SRS
Terran Travels

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1 Introduction

This is an SRS focusing on the Traveler module of the Terran Travels System. It outlines how the traveler will interact with the system and how the system will react to such interactions.

1.1 Purpose

The purpose of the document is to collect and analyze all aspects of the system of the Traveler module. Due to the deployment life cycle used, all features may not be implemented in the first iteration
In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document describes the system and its associate's members and its user interface, hardware and software requirements.

1.2 Project Scope

Primarily, the scope pertains to the alumni features for making DIU Alumni System. It focuses on the institution, the stakeholders and applications, which allow alumni members to be connected in an online platform and keep relationship between them.
This SRS is also aimed at specifying requirements of software to be developed but it can also be applied to assist in the selection relation between the graduates. The standard can be used to create software requirements specifications directly or can be used as a model for defining the system requirements.

1.3 References

IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

1.4 Overview

This is a system intended to be used by space travelers aboard a spaceship to visit stellar and interstellar objects and control their traveler lounge. It also aids them in day to day tasks.
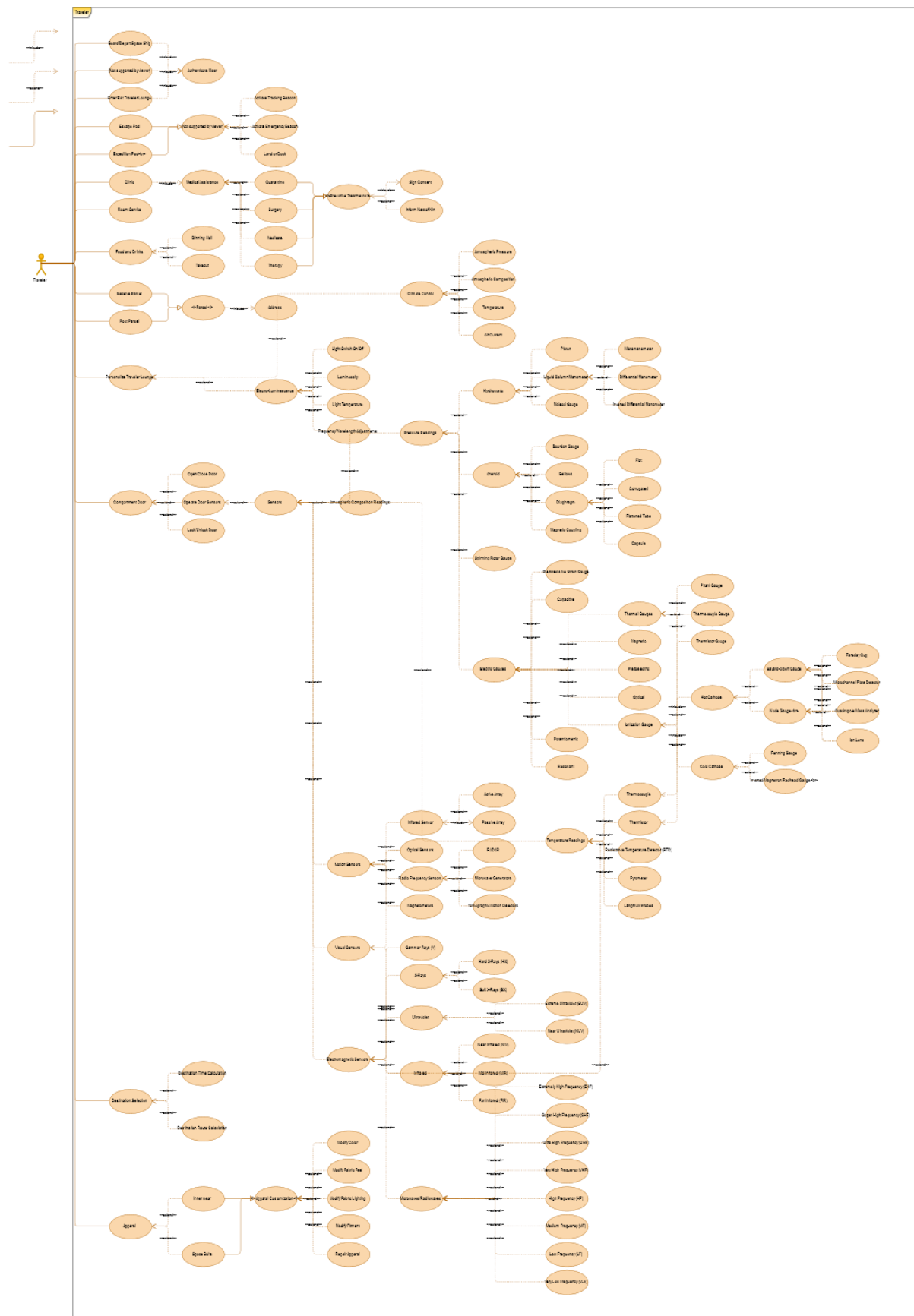
2 User Classes

