The system validates the details, and an admin reviews the listing before it becomes visible to buyers. | |
| Priority | High (Since, this is a core functionality of the platform, enabling product listings.) | |
| Frequency | Medium (Seller may list a product as needed, depending on availability.) | |
| Trigger | Add Product (Seller will use this button to list their product) | |
| Pre-condition | The seller must be logged into their verified account. | |
| Post Condition | The product is listed and available for buyers to view and purchase. | |
| **Happy Path** | **User Flow** | **System Response** |
| **Alternative Path** | 1. Seller selects “Add Product” option | System displays product listing form. |
| 1. Seller enters product details (title, description, price, condition, images, category). | System validates the input fields. |
| 1. Seller submits the listing. | System stores the product as “Pending Approval.” |
| 1. Admin reviews the listing. | System allows admin to approve or reject the product. |
| 1. Admin approves the product. | System publishes the product as Active and visible buyers. |
| 1. Seller gets a notification | System informs the seller that their product is now live. |
| **User Flow** | **System Response** |
| 1. User leaves some fields empty. | System displays an error message and asks for missing details. |
| 1. Admin rejects the listing due to policy violation | System notifies the seller with feedback for revision. |
| 1. Seller modifies and resubmits the listing | System moves it back to “Pending Approval.” |
| 1. If seller doesn’t modify in time, listing is automatically removed. | System sends a final reminder before deletion. |

**Use Case - 2**

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| Name | Purchasing a Baby Product | |
| Unique ID | UC-2 | |
| Primary Actor | Buyer (The main user who interacts with the system to purchase a product.) | |
| Secondary Actor | System, Payment Gateway | |
| Brief Description | This use case allows a buyer to search for, select, and purchase a baby product. The buyer enters shipping details, makes a payment, and receives confirmation. The seller then ships the item, and the buyer confirms receipt. | |
| Priority | High – This is a critical feature for facilitating transactions on the platform. | |
| Frequency | Frequent – Buyers may purchase products multiple times based on needs. | |
| Trigger | Buy Now- Buyer finds needed product and clicks this button | |
| Pre-condition | The buyer must be logged in and product must be available. | |
| Post Condition | The transaction is completed successfully or refunded if issues arise. | |
| **Happy Path** | **User Flow** | **System Response** |
|  | 1. Buyer searches for baby products. | System displays available items. |
|  | 1. Buyer selects a product and clicks "Buy Now." | System shows product details and checkout page |
|  | 1. Buyer enters shipping details and selects a payment method. | System verifies the information. |
|  | 1. Buyer confirms the purchase and makes payment. | System processes payment via a secure payment gateway. |
|  | 1. System confirms payment success. | Order status updates to “processing and seller gets a notification. |
| **Alternative Path** | **User Flow** | **System Response** |
|  | 1. Buyer selects a product that is already sold out. | System displays an "Out of Stock" message and prevents checkout. |
|  | 1. Buyer’s payment fails. | System notifies the buyer and allows them to retry with another payment method. |
|  | 1. Seller cancels the order due to unavailability. | System refunds the buyer and updates order status as "Cancelled." |
|  | 1. Buyer receives a damaged product. | System allows buyer to raise a dispute and request a refund. |