**KARACHI PORT TRUST (KPT)**

Internship progress report

The following report will cover Brief History, Mission Statement, Different Terminals, Services provided by KPT. Also day to day activities covered during the Month of July 2018.

## **SELF-INTRODUCTION:**

My name is Muhammad Moiz Siddique, I’m from Muhammad Ali Jinnah University doing BS in Software Engineering currently in 2nd Year and more passionate in learning new programming language, now a days my expertise is on OPEN SOURCE and CYBER SEQURITY. Regarding OPEN SOURCE my tools is IONIC for building native ANDROID and IOS web based mobile application and in CYBER SECURITY its ~~Anti-Hacking~~, also some usual languages learns from university like C, C++, C#, JAVA and also aside on RUBY-ON-TAILS, ANDROID, SWIFT and a Strong background on web both on Front-Hand and Back-Hand. That’s all.

## **HISTORY ABOUT KPT**

Karachi due to its geographical and strategic location is known as the gateway to Asia. By 1852, Karachi was an established city with a population of about 14,000 with a prosperous trade in over-seas markets. However, the existing Port started taking shape in 1854, when the projects of dredging the main navigable channel and the construction of a mole or causeway joining the main harbor with the rest of the city were undertaken. About 5 years later, construction of Manora Breakwater, Keamari Groyne, the Napier Mole Bridge, Native Jetty and the China Creek were started which gave initial shape to the port.

## **MISSION STATEMENT OF KPT**

"In pursuance of the Landlord Port Strategy, to lease out port infrastructure, land, access and assets to private port operators on long term basis while retaining regulatory functions."

## **KPT Profile**

The Karachi Port is administered by a Board of Trustees, comprising Chairperson and 10 Trustees. The Chairperson is appointed by the Federal Government and is also the Chief Executive of Karachi Port Trust. The KPT Chairman is either a senior [Central Superior Services](https://en.wikipedia.org/wiki/Central_Superior_Services) officer or an admiral from [Pakistan Navy](https://en.wikipedia.org/wiki/Pakistan_Navy). The remaining 10 Trustees are equally distributed between the public and the private sector. The Vice Chairman of the Board is Chairman [Pakistan National Shipping Corporation](https://en.wikipedia.org/wiki/Pakistan_National_Shipping_Corporation) (PNSC). The Chairman PNSC holds this position ex office. Another notable member of the Board is Commander Karachi (COMKAR) of [Pakistan Navy](https://en.wikipedia.org/wiki/Pakistan_Navy). The COMKAR is also a member of the Board ex office.

## **SERVICES**

KPT (Karachi Port Trust) provides wide range of value services added and solution to different Departments. KPT has thirty dry cargo which handle bulk, break bulk and containers. The berths ranging from 1-17 are located at East Wharf, while the berths ranging from 18-30 are located at West Wharf.

