

Bird Transportation System
Hệ thống vận chuyển chim cảnh

Software Requirement Specification

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I. Introduction

1. Product Background

People who are starting to explore the hobby of keeping ornamental birds or those who have been doing it for a long time often spend around 1-2 hours traveling to the place where they can buy birds. They typically choose a location within their province or city for convenience in terms of purchasing. They usually gather information about different bird species from friends or internet sources to select the specific species they want to keep. However, sometimes due to limited knowledge, they are unable to find a store that supplies that particular bird species, or the store they visit may be out of stock. In cases where there are stores available, they might be too far away for them to reach. Additionally, weather conditions such as extreme heat or rain can also pose challenges when they go out to make a purchase. As a result, they end up wasting a lot of time searching for a store and traveling there without being able to find what they desired.

2. Business Opportunity :

The Bird Transportation System is poised to capitalize on the emerging market of last-mile logistics and on-demand delivery services. The following key aspects highlight the business opportunity it presents:

1. Increasing Demand for Delivery Services: The rapid growth of e-commerce and the changing consumer behavior towards online shopping have created a high demand for efficient and timely delivery services. Customers now expect fast and convenient delivery options for their purchases, making innovative last-mile logistics solutions crucial. The Bird Transportation System can meet this demand by leveraging its existing infrastructure and expertise to provide a unique and efficient delivery service.

2.Harnessing Technological Advancements: By embracing technological advancements, the Bird Transportation System can enhance its delivery operations. Integrating a user-friendly mobile application allows customers to easily place delivery orders, track their packages in real-time, and receive notifications. Furthermore, utilizing GPS and route optimization algorithms can optimize delivery routes, improve efficiency, and reduce delivery times. With these technological capabilities, Bird Transportation System can deliver a seamless and convenient experience for businesses and end consumers.

3.By capitalizing on the growing demand for delivery services and leveraging technological advancements, the Bird Transportation System is well-positioned to seize the business opportunity in the market of transporting ornamental birds.

3. Software Product Vision

Customers who want to order domestic or international bird transportation online, the system will confirm the order and process the payment, then handle the most reasonable and safest shipping for the order. Give customers the best new experience when ordering shipping on the online system. With this great experience, customers will not be disappointed when receiving the goods, will solve and respond to customers as quickly as possible when there is a problem, there is an error in shipping and accept the customer to return the goods. When receiving the goods is not as expected.

4. Major Features

FE-01: Shipping information (Home, General information, Highlighted services, Fees, Contact...)

FE-02: Online consultation (Process, FAQs, Pricing consultation...)

FE-03: Account registration and shipping services

FE-04: Offers and discounts for registered customers

FE-05: Service information and list of birds from affiliated stores

FE-06: Customer notifications (Shipping information, Messages, Offers, Service changes...)

FE-07: Special prices for crates and bird cages

FE-08: Check and confirm bird information prior to shipping (Vaccinations, Health certificates)

FE-09: Pet health status updates during transportation

FE-10: Compliance with laws and relevant documentation

FE-11: Establish routing for shipping orders (Routes, Transportation modes: truck, train, airplane) with estimated transit times.

FE-12: Based on routing setup, display pricing for shipping orders and additional surcharges.

FE-13: Update specific times for each stop, bird health status

FE-14: Customer feedback on services

FE-15: Analysis of customer feedback (Transportation quality, Customer care...)

FE-16: Contact information (Address, Phone number, Email...)

5. Limitations and Exclusions

1. Some birds will not be provided if you are too far away because they are not healthy enough to go far.
2. Some rare birds are not on the sale list.

II. Overall Description

2.1. Product Overview

Birds Transport System is a new software system that makes it possible for birdwatchers to order birds wherever they are. The system is expected to evolve through multiple versions, eventually connecting to Internet ordering services that allow users to track the movement of birds and be able to pay in a variety of ways.