There are three classes
- Manager
- Employees
- Traveler

Use Case Diagram

Use Case Diagrams
Traveler Use Case

Use Case	Food and Drinks	
Goal <description of the goal in context, if required>	Traveler orders food and/or drinks for consumption.	
Preconditions <environment conditions before the event takes place>	• Traveler cleared for space travel.	
Success End Condition <the state of the environment after the use case executes successfully >	• Ordered items are available. • Related parties (E.g. Chef) are available.	
Failed End Condition <the state of the environment if the use concludes prematurely>	• Ordered items are not available. • Related parties (E.g. Chef) are not available.	
Primary Actors	Traveler	
Secondary Actors	Chef, Room service, Server, Rigger	
Trigger <the action on the system that initiates the use case>	Traveler orders for food and/or drinks from the lounge, dining hall, et cetera.	
Basic Flow	**Step**	**Action**
	1	Traveler orders for food and/or drinks.
	1.1	Voice command.
	1.2	Selection from menu.
	1.3	Asks and employee to order on his/her behalf.
	1.4	Automated rationing as set up by user.
	1.5	Complimentary service.
	1.6	Custom orders.
	2	Delivery address is provided.
	3	Ordered items are prepared and delivered or served as per instructions.
Alternative Flow	**Step**	**Alternative Action**
	1a	Custom orders.
	1.6a.1	Custom order is validated and verified.
	1.6a.2	If possible, the order is satisfied continuing from Step 2 or an alternative is offered.
	2a	If delivery address is not provided, the order is sent to traveler's quarters.
Quality Requirements	**Step**	**Requirement**
	1.6	All efforts must be made to fulfill custom orders before denial.
	3	All instructions are maintained to the T and high-quality control of ordered items must be maintained.

Use Case	Clinic
Goal <description of the goal in context, if required>	Provide medical assistance to onboard inhabitants.
Preconditions <environment conditions before the event takes place>	
Success End Condition <the state of the environment after the use case executes successfully >	• Medical supplies are available. • Power is available. • Trained staff are on call. • Patient is within reach or in stable condition for transport.
Failed End Condition <the state of the environment if the use concludes prematurely>	• Medical supplies are not available. • Power is not available. • Trained staff are not. • Patient is not within reach or not in stable condition for transport.
Primary Actors	Manager, Employee, Traveler
Secondary Actors	Physician
Trigger <the action on the system that initiates the use case>	Call for medical assistance.

	Step	Action
Basic Flow	1	Call for medical assistance.
	1.1	Patient arrives in clinic bay voluntarily.
	1.2	EMTs arrive with patient.
	1.3	Medical emergency is called in.
	2	Medical records of patient are pulled from the database by the system.
	3	Medical personal on call assists and diagnoses the patient.
	4	The patient's consent is taken and the appropriate actions are taken.
	5	The patient is kept under observation as long as necessary.
	6	Patient is released as soon as it is safe.

	Step	Alternative Action
Alternative Flow	3a	Patients next of kin are informed of the situation if such wishes are made or is stated in the medical records.
	4a	If surgery is required, then it is only undertaken if the necessary equipment and expertise is available.
	4a.1	Continue from Step 5.
	4b	Medical condition is not critical and can be solved through medication or therapy.

	4b.1	Prescribe the necessary medication or therapy sessions and release the patient.
	4c	Illness is uncurable or unidentifiable and is viral in nature.
	4c.1	Patient is quarantined indefinitely or till a cure is devised.
	5a	If patient condition deteriorates, repeat from Step 3.
Quality Requirements	**Step**	**Requirement**
	4	Patient safety is considered above all else.