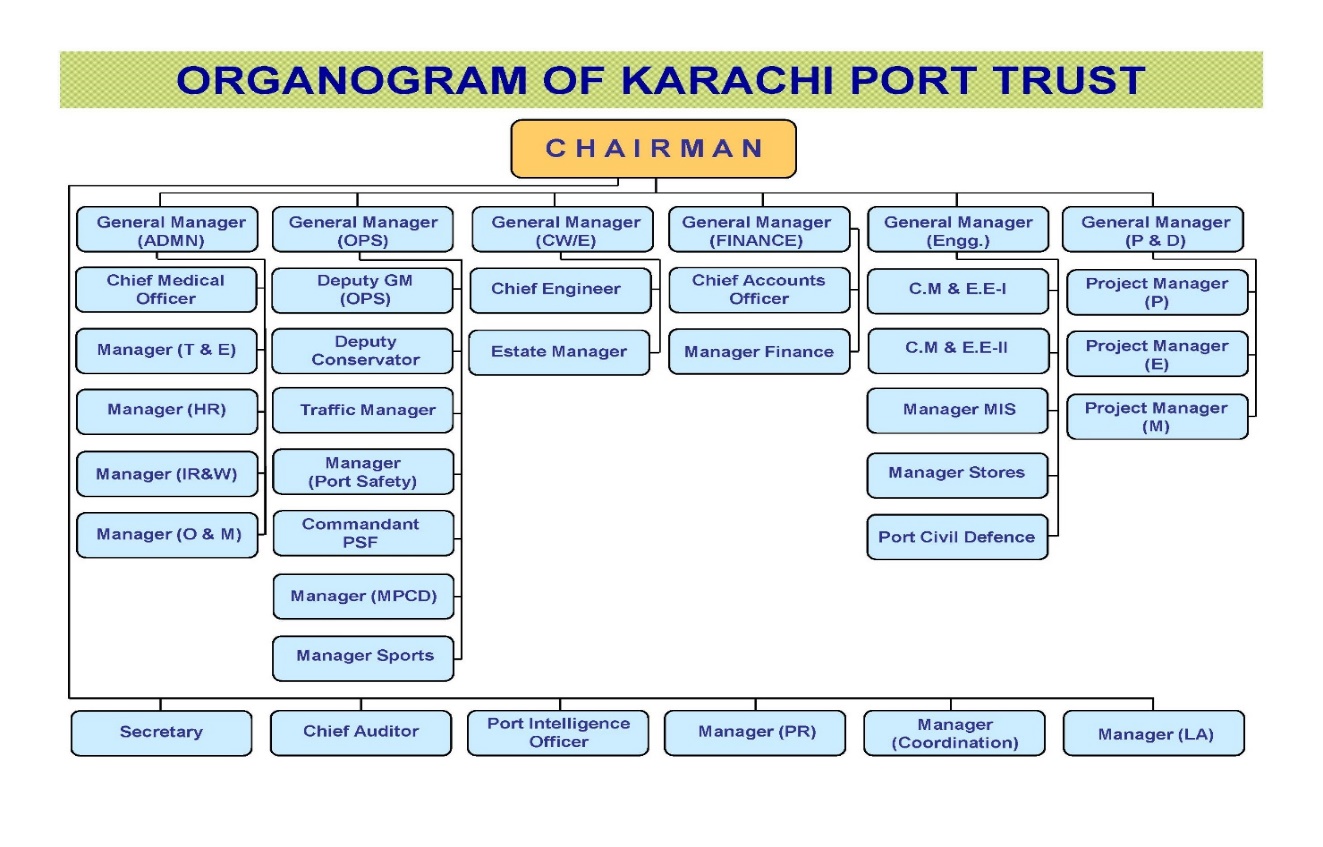
Following are some main features and facility services

* Transshipment facility
* Excellent connectivity
* Wide choice of carriers
* Quick access to global market
* Discounted cargo and shipping tariff

## **Head Office Building**

Our national heritage embarks our cultural symbol in form of Karachi Port Trust’s Head Office Building. It was incorporated in the era of British government in sub-continent. The first glance of the building reminds us the renaissance of British Raj. It is a wonderful amalgamation of British, Hindu and Gothic cultures. G. Witted has designed the KPT Head Office, who was a consultant architect of the Government of Bombay.

## **Hierarchy of KPT in Divisions**



## **DAY # 1**

## **ON FIRST DAY FIRST MEETING WITH SIR WASSEM (DBA):**

Internship sections starts with the hierarchy of KPT, there are six division and six GM General Manager and each GM commands a department and department controls specific areas accordingly like MIS comes under operations department so it controls all the operations regarding software’s and hardware’s.

Hierarchy of Operation department as follow:

* Chairman
* General Manager
* Deputy Manger
* Deputy Conservator
* Traffic Manager
* Manager Port
* Manager MIS
* Commandant PSF
* Manager (MPCD)
* Manager Sports

## **INTRODUCTION TO MIS DEPARTMENT:**

Every departments are linked with one IT department in all over KPT i.e. MIS, which comes under OPERATON Division. MIS handling all the record, roaming data and running software’s as well as hardware. MIS also manufactured software when needed, there are more than 100+ software working frequently on specific tasks. It further divided into different servers based on LAN and Internet. Internet and LAN are separated for the security threats, all the application on which employee are working is on LAN and only access able in KPT and more over in the port for import export details and other.

