

Space Station

NAME: MOHAMED ELSAYED MOHAMED SHARSHOUP.

SECTION: 5.

SUITE NUMBER: 3690.

Index

- This project is simulate a simple space station as “Nasa”.
- Astronaut, Admin, Engineer, Employee, Security and Supplier (Like Government) are the main actors in this system and I will discuss the main objects of each other in this system.
- This table is a brief discuss of the system actors and its functional and non-functional requirements.

Actors	Admin – Astronaut – Engineer – Employee – Doctor and Supplier
Programming Languages	C# (Windows Form), SQL server.
Design & Implementation	0 %
Sub Systems	Space Shuttle System
Functional requirement	Login, reporting, printing, figure print, face print, launch rockets, with alarm, contact.
Non-functional requirement	Fast, easy to use, reduce errors and faults, more secure, more reliable, Interact with another systems.

Actors

➤ Admin / Manager

- ✓ Login to the system using his figure and eye print and his personal password.
- ✓ Checking devices and its statues.
- ✓ Shutdown the system in a specific case or sensitive time.
- ✓ Restart the system if there are problems.
- ✓ Reporting system statue and if there is any faults or devices not working he will notes it.
- ✓ Print reports about system statue.
- ✓ Add, Delete and Update: Admin is responsible for Add/ Delete any new person to/ from the system and he also Update personal information.

➤ Astronaut

- ✓ Login: using his Eye print and password.
- ✓ Check new discovers: if satellite or station discover new plants/ stars ...etc.
- ✓ Contact to admin / supplier: the astronaut can be contact to the admin/ supplier.
- ✓ Check mission: if there is any new space missions the astronaut can check it at any time.
- ✓ Register mission: also he can register to any new missions.
- ✓ Print reports about last transaction.
- ✓ Manage signal by sending or blocking it.
- ✓ Get information from the space shuttle.
- ✓ Get new images from space shuttle / station.
- ✓ Login Launch: the astronaut must login to launch shuttles.
- ✓ Set launch time: set the starting date and time of launch shuttle which will travel to the space.
- ✓ Get ready information at the time of launch shuttle.
- ✓ Warning people before launch.

➤ Employee

- ✓ View tasks: this person can view his tasks during day work.
- ✓ Confirm tasks: he can accept or not accept this tasks.
- ✓ Reporting, printing and contact: discussed before.

➤ Engineer

- ✓ Math operations
- ✓ Send tasks: he can send tasks to employees.
- ✓ Send required equipment to the supplier to support it to the station.
- ✓ Check equipment: check the equipment and its statue.

➤ Doctor

- ✓ Set advices to anyone in the system in daily news.
- ✓ Check people health by view their health report.

➤ Supplier

- ✓ Check missions: supplier can check new missions and the financial cost of this mission and he can decide to support this mission or not.
- ✓ Deposit money when he want to support any missions or support the station the supplier will access the bank system and translate the money to the station.
- ✓ Contact to astronaut to discuss the mission support.
- ✓ Send Decisions about his support or not.

➤ Security

- ✓ This person can check cameras and watch them, also he can see access people and their access time or fault access people.
- ✓ Alarm: if there is any one try to hack or access to the system by illegal ways he can do alarm to the system and the station.
- ✓ Contact to admin if there is any danger thread and tell him to shut down the system or restart it, and he can also contact to the police if there is any dinger.
- ✓ Scan system from any threat or danger.

Scenarios

Main Page

When everyone want to access his account on the system the main form will appear and he choose his access as (Admin, Astronaut, Security, Employee or Supplier) after his choice he will write the password in login textbox and when he submit the login button the information of the login person send to the DB and check his information, at the same time the login time of this person will save to the DB when this person login correct his main form will appear and this step differ from one person to another in the system, when the access is fault the system will save his information on access fault people data on DB and he can try only for 5 times if he overrun this times the system will warn the security about fault access.