2.2 Business Process

#	Process Step	Description
1	Services consulting	<ul style="list-style-type: none">● Admin advice on service and pricing
2	Services selection	<ul style="list-style-type: none">● Customers view and choose the appropriate shipping service
3	Update order status	<ul style="list-style-type: none">● After consulting the customer does not agree, change the order<ul style="list-style-type: none">● Unit has changed●
4	Create order birds	<ul style="list-style-type: none">● Customer creates a bird shipping order
5	Confirm Orders and contact with customer	<ul style="list-style-type: none">● Admin confirms order information<ul style="list-style-type: none">● Calls to confirm with customers
6	Confirm the sender	<ul style="list-style-type: none">● Confirm the identity of the customer: gmail, name, phone number, address,....<ul style="list-style-type: none">● Confirm consignee's address (receipt time)

	information	
7	Cost delivery	<ul style="list-style-type: none"> ● - Calculate total shipping cost ● - Costs incurred
8	Check the valid licence at place (delivery)	<ul style="list-style-type: none"> ● - Ask customers to provide health documents of ornamental birds ● - Check the licence for medical examination and treatment for ornamental birds
9	Contact again with customers	<ul style="list-style-type: none"> ● If the document is invalid, notify the customer. Customers change
10	Set the roadmap	<ul style="list-style-type: none"> ● Set up the travel route: vehicles, routes, stops,
11	Send the details of the welding schedule	<ul style="list-style-type: none"> ● Send details about the route to the customer including: route, incurred costs, transport,....
12	Customer confirm	<ul style="list-style-type: none"> ● Customer view and confirm shipping route (yes or no)
13	Create a bird purchase order	<ul style="list-style-type: none"> ● Customer agrees ● Create a payment order
14	Create invoices	<ul style="list-style-type: none"> ● Create invoice ● Show sender and consignee name ● Order details ● Order ● Total cost ●
15	Cancel order	<ul style="list-style-type: none"> ● If the customer does not agree, they can cancel the order
16	Send payment	<ul style="list-style-type: none"> ● Send invoices to customers
17	Receive payment	<ul style="list-style-type: none"> ● Customers receive invoices and pay ● Customers choose a form of payment (bank, momo, money, ...)

18	Complete the order	<ul style="list-style-type: none"> ● Complete the order process
19	Send the order and reason	<ul style="list-style-type: none"> ● If the order is sent failed. Resend it next time with a reason.
20	Customer receive goods	<ul style="list-style-type: none"> ● The recipient receives the order and checks the order
21	Feedback services	<ul style="list-style-type: none"> ● Customers send feedback about shipping service

