**CHAPTER 1**

**INTRODUCTION**

* 1. **Objective**

A property management system (PMS) is a software solution designed to help property managers and landlords streamline and automate various tasks related to managing properties. It typically includes features such as rental property listings, tenant management, lease tracking, maintenance requests, financial management, and reporting. To maintain client details line contact details, required property details, client type like residential and commercial client & price limit. To maintain property details, registration of property for sale includes property address, property description, price, facilities available.

* 1. **Scope**

The scope related to property management system (PMS) refers to the organization and structure of digital files and documents within the system. Here are some aspects within the scope of file structure in a PMS:

* Property Information: The PMS stores property-related information, such as property details, descriptions, photos, and floor plans. The file structure should include appropriate folders and subfolders to categorize and organize this data.
* Financial Records: The PMS handles financial transactions, so the file structure should accommodate financial records, including invoices, billing statements, and financial reports. These files should be organized in a way that enables efficient tracking and retrieval.
* Maintenance and Repair Documentation: Property maintenance and repair records, including work orders, service contracts, and maintenance schedules, should be structured within the file system. This allows property managers to easily locate and refer to these documents when needed.
  1. **Motivation**

The motivation behind implementing a property management system (PMS) can be Revenue Optimization can help property owners and managers optimize revenue generation. With features like integrated channel management, rate management, and real-time availability updates, a PMS ensures optimal pricing, maximizes occupancy rates, and enables effective revenue management strategies. Behind implementing a property management system revolves around improving efficiency, enhancing guest satisfaction, optimizing revenue, gaining data-driven insights, and ensuring compliance and security. By leveraging technology and automation, a property management system offers numerous benefits to property owners and managers, making it a valuable tool in today's competitive property management landscape.

**CHAPTER 1**

**INTRODUCTION**

* 1. **Importance of software Testing in Cyber Security**

With the ever-increasing number of cyber-attacks, it’s more crucial than ever for companies to invest in cyber security. This can lead to millions or billions of data points being compromised and stolen by hackers. In addition, these breaches are costly and take a long time to recover from these ways

1. **Penetration Testing**: A penetration test (pen test) is an authorized simulated attack performed on a computer system to evaluate its security. Penetration testers use the same tools, techniques, and processes as attackers to find and demonstrate the business impacts of weaknesses in a system.
2. **Security Testing**: vital for security testing to be performed at all stages of a software development life cycle. It includes any time an update is being made, a new feature needs to be added, or even an upgraded package.
3. Usability Testing: Ability testing is instead focused on the end-user, on how easily he was able to use the interface and if the design of the interface was friendly enough.
4. **SAAS, PAAS, & IAAS**: A business can’t afford to be hacked. With all of this in mind, on-demand cloud computing models such as Software as a Service (SAAS), Platform as a Service (PAAS), Anything as a Service (XAAS), and Infrastructure as a Service (IAAS) have been gaining popularity over the past several years. To ensure complete security when testing on these platforms, companies should always download the latest version of their operating system (such as from PAAS providers) and re-test any code before uploading it to avoid vulnerabilities in the creation process.
5. **Configuration Management Testing**: Configuration Management testing is a systems engineering process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design, and operational information throughout its life.

**1.2 Tools of Security Testing**

The Cyber Security Tools are as follows:

* Kali Linux
* Cain and Abel
* Metasploit
* John the Ripper
* Wireshark
* Nikto
* Tcpdump
* KisMAC
* NetStumbler
* Splunk
* Forcepoint
* Aircrack-ng
* Nexpose
* Nagios
* KeePass
* Burp Suite
* POF
* Paros Proxy
* Nmap
* Nessus Professional
* Master a Cyber Security Tool

**CHAPTER 2**

**CYBER SECURITY**

**2.1 Introduction**

The technique of protecting internet-connected systems such as computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks is known as cyber security. All critical infrastructure such as the banking system, healthcare, financial institutions, governments, and manufacturing industries use devices connected to the Internet as a core part of their operations. Cyber-attack is now an international concern that hacks the system, and other security attacks could endanger the global economy. Therefore, it is essential to have an excellent cyber security strategy to protect sensitive information from high-profile security breaches.