## **Duties and Responsibilities of MIS Department:**

The responsibilities and duties of different departments. How MIS is responsible for solving the IT related problem occurring in KPT for example cross checking the employees attendance, salary and pensions delivered on time, security threats, LAN application queries, and much more other thing to standardized the organization status and also supersede in both weather international or domestic market.

## **SECOND MEATING IS WITH SIR KHURAM (PROGRAMER):**

The formation of database and software development and the programming languages they used for the development, the major tools everyone is using DOT-NET framework. Most of their applications are web based and few are desktop based.

## **INTRODUCTION TO INTERFACE OF SERVERS:**

Then he told about the working areas on the software, Servers and WEB and there are on other language then MVC works on C#. The tools Kits and the Plugin and also he explains the flow of manufactured website on ASP.net and also a C panel for the website. The oracle form based of asp and the working i.e. everyday flash/transfer to the bank for the safety and the data is organized everyday so, the new the new data can occupy space freely, for less chance of crash or loss.

## **STATE SOFTWARE WORKING CONTROLED BY HIM:**

* Select the locality and the property area
* Automations by the property dealer and the manager
* Approval by Chairman / GMO / GM
* Inherits the form
* Making their demands and pay by accounts

## **Day # 2**

## **SECOND DAY ONLY MEETING WITH Mis. Nazish (PROGRAMER):**

## **INTRODUCTION TO DEVELOPMENT IN MIS DEPARTMENT:**

She told us about the database, server and career counseling and also more details about KPT i.e. how employees used these server application and how the applications are divide in the servers and each server is specifically used in different departments in all over KPT.

Basically, there are four servers HServer, NeoServer, NexiaServer and ProximusServer. Each server consist a bunch of minimum 30 applications and can work at the same time on the same time.

## **HARDWARE CONTROLLING THROUGH SOFTWARE:**

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She also told us about the Hardware controlled system in all over the KPT i.e. bio matric systems, Camera installation, and more these all are based on Artificial Intelligence (AI) and also the future work on AI is like face recognition on which working procedures are ready and only waiting for the hardware for proceeding further. The language used for bio-matric system is DOT-NET.

## **MEDICAL CARD MANAGEMENT SYSTEM:**

A medical card software in manage by her and team which basically store the details of the user safely, manager all his / her medical records on the database and keep report computerized and also card be computerized.

She also give her personal view according to our expertise and also shares her personal Experience about her software background and also how to start and what requirement we need to get our professional jobs.

## **DAY # 3**

## **THIRD DAY FIRST MEETING WITH SIR. ADNAN SIDDIQUE (PROGRAMER):**

He starts with the hardware controlling, there are two different types of hardware controlling software base and non-software, but in KPT they working on software based because of security reason that all data have been save in backhand somewhere on the database so they can cross check it. In KPT all they are just controlling BIO-MATRIC machine, CAMERAS, ELECRIC GATES, etc.

## **HES (Human, Environment and Safety):**

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Then a briefing on HES (Human, Environment and Safety) that how to maintain unpolluted environment, safety fire walls, reduce illness, maintain fit body and be Healthy, how environment effecting machine and how to get rid of it, what humidity and temperature is standard for good health.

## **HARDWARE ACESSORIES DETAILS MANAGEMENT SOFTWARE:**

Then the port areas includes a large space where all the import are stored and also further processes are proceed from here like shipping, truck loading, empty ships and trucks and also export goods. And also the controlled operations of Hardware section from MIS sections are done some time manually and mostly done things remotely.

## **THIRD DAY SECOND MEETING WITH SIR. AZMATULLAH (PROGRAMER):**

Sir Azmatulllah programmer at KPT (MIS DEPARTMENT) visualizing the KPT incomes and expenditure software. The form are designed to do the specific work according to the request.