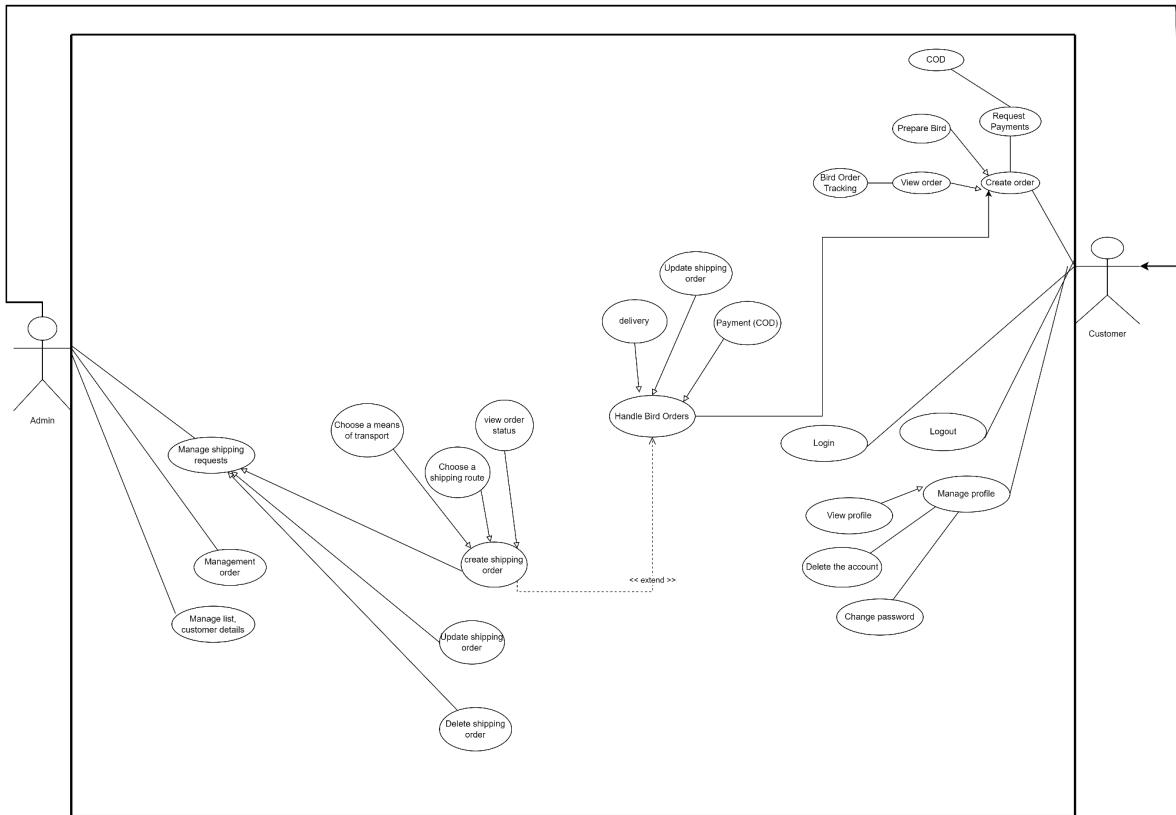
III. User Requirements

3.1. Actors

#	Actor	Description
1	Admin	One person is responsible for monitoring and managing the poultry transport system. They provide overall direction, assign work to employees, check reports and make decisions and ensure efficient operation of the system.
2	Customer	Individuals and organizations that request to provide bird transportation services. They interact with the system to schedule shipping, provide personal information and order needs to let the system do the job of shipping..

3.2. Use Cases

3.3 Diagram



3.4 Descriptions

ID and Name:	UC-02 Create Order		
Created By:	nguyetntmSE1617 88	Date Created:	6/6/2023
Primary Actor:	Customer	Secondary Actors:	Staff system
Description:	After the customer places a bird order, the system will create an order		
Trigger:	Customer indicated that he wanted to order a bird		
Preconditions:	PRE-1. Customer is logged into BST . PRE-2. Customers order birds.		

Postconditions:	POST-1. Bird order is stored in BST with a status of "Accepted". POST-2. Bird order was sent to Staff System
Normal Flow:	<ol style="list-style-type: none"> 1. Customers click on the order tab 2. The customer indicates the bird order is complete. 3. The system recognizes the order successfully 4. BST confirms order acceptance. 5. BST sends Customer an email confirming order details, price and delivery instructions.
Alternative Flows:	N/A
Exceptions:	<p>E1: Customer touches the "Order" button but the order fails because there is no Internet connection</p> <p>E2: Customer touches the "Order" button but the order fails due to insufficient number of birds</p> <p>E3: Customer edits purchase order</p> <p>E4: Customer cancels order</p>
Priority:	High
Frequency of Use:	Usually
Business Rules:	BR-01, BR-02,BR-11, BR-12, BR-33
Other Information:	<ol style="list-style-type: none"> 1. Customer shall be able to cancel the bird ordering process at any time prior to confirming it. 2. Customer shall be able to view all birds he ordered within the previous six months .

Assumptions:	Order has been confirmed
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3.4. Business Rules

ID	Rule Definition
BR-01	<p>User Registration:</p> <ul style="list-style-type: none"> a. Users must provide valid personal information during the registration process. b. Users must agree to the application's terms and conditions before registering. c. Users must create a secure password for their account.
BR-03:	Customers must pay within 3 days, if the order period exceeds the order will cancel itself.
BR-11:	Orders must be placed at least 24 hours in advance.
BR-12	<p>Safety and Compliance:</p> <ul style="list-style-type: none"> a. Service providers must comply with local regulations and laws related to bird transport. b. Birds must be transported safely, ensuring their health and comfort. c. Service providers must have the necessary licences and permits for bird transport.
BR-24	<p>User Feedback and Ratings:</p> <ul style="list-style-type: none"> a. Users can provide feedback and ratings for the services they receive. b. Feedback should be monitored, and appropriate actions should be taken in case of complaints. c. Ratings and reviews should be used to improve service quality.