* 1. **Testing Techniques used in Cyber Security**
* **Boundary value testing :**

Boundary testing is the process of testing between extreme ends or boundaries between partitions of the input values. So these extreme ends like Start- End, Lower- Upper, Maximum-Minimum, Just Inside-Just Outside values are called boundary values and the testing is called "boundary testing".

The basic idea in boundary value testing is to select input variable values at their:

* + Minimum
  + Just above the minimum
  + A nominal value
  + Just below the maximum
  + Maximum

Example: for user id when can apply same for password it works like this

Let’s have condition password min 4 char max 10 char in length. Password can be anything since password depends on userid.

MIN-1

User ID : master

password : abc

result :Should not accept should popup msg "enter Correct Password".

MIN

User ID : Master

password : abcd

result : Should accept

MIN+1

User ID : Master

password : abcd

result : Should accept

MAX-1

User ID : Master

password : 123456789

result : Should accept

MAX

User ID : Master

password : abcd123456

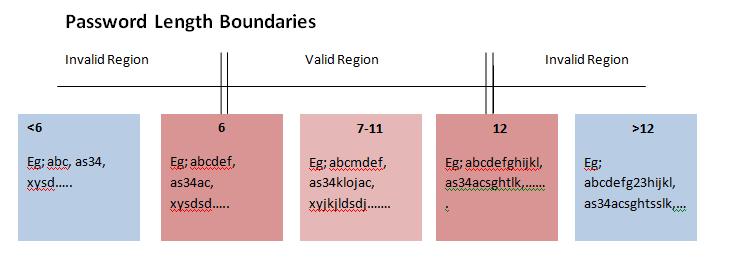
result : Should accept

MAX+1

User ID : Master

password : abcd1234567

result : Should not accept should popup msg "enter Correct Password".



**Fig. 2.3.1** BVT through Password Length Boundaries

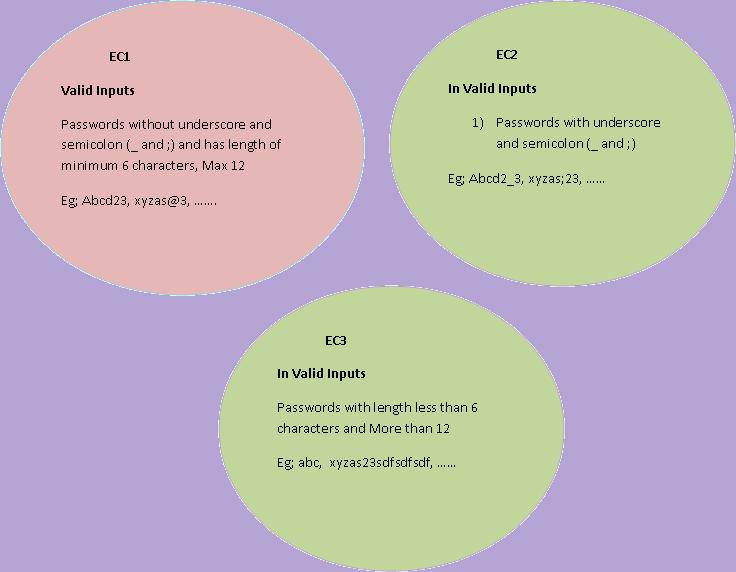
* **Equivalence Class Testing**

Equivalence Partitioning Analysis is a testing technique where input values required for testing are grouped into two classes

1. Valid Inputs Class: Class which holds all the valid inputs.

2. Invalid Inputs Class: Class which holds all the Invalid inputs

Eg; To Check the Password which can accept all the characters except underscore("\_") and Semicolon(";") and which accepts characters length 6 and maximum 12.



**Fig. 2.3.2** EQA through Password Length Boundaries

Now to perform positive testing, Consider set of values from class EC1, when the password is entered "Password is accepted"

To perform Negative Testing choose the values from class EC2 and EC3, when the password is entered from these classes "Password shall not be accepted by the System"