Use Case	Post Parcel
Goal <description of the goal in context, if required>	A parcel/package is sent by mail.
Preconditions <environment conditions before the event takes place>	
Success End Condition <the state of the environment after the use case executes successfully >	- Address is valid. - Package is mailable/transportable. - Sender can afford the shipping charge. - Sender agrees to the terms and conditions.
Failed End Condition <the state of the environment if the use concludes prematurely>	- Address is not valid. - Package is not mailable/transportable. - Sender cannot afford the shipping charge. - Sender does not agree to the terms and conditions.
Primary Actors	Manager, Employee, Traveler
Secondary Actors	Rigger
Trigger <the action on the system that initiates the use case>	Package arrives for mailing.

	Step	Action
	1	Package arrives for mailing.
	1.1	An individual requests package to be picked up from their lounge.
	2	An address is provided by the sender along with other necessary instructions.
Basic Flow	3	The sender is given a quote, a host of payment options, an agreement form, and an insurance form.
	4	The package is assigned a tracking chip and number.
	5	The package is readied for shipment.

		6	A rigger takes the haul and delivers the packages to their respecting addresses.
		7	The receiver signs and receives the package.
Alternative Flow		**Step**	**Alternative Action**
		2a	Address is offsite i.e. not aboard the spaceship.
		2a.1	Execute Step 3-5.
		2a.2	Package is shipped with the next cargo craft matching package destination.
		2a.3	The remaining logistics is handled by ground forces.
		7a	Receiver's signature may not be required depending on requirements provided by the sender in Step 2. E.g. Unsigned package.
		7b	Receiver does not accept the package delivery.
		7b.1	Package is returned back to sender with any message provided by the receiver.
		7b.2	Sender is charged for return shipping.
Quality Requirements		**Step**	**Requirement**
		3	Shipping price is kept as competitive as possible.
		5	Parcel is packaged to withstand as much abusive as possible.

Use Case	
Goal **<description of the goal in context, if required>**	
Preconditions **<environment conditions before the event takes place>**	
Success End Condition **<the state of the environment after the use case executes successfully >**	
Failed End Condition **<the state of the environment if the use concludes prematurely>**	
Primary Actors	
Secondary Actors	
Trigger **<the action on the system that initiates the use case>**	

Basic Flow	Step	Action
Alternative Flow	Step	Alternative Action
Quality Requirements	Step	Requirement

Requirement Specification

Functional Requirements

This section outlines and identifies all the necessary functionalities of the system.

FR1	Calculate Journey Time
Description	Calculates and plots route to destination.
Stakeholders	Traveler, Pilot, Guide, Manager, Security

FR2	Reserve Space Craft
Description	Reserves and schedules space crafts for activities.
Stakeholders	Manager

FR3	Show Destination Description
Description	Shows detailed description of destination.
Stakeholders	Traveler, Employees

FR4	Show Manual
Description	Shows operating manual for related objects.
Stakeholders	Traveler, Employees

FR5	Default Search
Description	Searches for keywords in the database.
Stakeholders	Admin, Traveler, Employees

FR6	Show Celestial Body Description
Description	Shows detailed description of celestial objects.
Stakeholders	Traveler, Employees

FR7	Deep Search
Description	Shows search results that may include sensitive information.
Stakeholders	Admin, Manager

FR8	Camera Feed
Description	Watch video from camera all over the space ship.
Stakeholders	Admin, Security, Manager

FR9	Assign Doctor
Description	Assign patients to doctors.
Stakeholders	Manager, Physician

FR10	Assign Mechanic
Description	Assign tasks to mechanics.
Stakeholders	Manager, Mechanic

FR11	Assign Guide
Description	Assign guides to Travelers
Stakeholders	Manager, Guide, Traveler

FR12	Assign Chef
Description	Assign items to be prepared by chefs and chefs to food tasks.
Stakeholders	Manager, Chef

FR13	Assign Server
Description	Assign rooms and items to be served by servers.
Stakeholders	Manager, Server

FR14	Assign Security
Description	Assign security, escort, and guard tasks to security.
Stakeholders	Manager, Security

FR15	Assign Electrician
Description	Assign electrical tasks to electrician.
Stakeholders	Manager, Electrician

FR16	Assign Cleaner
Description	Assign clearing work lists to cleaners.
Stakeholders	Manager, Cleaner

FR17	Assign Roomkeeper
Description	Assign room keeping tasks to roomkeepers.
Stakeholders	Manager, Roomkeeper

FR18	Assign Pilot
Description	Assign pilots their destination and the space crafts they will be piloting.
Stakeholders	Managers, Pilot