BR-86

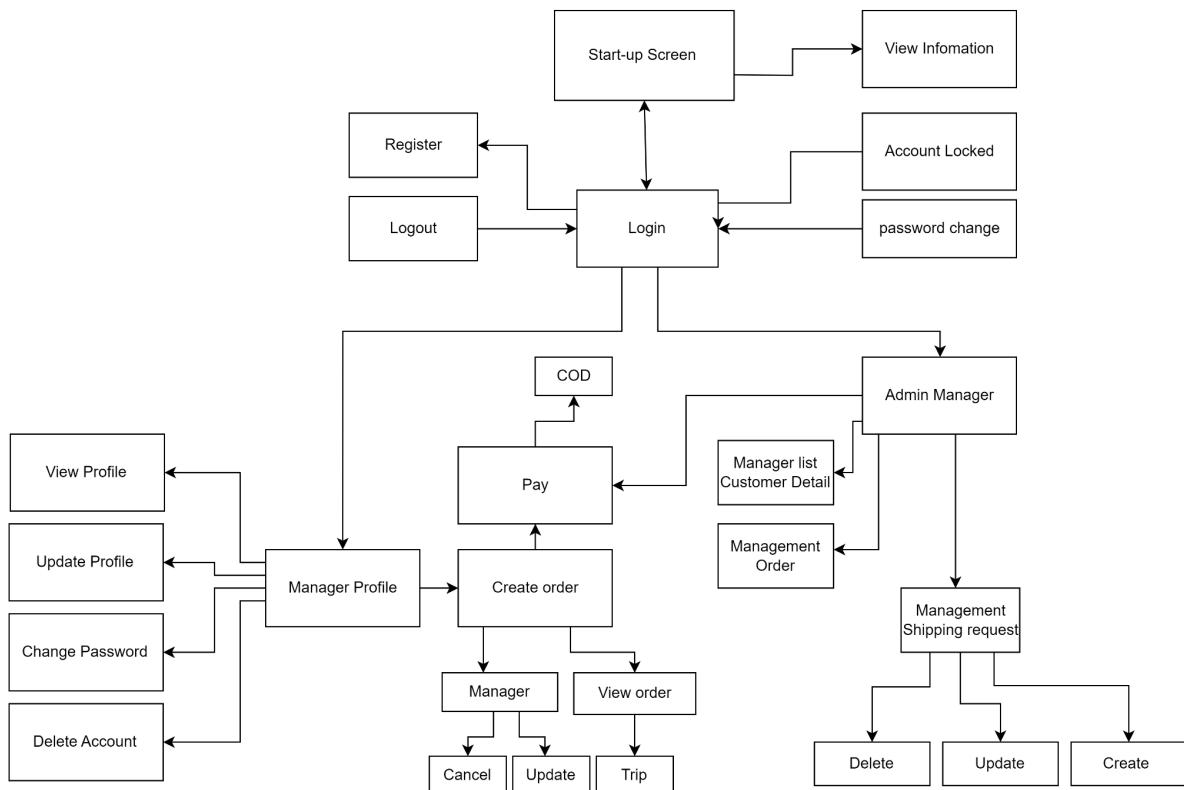
Customer Support:

- Users should have access to customer support to seek assistance and resolve issues.
- Service providers should respond promptly to user inquiries and concerns.

IV. Functional Requirements

1. System Functional Overview

1.1 Screen Flow



1.2 Screen Descriptions

#	Screen	Feature	Description
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FR-01	Login	Login	guest login to the system
FR-02	Account Locked	Lock create	lock screen due to wrong account, password or no account
FR-03	Password Change	Change password	Guest can use old password so they will change, make new password
FR-04	Register	Register	Guest don't have a account so they can register their account
FR-05	Manager Profile	View	Customer can view their profile and see the possible actions
FR-06	Manager Profile	Update profile	Customer may change and update their information
FR-07	Manager Profile	Change password	Customer may change their password
FR-08	Manager Profile	Delete Account	Customer may delete their password in system
FR-09	Create order	Create	create a bird order that customer want to ship
FR-10	Create order	Manager	cancel or update the information for the order
FR-11	Create order	View	Information for the order
FR-12	Create order	Pay	Customers choose a payment method and make payment according to their choice

FR-13	Admin Manager	Pay	Admin receives payment request from customer and transmits information for payment according to selected customer option
FR-14	Create order	View history	Review, view and feedback completed order history
FR-15	Manager list Customer Detail	Manager list Customer Detail	The administrator has the right to view the details of all customers who register the system
FR-16	Management Order	Management Order	The administrator has the right to manage all orders created in the system (add, delete, edit...)
FR-17	Management Shipping request	Management Shipping	The administrator has the right to manage all traffic information created in the system (add, delete, edit...)
FR-18	Management Shipping request	Create	The system creates a route in accordance with the customer's bird transport requirements (select vehicles, routes ..) and displays them for customers to see.