Astronaut

Login	At 06:00 PM astronaut "Ali" want to access his main page in the system after he set his password, the system translate his information to the DB and check validation, after valid access, the system turn "Ali" to print eye form to check his print eye and then "Ali" check this again the system turn his information to DB and check It, the system save access time to DB at 6:10 PM and person "Ali" access the system and he is online now, when he pass last step correctly the main page will appear.
Check new discover	"Ali" want to check new discoveries from the space shuttle, from his main page he will chose check new discovers from his form and then new form will appear, then all new discovers will appear with its time of discover.
Contact to admin	When "Ali" have any problems on his main page he will contact to admin, so he choose contact button, then he type the admin name in search textbox and the search will appear the contact information to "Ali" and he can contact to him.
Check missions	Similar to last check new discover transaction.
Print report	"Ali" write information about new discoveries and he wants to print them, then he will chose print form and them the system will check if the printer is valid or not, if it is valid "Ali" can now choice his document to print it, if it is not valid "Ali" can save the document information and when the printer is valid it will print the document automatically.
Register missions	After "Ali" Check new missions he can register to only one mission so when he enter to register mission the check form will appear and tell him to wait, at the same time the check method will automatically check if "Ali" is register in any missions before or not and if he pass this step he will be able to register in registration form, then the system will check his skills and register him if he pass this skills information.
Launch	When "Ali" will launch any space shuttle to the space, he chose the launch page and then he will login again in this form for more secure, after that the launch page appear and he check first the fuel and devices and the region of launch is clear and he will do warning using warn button, then he will launch the shuttle by using launch button, when the rocket is ready to stage 1, 2, 3 or 4 the rocket send message to tell him that this stage is ready to launch and "Ali" will confirm stages using the system, after the mission in its orbit he will able to control the shuttle.

Add discoveries news	When “Ali” discover new thing in the space he can note it in the news of the station and write the information of this discover to show for everyone again when he want to check new discover.
Add mission	“Ali” wants to get more information about anything in the space he can add this mission to the space shuttle to get information about it, so when “Ali” wants to do this he add start and end time of his mission to the shuttle system and the shuttle system check if this time is reserved or not, if isn’t he will reserve this time to his mission after that “Ali” will write the location of his mission on the space and the shuttle will retrieve to him the result of search.

Admin	
Check devices	Admin can check devices when he entered to check devices form, then the system will check connected devices and return report to admin about this devices statues.
Shutdown	When the system is in danger or if there is a new device we want to connect it to the system the admin will shut down the system using shut down button.
Update	If there is a new device connected to the system the admin must define it using update form and when he entered to it he can select the new device and define it to the system.
Add / Delete / Update	Admin person can add / delete or update any one to / from the system using any form of three forms of this actions, he will insert full information in add case or search about the actor to update / delete him.

Security	
Check cameras	The security can access cameras and watch it using check cameras button which turn him to camera’s form which divided into several views and all camera’s will show it’s view on this form.
Check access people	The security can check all access people at any time when there is any thread he can entered to this form and show access people to select the region of the thread.
Check fault access	When there is any one access fault to the system the message will appear to the security tell him that there is fault access from person X and the security will select the location of this person and call the police if this person constitute a risk on the system.
Alarm	This is a simple function when there is any risk on the system the security will press alarm button and call the police.
Scan system	Every day the security enter to the scan system form and he scan the system from any virus or any spays or any danger on the system after he scan he will able to delete or repair the threat on the system from this form.

Supplier	
Deposit money	After the supplier view missions and when he decide to support any of this missions he will access to deposit form and access his bank account and translate or deposit money to station account to support the mission.
Send decisions	When any engineer or astronaut wants any equipment or support from supplier they send reports about this support to the supplier and he view it then he decide to support or not by sending support decisions to the astronaut or engineer.

Doctor	
View Report	View report form will show the doctor all information about every person health in the station and he contact to him to tell them about Treatment methods.
Set advices	The doctor can set advices to the system as this advices will appear to everyone in the system as general advices, when the doctor access the set advices form he able to write it on the rich text box and after he is ended he submit this advice and then this advice will appear to everyone.

Engineer	
Math operations	When an engineer need to do complex mathematical operation he access to math operation form which have several complex math operation and he do his mathematical operation.
Send tasks	The engineer have several employees so he need from them tasks and this achieve by this form which the engineer enter or write the tasks in it and select the employee which will do this task and submit it.
Send required equipment's	When there is any shortage in any equipment he send report or information about this equipment to the supplier or astronaut to provide it.

Employee	
View tasks	View tasks form will appear to any employee and it contain all tasks which is written by the astronaut or engineer.
Confirm tasks	After the employee view his tasks he will able to confirm all of them or select some of them to ensure that the selected tasks taken from this employee.