FR19	Assign Agriculture
Description	Assign plantation and atmospheric requirements to agriculturalist.
Stakeholders	Manager, Agriculturalist

FR20	Assign Rigger
Description	Assign moving, loading, unloading, and structural repair tasks to riggers.
Stakeholders	Manager, Rigger

FR21	Assign Plumber
Description	Assign pluming work list to plumbers.
Stakeholders	Manager, Plumber

FR22	Assign Compartments
Description	Designate work compartments to employees.
Stakeholders	Manager, Employee

FR23	Facial Recognition
Description	Facial recognition done using minutiae-based algorithms along with 3d camera modeling and past data template analysis using holistic and feature-based models.
Stakeholders	Manager, Employees, Traveler

FR24	Voice Recognition
Description	Voice prints done using frequency estimation, hidden Markov models, gaussian mixture models, pattern matching algorithms, neural networks, matrix representation, vector quantization, and decision tree.
Stakeholders	Manager, Employees, Traveler

FR25	Iris Recognition
Description	Iris identification is carried out using a mixture of VW spectrum analysis, NIR spectrum and structure analysis, whichever is suitable depending on the environment.
Stakeholders	Manager, Employees, Traveler

FR26	Fingerprint Recognition
Description	Carried out using correlation-based matching, arch-based matching, loop-based matching, whorl-based matching, binarized fingerprint image minutiae technique, gray scale fingerprint images minutiae technique, ridge line minutiae technique, fuzzy-based minutiae technique, unthinned binarized image-based minutiae technique, thinned binarized image-based minutiae technique, chaincode-based minutiae technique, run representation-based minutiae technique, ridge flow and local pixel analysis-based minutiae technique, crossing number-based minutiae technique, morphology-based minutiae technique.
Stakeholders	Manager, Employees, Traveler

FR27	Retina Recognition
Description	Done using infrared technology to map the unique blood vessels in a person's retina.
Stakeholders	Manager, Employees, Traveler

FR28	Hand Geometry Recognition

Description	Records and matches hand geometry in multiple dimensions for recognition.
Stakeholders	Manager, Employees, Traveler

FR29	Palm Vein Recognition
Description	Recognizes physiological differences in vein patterns in the palms of an individual.
Stakeholders	Manager, Employees, Traveler

FR30	Signature Recognition
Description	Uses dynamic signature recognition using interior contours to identify individuals.
Stakeholders	Manager, Employees, Traveler

FR31	Handwritten Biometric Recognition
Description	Recognizes a person handwriting and writing procedures and techniques for identification.
Stakeholders	Manager, Employees, Traveler

FR32	DNA Recognition
Description	Performs DNA test using mass spectroscopy, Laser-induced breakdown spectroscopy, atomic emission spectroscopy, atomic absorption spectroscopy, and mass spectroscopy to determine the individual.
Stakeholders	Manager, Employees, Traveler

FR33	Gait Recognition
Description	Recognizes a person's movement patterns, swagger, sashay, saunter, step, tempo to identify them uniquely.
Stakeholders	Manager, Employees, Traveler

FR34	Odor Recognition
Description	Uses an array of smell detectors to recognize scents from the air for identification.
Stakeholders	Manager, Employees, Traveler

FR35	Keystroke Recognition
Description	Measures typing rhythm, and manner to verify an identity.
Stakeholders	Manager, Employees, Traveler

FR36	Finger Vein Recognition
Description	Uses the vascular pattern and veins on the finger in the epidermal for identification.
Stakeholders	Manager, Employees, Traveler

FR37	Eye Vein Recognition

Description	Identifies the blood vessel patterns in the sclera using infrared illumination.
Stakeholders	Manager, Employees, Traveler

FR38	Skin Reflection Recognition
Description	Performs the authentication by emitting various electromagnetic radiation at varying wavelengths and reading the scattered reflection.
Stakeholders	Manager, Employees, Traveler

FR39	Lip Motion Recognition
Description	Observes lip movements for authentication and speech identification.
Stakeholders	Manager, Employees, Traveler

FR40	Brain Wave Pattern Recognition
Description	Measures the waves emitted by the brain to uniquely identify individuals.
Stakeholders	Manager, Employees, Traveler

FR41	Footprint and Foot Dynamics Recognition
Description	Uses foot movement and placement for identification.
Stakeholders	Manager, Employees, Traveler