FR-19	Create	Handle Bird Order	handling the receipt and transportation of birds (bird authentication according to registered customer information, checking applications, checking shipping routes and tracking throughout, ..)
FR-20	Manager Price transport	Manager Price transport	Price management of the system

1.3 Screen Authorization

Screen	Role 1	Role 3
<<Screen Login>>		
Account Locked	X	X
Register for a customer account	X	X
password forgot	X	X
Login to the system	X	X
Logout	X	X
<<Screen Customer>>		
Manager Profile		X
View Profile		X

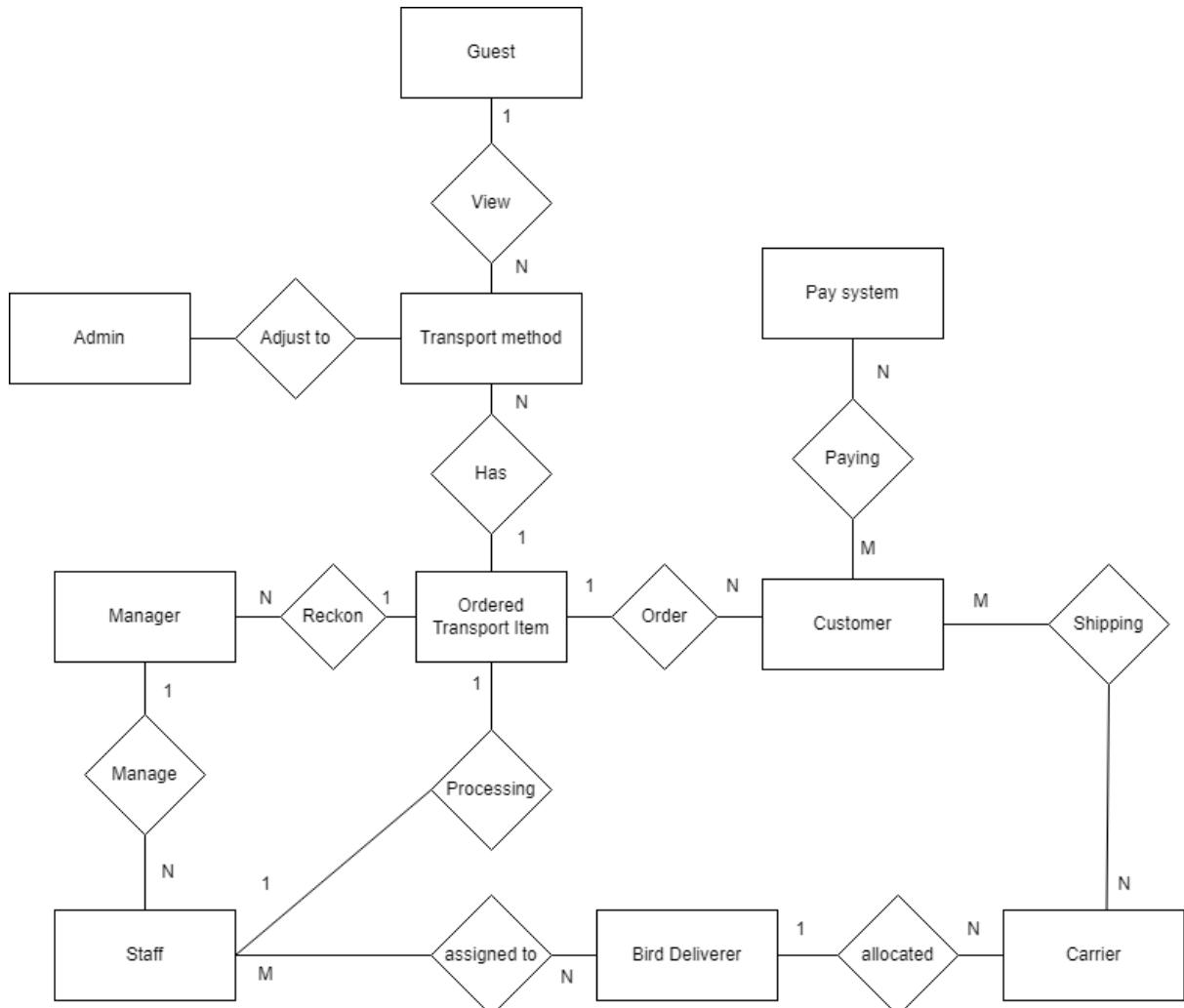
Update Profile		X
Change Password		X
Delete Account		X
Create order	X	X
Manager create order	X	X
View order	X	X
Pay		X
<<Screen Admin>>		
Management Order	X	
Manager list Customer Detail	X	
<<Screen Admin Price>>		
Manager Price transport	X	
<<Screen Delivery>>		
Management Shipping request	X	
<<Screen Pay>>>+		
Insert Information Payment	X	X
Payment	X	

