
Drone Pro

Requirements Definition

Version: 1.2

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1. Introduction

The purpose of the Drone Pro is to introduce customization in drones and improve internal process of assembling and fulfillment for Centurion Drones so that Centurion Drones will sell products online much faster, expecting 25% increase in business and 50% decrease in running cost, totaling 70% (approx.) of benefit in annually.

1.1. Purpose of this document

This document contains all User-level and System-level requirements for this project.

1.2. Reference Materials

There are many other documents that together describe the complete set of requirements for this project.

Reference Document Name	Brief Description	Location of Definitive Source
Business Case Drone Pro	It discusses the purpose and justifies project	Drone Pro Project Document
Use Cases	Contains use case, activity, class and process diagrams	Drone Pro Project Document
Project proposal	Brief details of intension and outcome	Drone Pro Project Document

1.3. Specific Terms and Acronyms

Terms here are specific to this document. Refer to “Project Glossary” for a more comprehensive list of terms used in this project.

Term or Acronym	Description
App	Mobile Software Application for Flying Drone.
Mic	Microphone. Used on drone unit to capture surrounding sound.

1.4. User Roles

Roles played by various users that interact with the business process or system are described here.

Role	Description of Role and Activities Performed	Performed By Job Title (Optional)
Customer	Customer interacts with system to place order. Customer interacts with app for extensive drone control	
Operation	Receives order placed by customer on online portal.	

Role	Description of Role and Activities Performed	Performed By Job Title (Optional)
	Validates order details. Forwards order to Research & Development.	
Research & Development	Analyze drone prototype. Analyze hardware component. Signals technician to proceed further with assembling	
Product Manager	Analyses Market Demand Promotes Product	
IT Operation	Embed Code Tests Assembled Drone	
Technician	Assemble product as per instructions by Researchers Track hardware inventory for parts availability Place order for hardware inventory	
Supplier	Supplies Inventory	
Executive Sponsor	Funds for the project Ensures project is on track Puts forward new requirements if any	
Technology Support	Looks after technological aspect required by project Programming of apps Web portal development	
Process Improvement	Supervises and analyze process Advises team on process improvement	
Project Manager	Manages the business case and project team	

1.5. Assumptions

Identify anything that adds clarification to or provides background information about the requirement statement, or other related item.

ID	Assumption Statement	Related To
A1	Customer provides no bogus license information	License
A2	List of components of drone are made from available list	Order
A3	Payments are done by electronic gateways	Payment

1.6. Constraints

Identify anything that puts limits on implementing the requirements.

ID	Constraint Statement	Related To
C1	Selection of components is to be made from available list	Order
C2	Payments are done only by citrus gateway following SSL 128-bits protocol	Payment
C3	Drone clash	

1.7. Dependencies

Detail any external event, condition, or system that must be in place for a requirement to be valid.

ID	Dependency Statement	Related To
D1	List of components is provided	Order
D2	Citrus gateway is all time live while processing	Payment

2. Requirements

2.1. Business Requirements

ID	Business Requirement Statement
B1	Customer should be able to login authorized user through web portal.
B2	Customer should be able to login authorized user in app.
B3	Customer should be able to customize drone on web portal.
B4	All payment of the drone to be accepted and process by electronic way only. International payments to be converted into dollars.
B5	Receipt of the successfully placed order to be sent by mail and cellular SMS.
B6	Information regarding estimated delivery time of the product.
B7	Integration and calibration of drone with app.
B8	Navigation and maneuver of the drone.
B9	Least system maintenance time for backups and updates.
B10	Allow maximum possible traffic on web portal.

2.2. User and Functional Requirements

ID	User and Functional Requirement Statements	BR	CI	ST
User Role				
Goal U1	Customer Onboarding	B1		A
U1.1	Register and Login on web portal		CI1	
U1.1F1	Validation and verification of license		CI2	
U1.1F2	Profile creation and edit functionalities			
U1.1F3	Promotional code for corporate			C
U1.2	Login through App	B2		
U1.2F1	Login through token (verified license number)		C2	
U1.2F2	Profile modification (No change in license number)			
Goal U2	Placing order			A
U2.1	Customize drones	B3		
U2.1F1	Select components, features and color		CI4	
U2.1F2	View finished product			
U2.1F3	Add to cart and modify details			
U2.2	Payment	B4	CI3	
U2.2F1	Integration with payment gateway (Citrus)			

ID	User and Functional Requirement Statements	BR	CI	ST
U2.2F2	Refund policy upon cancellation within 5-7 days			
U2.3	Order Confirmation	B5		
U2.3F1	Mail and SMS integration			
U2.3F2	Mail and SMS sent on confirmation/payment failure			
Goal U3	Delivery of product			A
U3.1	Delivery details sent to customer	B6		
U3.1F1	Estimated delivery time sent on mail/SMS. By default, 5 days for standard delivery, if not in inventory: 10days			
U3.1F2	Delivery partners on boarding			
U3.1F3	Delivery ID and status sent via mail/SMS			
U3.2	Return Policy			
U3.2F1	Within 10 days from delivery date, full refund upon inspection			
Goal U4	Control and Tracking			A
U4.1	App integration	B7		
U4.1F1	Integration with Drone device number/license			
U4.2	Controls and Settings			
U4.2F1	Control motion, speed, components (mic/camera)		C14	
U4.2F2	Timer and Range setting			

2.3. Nonfunctional Requirements

ID	Nonfunctional Requirement Statements	BR	CI	ST
OPERATION Requirements: How well does the system perform for daily use?				
Access Security How well is the system guarded against unauthorized access? The extent to which the system is safeguarded against deliberate and intrusive faults from internal and external sources.				
N-ACS1	The system shall resist unauthorized, accidental or unintended usage by validating valid drone license information	B1	C1	
N-ACS2	Only authorized users with valid drone license shall place an order	B2	C2	
Availability How dependable is the system during normal operating times? The degree to which users can depend on the system to be up (able to function) during "normal operating times."				
N-AVL1	The system shall be available for normal use 24 by 7 Monday to Sunday			
N-AVL2	The system shall be available for system maintenance purposes from 22:00 to 24:00 hours bi-weekly			
Efficiency How fast can it process? How many can be processed? How well does the system respond? The extent to which the software system handles capacity, throughput, and response time.				

