**Assignment 1 :**

**Create high level system test plan and system test case specification for below system.**

Home security embedded system

for inspiration refer below available home security product details from manufacturer website.

ex: <https://www.security.resideo.com/product-repository/vista-20p>

**Description:**

# VISTA-20P -Product

VISTA® Control Panel

The high capacity, feature-rich VISTA-20P lets you deliver more value to your customers on each and every sale with up to 48 zones of protection, Internet uploading/downloading, graphic keypad support and dual partitions. VISTA-20P gives you the ability to send alarm signals and upload/download via an Internet Protocol (IP), improving the speed at which information can be delivered to and from the control panel. In addition, the VISTA-20P, used with an AlarmNet® Internet or LTE communicator can be installed in premises without TELCO lines. The panel’s installation advantages, innovative end-user benefits and robust system capacity make the value-priced VISTA-20P an ideal choice for higher end installations.

Features:

* IP alarm reporting and uploading/ downloading capability for Internet and Intranet use via iGSMV4G, 7845i-ENT, GSMV4G or GSMX4G
* Supports four graphic touchscreen keypads
* Wireless keys can be programmed without using zones
* Eight on-board hardwired zones standard (15 when Zone Doubling feature is used)  
  – 40 hardwire expansion zones  
  – 40 wireless expansion zones
* Two low current on-board trigger outputs
* 100 Event Log viewable at system keypads with time/date stamp
* 48 system user codes assignable to either partition
* Expandable to 48 total zones when used with hardwired and/or wireless expansion modules
* Two independent partitions plus a common partition  
  – Global Arming from any system keypad  
  – Go to function to view or operate one partition from the other  
  – Separate partition account numbers
* 16 output devices  
  – Relays (Model 4204 Relay Modules, or 4229 Expansion Module)
* Four installer-configurable zone types allow the installer to create custom zone types by assigning all zone attributes
* Supports four-wire and up to 16 two-wire smokes  
  – Works with Sentrol CleanMe™ maintenance signal
* Multiple actions on output devices depending on system state  
  – Turns lights off when system arms  
  – Turns the same light on when system disarms  
  – Flashes same lights when system is in alarm
* Built-in phone line cut monitor with programmable delay and annunciation options  
  – Display on system keypads  
  – Trigger local sounders  
  – Trigger system bell

Valuable End-User Features

* Viewable on system keypads:  
  – Exit countdown  
  – Time and date display\*  
  – Event log\*
* Auto keypad backlighting on entry
* Keyswitch arming
* Programmable macro buttons and single-button arming
* Supports a variety of wireless remote controls for single-button operation
* User Schveduling  
  – Latchkey reports to pagers  
  – Auto arm/disarm  
  – “User access” time windows
* VIP Module allows system control from any touchtone phone
* Chime by zone

**Assignment 2**(test script development- preferrably in python or C#)**:-**

**System feature description**

System has rectangular shape measuring work area and a robot visits points inside rectangle work area for measurement of those points and ouputs information in log file(txt file) about visited points.

Write a script to verify output of system to check system functionality whether robot has visited correctly inside of rectangle work area or not.

* Assume arbitrary set of expected visiting points and rectangular work areas for a robot from external data file(e.g: input\_file.1630412935.txt attached).
* Example of output file log file for input file input\_file.1630412935.txt looks like as attached in this assignment as ouput\_file.1630412935.txt.
* Write test results in another external file about expected vs actual result(pass or fail depending on actual output of system) refer attached e.g: test\_result\_file.txt for similar reference.