FR42	Thermography Recognition
Description	Infrared cameras read the blood flow beneath the skin to identify individuals.
Stakeholders	Manager, Employees, Traveler

FR43	Skin Texture Recognition
Description	Uses gray scale images to form a matrix texture map and neural networks for identification.
Stakeholders	Manager, Employees, Traveler

FR44	Automated Doors
Description	Automated sealed doors that can complete isolate the compartments at the push of a button and automatically if it detects any breaches or foreign ingress. Doors also come with manual override and clearance checks.
Stakeholders	Manager, Employees, Traveler

FR45	Water Pressure Checks
Description	Checks for water pressure behind both sides of the doors.
Stakeholders	Manager, Employees, Traveler

FR46	Air Pressure Checks
Description	Checks for air pressure behind both sides of the doors.
Stakeholders	Manager, Employees, Traveler

FR47	Obstruction Checks
Description	Checks for obstructions and blockages preventing the function of doors.
Stakeholders	Manager, Employees, Traveler

FR48	Temperature Checks
Description	Checks for temperatures behind both sides of the doors.
Stakeholders	Manager, Employees, Traveler

FR49	Interior Radiation Checks
Description	Checks radiation levels within compartments.
Stakeholders	Manager, Employees, Traveler

FR50	Interior Pressure Checks
Description	Checks pressure levels within compartments.
Stakeholders	Manager, Employees, Traveler

FR51	Interior Atmospheric Composition Checks
Description	Checks atmospheric composition within compartments.
Stakeholders	Manager, Employees, Traveler

FR52	Interior Temperature Checks
Description	Checks temperatures within compartments.
Stakeholders	Manager, Employees, Traveler

FR53	Exterior Radiation Checks
Description	Checks radiation levels outside of compartments.
Stakeholders	Manager, Employees, Traveler

FR54	Exterior Pressure Checks
Description	Checks pressure levels outside of compartments.
Stakeholders	Manager, Employees, Traveler

FR55	Exterior Atmospheric Composition Checks
Description	Checks atmospheric composition outside of compartments.
Stakeholders	Manager, Employees, Traveler

FR56	Exterior Temperature Checks
Description	Checks temperatures outside of compartments.

Stakeholders	Manager, Employees, Traveler

FR57	Automated Radiation Shields
Description	Radiation shields set up around transparent view ports and galleries have to be autonomous. They may automatically close down in the event of radiation bombardment or emergency or they may be closed manually without physical intervention.
Stakeholders	Manager, Employees, Traveler

FR58	Automated Plantation
Description	Seeds are planted by robot arms into the required plant habitats for growing. The system will check for incompatibilities with existing wildlife.
Stakeholders	Manager, Agriculturalist

FR59	Automated Harvest
Description	Mature plants and their fruits and flowers can be harvested by the air of robot arms.
Stakeholders	Manager, Agriculturalist

FR60	Automated Storage
Description	All harvests are stored by machines for future use.
Stakeholders	Manager, Agriculturalist

FR61	Automated Sorting
Description	Seeds, fruits, flowers, and planation are sorted automatically by the system for easy access and safety.
Stakeholders	Manager, Agriculturalist

FR62	Automated Packaging
Description	All harvests and seeds are packed and preserved for long journeys. They must be packed so that they may be viable after a prolonged period of time.
Stakeholders	Manager, Agriculturalist

FR63	Automated Vegetation Maintenance
Description	Plant life aboard the space ship is maintained without any human intervention. Plants are provided with the nutrients, water, and other optimal growing conditions and environmental variables.
Stakeholders	Manager, Agriculturalist

FR64	Hatch Passcode

Description	Hatches connecting compartments are protected by a passcode that must be entered before it is unlocked by hand.
Stakeholders	Manager, Employees

FR65	Lighting Control (Space Ship)
Description	Lighting across the vessel can be controlled centrally from a terminal.
Stakeholders	Manager, Employees

FR66	Lighting Control (Living Quarter)
Description	Lighting for living compartments can be controlled by the residents.
Stakeholders	Manager, Employees, Traveler

FR67	Lighting Wavelength/Frequency Control
Description	The wavelength, frequency, or time period can be manipulated to produce the desired light.
Stakeholders	Manager, Employees, Traveler

FR69	Lighting Luminosity Control
Description	Amplitude of lighting systems can be changed to meet intensity requirements. Agriculturalists will get extended control of this feature as they will have to manipulate the intensity of light to suit the sunshine requirements of plant life.
Stakeholders	Manager, Employees, Traveler