## **INCOMES AND EXPENDITURE:**

During the session with Mr. Azmatulllah, we discussed about the Revenue/Expenditure Resources of KPT. It has handed over their Berth on Lease to third party KICT, PICT and SAPTL. Other Income Resources is Real Estate. It includes renting Lands and Shops for the Monthly or Yearly Basis.

## **RM MODULE SOFTWARE**

He told us about the release of funds and sanctions, if amount is below 5 lakhs so, General Manager is authorize to release the amount and it amount exceeds 5 Lakhs there is mandatory requirement of approval from Chairman.

## **Weigh Berth Calculating:**

Describe software used on different Weigh Berth for calculating Weigh amount. First Weigh and second Weigh (loaded Weigh) for the loader Transport. There is also offline system of Weigh Berth in case if online servers are down or not working So, the data of weighbridge system saves on offline Access database which then export to online server when computer becomes online.

## **Day # 4**

## **FOURTH DAY ONLY MEETING WITH SIR. FURQAN (PROGRAMER):**

The Form formation and the RE Expenditures consults as like, as I told before the form are on oracle and also discussed about the OE Expenditures are similar to the RE Expenditures. RE Expenditures include the same hierarchy as the OE have, the few change are in the form are defined in the hierarchy as follow:

1. **First select weather details are of buying or selling**
2. **Then select the type area, KPT want to purchase**
3. **Then id generated by the form if selling otherwise allotted id is used for third party involvement.**
4. **Then it generates automatic rest of the details from database according to id provided.**
5. **Then select weather it’s income or Expenditure then according to it payment process runs.**
6. **Then it send the details and payment amount of head and there are also validations like GMO can approved only less than 5 laces, similarly Chainman can approved only less than 10 laces and above than only board can approved it.**
7. **And also in between audit recheck the deals and can make objections on it.**
8. **After all the process and get the amount details are transferred to the accounts department then accounts department pays the dealer and take the amount**.

## **PICT MANAGEMENT SOFTWARE:**

Now PICT (Pakistan international Container Terminal) is basically working in KPT as the domestic Export and import terminal and its based height and weight of the truck and also other thing like cranes etc. PICT collects the fair on each incoming and outgoing truck.

## **Leave Management System Software:**

Leave Management System the data of leave of the employees is manage by him. These leaves can be requested or uninformed. As in KPT there are limited leaves in which daily wages is not deducted so it also manages count of those leaves. And those leaves which are left add to employee further leaves in future.

## **Fuel Management System SOFTWARE:**

There is also a fuel management system in which petrol pump owned by KPT is responsible for the fuel provision of different transports vehicles like Trucks, officer’s cars and Schools vans and other. The record of all the expenses are updated on database in daily wages.

## **DAY # 5**

## **FIFTH DAY FIRST MEETING WITH SIR. WASEEM (DBA):**

As, I have taken before a lecture with sir wassem in which he already explains the hierarchy of Working of MIS department and I already have mention it above all. Basically there are four main servers are installed in the datacenter where all the servers replace integrated jobs like if one down then rest of the servers are keep running there are no dependency of the server on the other.

## **TYPES OF SERVER AND ELECTRIC GENRATING DEVICE IN KPT (Datacenter):**

Then it’s categorized according the sizes of the server, majorly 20u and 40u of size which consumed the space of the 42u crate cupboard like vessels which contains these servers. There are up to 40 servers bodies are available in there and as we are living in the city of light but no light available but light is available (load shading) for this there are more than 150 kg contain Battery CPU’s are available on the backup.

## **IP’s and Domains KPT have:**

Also the brief on the IP and domain. Some conditions are set that is all the domains and IP are must be Purchased by NTS it is a government IT services company which provide the domain for the government company and which strictly in policy and also 30 times more expensive then the private sectors are providing and KPTs domain is issued NTS.