In which:

Role1: Admin
Role2: Customer

2. Data Requirements

2.1 Logical Data Model: mô hình tĩnh



https://drive.google.com/file/d/1nCP9PsLSEV_vsesGJS4SJCcjSHaLozFJ/view?usp=sharing

2.2 Data Dictionary:

Data Element	Description	Composition or Data Type	Length	Values
Admin	The name assigned to admin	String	20	

Data Element	Description	Composition or Data Type	Length	Values
Password	Separate password for actor	String		
Role	Determine the role	String		
CustomerID	A unique number assigned to each customer	Integer	6	Initial value is 1
CustomerName	The name assigned to customer	String	50	
CustomerAddress	Address for each customer	String	100	
CustomerPhone	Customer's phone number	String	10	
BirdID	Unique identifier for a particular bird in the system.	Integer	6	initial value is 1
BirdName	The name assigned to a bird.	String	50	
Species	Species name or type of bird.	String	50	
MethodShip	Forms of bird transport: cars, aircraft, ..	String	50	
PriceShip	Transportation fee	float	15	

Data Element	Description	Composition or Data Type	Length	Values
Vehicle	Transportation	String	20	
OrderID	A unique number assigned to each order in the system.	Integer	6	initial value is 1
OrderDate	The date on which the order was created.	Date (MM/DD/YY YY)	10	default = current date if the current time is before the order cutoff time, else the next day; cannot be prior to current date
Pay	Payment methods	String	30	
TotalAmount	The total amount of the order.	Float	15	decimal
StatusOrder	The current status of the order, which may change according to the processing process.	+ Unpaid + Shipping + Completed String		
DeliveryID	A unique number assigned to each delivery process in the system.	Integer	6	initial value is 1
DeliveryDate	The date on which the delivery is made.	Date (MM/DD/YY YY)	10	

Data Element	Description	Composition or Data Type	Length	Values
DeliveryStatus	The current status of the delivery process, which may change according to the shipping process.	+ Delivering + Completed + Pending Confirmation String	15	
CarrierName	The name of the carrier	String	50	
CarrierAddress	Address for carrier			
CarrierPhone	Phone for carrier			
RoadmapID	A unique number assigned to each route or route in the delivery system.	String, Integer	6	initial value is 1
StartLocation	Starting point of the route	geographic coordinate		
EndLocation	The end of the route	geographic coordinate		
Distance	Distance between place of order and place of delivery	Float, Integer	50	
Estimated Time	Estimated time the recipient can receive the goods	Time (HH:MM)	5	

Data Element	Description	Composition or Data Type	Length	Values
FeedbackID	Customer feedback about the system	String	50	
Description	Content of feedback	String	500	
Rating	Content of feedback	double	1	

2.3 Reports

#	Report Name	Description
RPT-01	Order bird summary	Order Bird Summary is a consolidated report that provides an overview of all orders that a customer has made through the system.

DATABASE DESIGN