FR70	Lighting Temperature Control
Description	Changes can be made to lighting temperature.
Stakeholders	Manager, Employees, Traveler

FR71	Infrared Sensors (Active)
Description	Infrared Sensor control.
Stakeholders	Manager, Employees, Traveler

FR72	Infrared Sensors (Passive)
Description	Infrared Sensor control.
Stakeholders	Manager, Employees, Traveler

FR73	Optical Sensors
Description	Optical sensors such as cameras.
Stakeholders	Manager, Employees, Traveler

FR74	RADAR
Description	Radio Detection and Ranging system. Radar range will depend on hardware implementation.
Stakeholders	Manager, Employees, Traveler

FR75	Microwave Generators
Description	Microwave Generator control.
Stakeholders	Manager, Employees, Traveler

FR76	Tomographic Motion Detectors
Description	Motion detector control.
Stakeholders	Manager, Employees, Traveler

FR77	Magnetometers (MAG)
Description	Allows long range measurement of geomagnetic activity, large-scale space environment modelling, and solar storm detection. Can also be used to detect fluctuations in magnetic fields. E.g. Tri-axial fluxgate magnetometer.
Stakeholders	Manager, Employees, Traveler

FR78	Thermocouple Readings
Description	Thermocouple control.
Stakeholders	Manager, Employees, Traveler

FR79	Thermistor Readings
Description	Thermistor control.
Stakeholders	Manager, Employees, Traveler

FR80	Resistance Temperature Detector
Description	RTD control.
Stakeholders	Manager, Employees, Traveler

FR81	Pyrometer
Description	Pyrometer control.
Stakeholders	Manager, Employees, Traveler

FR82	Langmuir Probes
Description	Langmuir control.
Stakeholders	Manager, Employees, Traveler

FR83	Penning Gauge
Description	Penning gauge control.
Stakeholders	Manager, Employees, Traveler

FR84	Inverted Magnetron/Redhead Gauge
Description	Magnetron control.
Stakeholders	Manager, Employees, Traveler

FR85	Bayard-Alpert Gauge
Description	Bayard-Alpert gauge control.
Stakeholders	Manager, Employees, Traveler

FR86	Nude Gauge
Description	Nude gauge control.
Stakeholders	Manager, Employees, Traveler

FR87	Faraday Cup
Description	Faraday Cup control.
Stakeholders	Manager, Employees, Traveler

FR88	Microchannel Plate Detector
Description	Microchannel Plate Detector control.
Stakeholders	Manager, Employees, Traveler

FR89	Quadrupole Mass Analyzer (QMS)
Description	Also known as Transmission Quadrupole Mass Spectrometer, Quadrupole Mass Filter, Quadrupole Mass Spectrometer. It has four parallelly placed cylindrical rods with oscillating electric fields in between which measures the deviation in the travel path of the ions in accordance with its mass.
Stakeholders	Manager, Employees, Traveler

FR90	Ion Lens
Description	Ion lens control.
Stakeholders	Manager, Employees, Traveler

Performance Requirements

Performance requirements of the system.

Speed and Latency Requirements

PR1	Voice Activation
Description	The system responds to voice commands and queries in less than 500 milliseconds. The system uses rule-based and statistical natural language processing including grammar induction, lemmatization, morphological segmentation, parts-of-speech tagging, parsing, sentence breaking, word segmentation, terminology extraction ,lexical semantics, machine translation, named entity recognition, natural language understanding, natural language generation, optical character recognition, question answering, recognizing textual entailment, relationship extraction, sentimental analysis , topic segmentation, word sense disambiguation, automatic summarization, conference resolution, discourse analysis, speech recognition, speech segmentation, and text-to-speech.
Stakeholders	Manager, Employees, Traveler

PR2	Authentication Speed
Description	Authentication (by any means reasonable) must occur on the fly.
Stakeholders	Manager, Employees, Traveler

PR3	Database Retrieval Speed
Description	Information retrieval from database should be take the least possible amount of time. Frequently accessed data should be cached for even faster retrieval. System to should use preemptive data retrieval and retrieve data in the background based on what it expects the user to query, past searches, body language, context, environment, current events et cetera.
Stakeholders	Manager, Employees, Traveler