ID	Nonfunctional Requirement Statements	BR	CI	ST
N-EFC1	The system shall allow several sales to be made at the same time without downgrading performance			
N-EFC2	The response time shall be 10 seconds maximum			
N-EFC3	The web page refresh shall take ≤ 10 seconds			
N-EFC4	The session timeout shall be 10 minutes			
Integrity How accurate and authentic is the data? The degree to which the data maintained by the software system are accurate, authentic, and without corruption.				
N-INT1	For the sales process, all currency conversion values will be calculated to 2 decimal places.	B4		
N-INT2	The system shall provide data for reporting correct as at close of business for the previous working day.	B10		
N-INT3	Customer must have at least one billing address and one delivery address.	B6		
N-INT4	Customer Name, drone license information should be valid or related	B1		
Reliability How immune is the system to failure? The extent to which the software system consistently performs the specified functions without failure.				
N-REL1	The system shall be consistent for all involved processes starting user login, security check, placing order, payment, sales etc	B9		
N-REL2				
Survivability How resilient is the system from failure? The extent to which the software system continues to function and recovers in the presence of a system failure.				
N-SRV1	When an update failure is detected all updates performed during the failed session shall be rolled back to restore the data to pre-session condition.			
Usability How easy is it to learn and operate the system? The ease with which the user is able to learn, operate, prepare inputs, and interpret outputs through interaction with a system.				
N-USE1	The system shall be easy to use by all employees including sales representatives and managers			
N-USE2	The system shall be easy to provide all customization options to user while customizing their drones	B3	C14	
REVISION Requirements: How easy is it to correct errors and add functions?				
Flexibility How easy is it to modify to work in different environments? The ease with which the software can be modified to adapt to different environments, configurations, and user expectations.				
N-FLX1	The system shall be easy use in all kind of environments			
N-FLX2	The system shall provide easy configuration	B7		
N-FLX3	The system shall provide necessary messages (error/success) while using it to the customer			
Maintainability How easy is it to upkeep and repair the system? The ease with which faults in a software system can be found and fixed.				

ID	Nonfunctional Requirement Statements	BR	CI	ST
N-MNT1	The mean preventative maintenance time on applying routine plug-in updates to the Website shall be less than 30 minutes every 2 weeks.	B9		
Scalability How easy is it to expand or upgrade the system's capabilities? The degree in which the system is able to expand its processing capabilities upward and outward to support business growth.				
N-SCL1	The system shall accommodate unrestricted growth in customers to support business growth			
Verifiability How easy is it to show the system performs its functions? The extent to which tests, analysis, and demonstrations are needed to prove that the system will function as intended.				
N-VER1	The system shall be accessed in different browsers and on different systems to see performance and analysis , how well it performs, quality of the system etc			
TRANSITION Requirements: How easy is it to adapt to changes in the technical environment?				
Interoperability How easy is it to interface with another system? The extent to which the software system is able to couple or facilitate the interface with other systems.				
N-IOP1	The system shall have clearly defined interface between Mobile App and Drone	B7	CI4	
Portability How easy is it to transport? The ease with which a software system can be transferred from its current hardware or software environment to another.				
N-POR1	The system shall be available on operating systems specifically Windows, Mac OS, Android	B11		
Reusability How easy is it to convert for use in another system? The extent to which a portion of the software system can be converted for use in another.				
N-REU1	The system shall be easy to accommodate multiple drones in one mobile app			

2.4. Common Information

In the other Requirements subsections, specific information that is referenced multiple times may be described once here. This “named information” may then be referenced by its name with quotes around it in the rest of the document.

ID	Named Information	Related Req. ID	Definition or Business Usage / Business Elements	Definitive Source
CI1	Authorized user	B1	Validated credential	
CI2	License	U1.1F1	Permission to fly and use drone	
CI3	Payment	U2.2	E-payments to be accepted and converted to US dollars	
CI4	Components		Drone parts	

3. Appendices

3.1. Revision History

Change Date	Changed by	Description of Change	Version
7/20/2017	Vaishali	System maintenance time revised.	1.1
7/19/2017	Shruti	Control and of direction and speed to drone	1.2

3.2. Validation History

Participant Index

ID	Stakeholder Name	Specific Role or Area of Expertise
Supplier 1		
Supplier 2		
Receiver 1		
Receiver 2		

Outcomes: A = Accept, C = Accept with Conditions, R = Reject

Review Date	Overall Outcome	Supplier Outcome(s)				Receiver Outcome(s)				Identified Issues
		S1	S2	S3	S4	R1	R2	R3	R4	

3.3. Requirements Issues

ID	Description	Assigned to	Status
IS1			
IS2			

3.4. Attachments

Below are other documents that help to illustrate and define the User-level and System-level Requirements.

3.4.1. Attachment