## **FIFTH DAY SECOND MEETING WITH SIR. OWAIS (TSO/NETWORK):**

## **Network using in all over KPT internal and external both:**

Networks all over KPT basically, divide into LAN and INTERNET and also the management of all the KPT online working in on the LAN only very special and too restricted access are allotted to the person on the request of the head of that allows to give him the access. Only few peoples have the right to access everything on the KPT network tropology formed set by those consultants.

## **API’s allotted according the department details:**

Now how the IP’s are allotted to the different department i.e. first department abbreviation, then area then PC allotted configure number then PC port and then port id e.g. MIS-O140-12. There are 600 computer currently working in the KPT LAN and MIS technical support office have a tropology based access which can be controlled in by sitting in his office. All department have same tropology’s and but the LANs are separated for the cameras and bio-matric machine.

## **DAY # 7**

## **SEVENTH DAY FIRST MEETING WITH SIR. Tariq (SYSTEM ANALYSIST):**

Sir. Tariq (system analysis) managed the port operations like Cargo details, vessel unloaded etc. by IPOS. Basically port office hits the details to database and Sir. Tariq cross check the hitting target.

## **IPOS (Integrated Port Operating System) Software Managing:**

The software he’s using is IPOS and also some Server software like Cargo, Shipments and container vessels. IPOS abbreviates Integrated Port Operating System. MIS are controlling two IPOS i.e. IPOS 85 and IPOS 90 basically the reason behind the make of two IPOS servers is the first IPOS 90 is handed in to Hamdard University, therefore they didn’t give the code of IPOS 90 so MIS have to design the new IPOS with new changes and recent developed application.

## **WORKING OF IPOS ON PORT:**

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Now details entries, Oracle forms have been designed to fill the Cargo income and outgoing details rest of the form is auto filled up and how the cargo is loaded and unloaded and also the weight of the truck, the height of the truck and according to height a fare is charged on it like 20ft = 700Rs and 40ft = 1400Rs and all the entire details are directly saved in Database.

## **SEVENTH DAY MEETING WITH SIR. SAQIB (Dept. Manager Hardware):**

Basically there are five ways of management, hierarchy is set its goes like:

1) Procurement of its Hardware and Software

2) Service level agreement

3) IT inventory Management

4) IT Asset Management

5) Complaint Management.

## **The process in KPT of hardware purchasing using these five check in are as follow:**

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* First some initiate the problem regarding purchases then
* check the Procurement of that hardware then goes throw the CSD section in store department then two part of CSD section are
* local presidium availability
* audit section
* UR un-compiled recognition basically compare the market rate at least from two or more companies for selecting best and cheaper
* Tender and also after audit it can directly linked to audit
* Ceasing section for refining all the market rates
* Tender is open to purchase and also same process for selling.

## **DAY # 10**

## **TENTH DAY FIRST MEETING WITH SIR. ARIF (Sr. PROGRAMER):**

Sir. Arif was a senior programmer who manages a varieties of tasks regarding server software as well as servers.

## **E-File Server**

E-file is basically used for the online documentation to reduce the paper working. It is also very useful in the case like if a paper worked file is passed and file missed or someone dumped it or forget to passed in that cases efile is very useful to get the document on time and a backup is always ready for the cross check.

Efile also maintains the linkage thought which file can be share easily and more secure than the internet sharing because efile work on the personal LAN, everyone can access it for file sharing and other documentation work.

## **Medical Card System**

A medical card software is manage by him and team which basically store the details of the user safely, manager all his / her medical records on the database and keep report computerized and also card be computerized. It is also reducing the tendency of paper working and report are easily shareable through efile as I told above.

## **TENTH DAY SECOND MEETING WITH SIR. PREM (PROGRAMER):**

Sir. Prem was a Programmer who basically manages the pension software and hospital management system.

## **PENSION SYSTEM:**

Pension system upholds the variety of tasks like create a new pension, transfer details to bank where pension is cashed, increase or decreases the basic but, probably increase, cashed pensions details, assigned the letter to the employee whom goanna retire, letter is assign before 18 month of his retirement, the last pension pays, the increment of pension according the increment of basic and many others.