Precision and Accuracy Requirements

PR	Time Measurement
Description	All time measurements are taken or calculated to the nanosecond. Time precision: 0.1 nanosecond or ± 100 picoseconds.
Stakeholders	Manager, Employees, Traveler

Capacity Requirements

PR	Database Capacity
Description	The database capacity will be dynamic and onsite hardware storage system may be added in the form of compartments to the space ship. Auxiliary databases and long-term storage solutions are setup by the use of satellites or deep space radio transmitters. Initial capacity: 1 exbibyte
Stakeholders	Manager, Employees, Traveler

Dependability Requirements

A loss of function may result in loss of life or worse lives. In space everything is mission critical. Resources must be over provisioned and adequately placed to ensure highest level of redundancy and safety. The system must be fool proofed as much as humanly possible with multiple checks and balances in place to ensure that no rogue function can harm the inhabitants and malicious or buggy behavior can be contained with minimal impact on other functionalities.

Reliability and Availability

DR1	System Uptime
Description	The entire system must up throughout its deployment and can only be stopped entirely or restarted fully if the power throughout the whole space craft is terminated or it is docked.
Stakeholders	Admin, Manager, Employees, Traveler

Robustness and Fault Tolerance Requirements

DR	Multiple Access
Description	The entire system must up throughout its deployment and can only be stopped entirely or restarted fully if the power throughout the whole space craft is terminated or it is docked.
Stakeholders	Manager, Employees, Traveler

DR	Invalid Input
Description	If the system is faced with an erroneous input, the system must not fail and not write wrong data to the database. It should suggest an acceptable entry or valid input format.
Stakeholders	Manager, Employees, Traveler

Safety Critical Requirements

Maintainability and Supportability

Maintenance Requirements

MS1	Invalid Input
Description	If the system is faced with an erroneous input, the system must not fail and not write wrong data to the database. It should suggest an acceptable entry or valid input format.
Stakeholders	Manager, Employees, Traveler

Supportability Requirements

MS2	Database Error Handling
Description	If the system has database integrity problem or error in data storage, it will create a log file with a memory dump and all relevant information. It will inform the user of the fault.
Stakeholders	Admin, Manager, Employees, Traveler

MS3	Hardware Error Handling
Description	If the system sustains any hardware problem, it will run through automated system diagnostic and produce the diagnosis.
Stakeholders	Admin, Manager, Employees, Traveler

MS4	Stack Overflow
Description	In case the system runs out of ram, it will swap to the secondary memory bank till the system can free the primary memory. The system may not crash at this time but may slow down. Critical life support functions and modules will have a lower priority when queued for swapping.
Stakeholders	Admin, Manager, Employees, Traveler

Adaptability Requirements

MS5	Adaptation
Description	The system will adapt to external and internal factors as determined by protocol.
Stakeholders	Admin, Manager, Employees, Traveler

Security Requirements

Security is extremely important. The system must have end-to-end encryption.

Access Requirements

Only authenticated users are allowed excess.

Integrity Requirements

The system must not have any illegal modification and all passwords are protected using salted cryptography.

Privacy Requirements

User data must be protected at all costs. Unauthorized personals will not have access to such data.

Usability and Human Integrity Requirements

Ease of Use Requirements

The system should be intuitive and it should provide guidance when needed. It should show the user how to use it if it is asked or provide an alternative solution.

Accessibility Requirements

The system uses 'clearance level' to adjust system functionalities and access. The clearance level of individuals may be changed by one with adequate clearance level. A temporary increase in clearance level maybe issued by the system in the event of an emergency.

User Documentation

UH	User Manual
Description	The system will have an interactive documentation pertaining to all the relevant functionalities. It will also have a reference document outlining all the inner workings, functionalities, features, and how-to-s.
Stakeholders	Manager, Employees, Traveler

Block Diagram

Cargo ship requests to dock on mother ship → Incoming vessel is verified and assigned a docking bay → Docking bay personnels are notified of incoming vessel → Docking bay is opened and the cargo ship lands

Cargo ship is emptied or loaded as necessary → Maintenance is performed on the cargo ship if necessary → Cargo ship is prepared for launch → Cargo ship is cleared by central command and takes off

Cargo ship is prepared for long term storage

Spacecraft carrying travellers request persmission to land → Incoming vessel is verified and assigned a docking bay → Docking bay personnels are notified of incoming vessel → Docking bay is opened and the spacecraft lands