## **Hospital Management System:**

The hospital management system includes the computerized medial slips, the patient’s crashed report, the patient’s entries, medicine’s approved from port and delivered to patient’s, the enrolled ward patient’s, doctor ids, patient’s id, panel operations from different hospitals and much more. It one the KPT’s biggest software system and is running 24 hour, report is updating in each minute.

## **ELEVENTH DAY MEETING ONLY WITH SIR. SHAHUBUDDIN (NETWORK ADMINISTRATOR):**

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Sir. Shahbuddin was a active member of network division, where basically works on the maintenance and crosschecking of datacenter from cyber-attacks, maintain the LAN and WLAN, sharing secure network to the user both on LAN or internet, assign right to user accordingly, and also handing administration fields are as follow.

* Network administration
* Domain administration
* Emails administration
* Cameras and other hardware posts administration
* Protocols administration
* Datacenter administration
* Firewall administration

## **Ports, protocol, LAN Networks, WLAN Networks and Rights:**

KPT contains several port also of USB and old ports, because there are approximately 400 computer working in head office, now the protocols they are using are FTP, HTTP and somehow STP, HTTP is used for the internet pc, as I told before in KPT there are two networks LAN and internet separate and FTP is used for LAN and also help in Assigning rights to user accordingly. LAN networks contains some virtual servers which are used allover in KPT. WLAN is used specifically in some where really needed on the approval of chairman or head of the department. Rights are assigned on WLAN that only the relative website are allow to access and also on LAN PCs any external sources in totally blocked.

## **T-FILE SYSTEM:**

T-File system provide user’s space up to 4GB now its change to 5GB where all the personal data is stored when needed. So, in case of change the OS Operating System T-file is very useful to store the backup. It also, the extendable storage when really need like if user data is 15GB so for temporary purpose user provided the following needed space accordingly.

## **LAST MEETING WITH SIR. SHAHKEEL (PROGRAMMER):**

Some most running software’s like V-BOK, IVR and VMS are in handed to him and developed by him.

## **V-BOK System:**

V-BOK creates a great interface which allows the user to be comfort and friendly throw making most thing automatically. It’s mainly used by store department for the queries of the stored and installed hardware in all over KPT. V-BOK allows to make more things systematic like the control of hardware is easier, networking is more sufficient and many other thing.

## **IVR:**

IVR is currently running in the reception area for the identifying and catching the details of the employees. The interface and hierarchy of the software as follow:

* LOGIN
* INPUT DETAILS AREA AND IMAGE IDENTIFING
* DETAILS CATCH UP
* PREVIOUS ENTRY DATES
* RECORD SECTION OF ATLEST LAST ONE WEEK
* PREVIEW DETAILS

## **VMS:**

VMS is designed for helpline and contact system through which people from outside can contact KPT. VMS is just like helpline system of PTCL, ANY network telecom company etc. to guide the peoples regarding their queries about them. The VMS system hierarchy and step to hold the incoming calls are as follow:

* First it auto reply the incoming calls.
* Then according the caller preform operation call diverts.
* Some extension are assigned to different operators.
* If caller doesn’t perform any operation, call diverts to operators.
* Also if a call is for any employee than operator diverts the call to the following employee’s extension
* It allow operator to access all the extension in KPT.
* Registry complaint or queries Online and display a charge to Operators.

## **Conclusion:**

I can honestly say that my time spent interning with Karachi Port Trust resulted in one of the best summers of my life.  Not only did I gain practical skills but I also had the opportunity to meet many fantastic people. The atmosphere at the KPT office was always welcoming which made me feel right at home. Additionally, I felt like I was able to contribute to the company by assisting and working on projects throughout the summer. For example, I created a portal according to need’s whom assigned me. Also, I helped in developing a software to look after the KPT’s news clipping and a website for as my project.

Overall, my internship at Karachi Port Trust has been a success. I was able to gain practical skills, work in a fantastic environment, and make connections that will last a lifetime. I could not be more thankful. That’s all!