Travellers are received by guides and taken into the staging area → Maintenance is performed on the spacecraft if necessary → Spacecraft is prepared for launch → Spacecraft is cleared by central command and takes off

Spacecraft is prepared for long term storage

Verify specification of the habitats for plant life → Prepare seeds from storage for plantation → Plant seeds and set for optimal growing conditions → Harvest plants when mature

Examine atmospheric composition aboard the space ship → Set greenhouse circulatory system according to examination results → Monitor atmospheric conditions periodically and adjust accordingly

Traveller confirms visit by making payment → Manager offers available accomodations → Traveller chooses and confirms the desired lounge → Manager reserves the preferred accomodation

Manager enquires about any special requirements → Traveller makes additional requests if any → Manager fulfills all additional requests → Traveller arrives at the spaceship and the lounge is handed over

```mermaid
flowchart

Call to docking bay is received --> Riggers are dispatched with shipping manifest --> Riggers unload the cargo --> Cargo is checked and accounted for against the shipping manifest

Shipment is cleared and sorted --> Shipment items are put into storage or delivered to their respective owners --> A report is generated and all items are documented

Report of fault is received --> Repair team is dispatched to the event site --> Repair is attempted --> If unsuccessful, repair team returns to base to take further steps

A replacement is prepared or the existing equipment is fixed onsite or offsite --> The (new) equipment is refitted and tested for funtionality --> A repair report is generated and documented

An invoice describing the nature of the problem is received --> The invoice is studied, problem identified, and a solution is designed --> All necessary resources are collected or fabricated --> A team is assembled and dispatched

A report is generated regarding the issue --> Critical system components remain under observation if necessary --> The problem invoice is closed and documented

Space ship is returned to base for repair if problem is unfixable

Patient arrives and receives a token --> Doctor(preferred, if any) and a medical bay is assigned --> Patient information is retrieved and provided to the examining doctor --> Diagnose patient

Treat patient --> Keep for further observation if necessary --> Release patient

Evacuate or quarantine patient if disease is contagious
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```
Call to docking bay is
received  →  Riggers are
dispatched with
shipping manifest  →  Riggers unload the
cargo  →  Cargo is checked and
accounted for against
the shipping manifest
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```
Shipment is cleared
and sorted  →  Shipment items are
put into storage or
delivered to their
respective owners  →  A report is generated
and all items are
documented
```

```
Report of fault is
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```
An invoice describing
the nature of the
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A report is generated
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```
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┌────────────────────┐     ┌────────────────────┐     ┌────────────────────┐     ┌────────────────────┐
│ Traveller arrives  │ ──▶ │ Traveller makes all│ ──▶ │ Traveller makes all│ ──▶ │ Suit specification │
│ for suit fitment   │     │ customized requests│     │ customized requests│     │ finalized and suit │
│                    │     │                    │     │                    │     │ is sent for        │
│                    │     │                    │     │                    │     │ production         │
└────────────────────┘     └────────────────────┘     └────────────────────┘     └────────────────────┘

        ┌────────────────────┐     ┌────────────────────┐     ┌────────────────────┐     ┌────────────────────┐
        │ Traveller arrives  │ ──▶ │ All necessary      │ ──▶ │ Suit is rigorously │ ──▶ │ The suit travels   │
        │ for trial when suit│     │ adjustments are    │     │ tested and sent for│     │ with the traveller │
        │ is ready           │     │ made and the suit  │     │ departure          │     │ to the space ship  │
        │                    │     │ is refitted        │     │                    │     │                    │
        └────────────────────┘     └────────────────────┘     └────────────────────┘     └────────────────────┘

┌────────────────────┐     ┌────────────────────┐     ┌────────────────────┐     ┌────────────────────┐
│ Traveller requests │ ──▶ │ Guide sets the trip│ ──▶ │ A spacecraft and   │ ──▶ │ The traveller      │
│ destination        │     │ up                 │     │ pilot is assigned  │     │ visits the location│
└────────────────────┘     └────────────────────┘     └────────────────────┘     └────────────────────┘

        ┌────────────────────┐     ┌────────────────────┐     ┌────────────────────┐
        │ The traveller      │ ──▶ │ The traveller then │ ──▶ │ The trip is closed │
        │ visits the location│     │ returns to the     │     │ and concluded      │
        │                    │     │ space station      │     │                    │
        └────────────────────┘     └────────────────────┘     └────────────────────┘
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