4D SYSTEMS
MAKING HUMAN INTELLIGENCE SMARTER

4D Systems

Display Interfaces for Smart Buildings

MARKKU RIIHONEN

GLOBAL PRODUCTS AND BUSINESS DEV MANAGER

Europe

SEPTEMBER, 2021

Content

- Introduction to 4D Systems
- 4D Systems Solutions for Building Automation Display Interfaces
  - Hardware
  - Software
- Knowledge Resources
- Q&A

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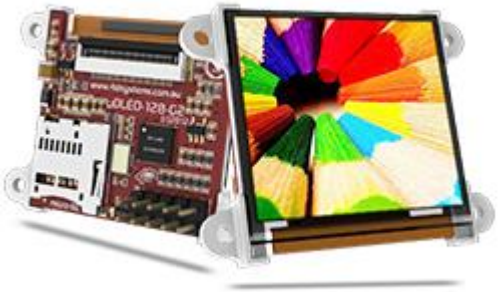
4D SYSTEMS

TURNING TECHNOLOGY INTO ART

4D Systems designs and manufactures compact and cost-effective Intelligent Display Modules using the latest state of the art OLED and LCD technology with an embedded custom graphics processor.

Mission:

We empower forward-thinking engineers, designers, and organisations with the ability to achieve their objectives using our intelligent display solutions.



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One Stop Shop for Embedded Display Solutions

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Complete Hardware & Software Solution

- Quickly Develop and Integrate a GUI with Touch functionality to virtually any application.
- Reduce Development time to days or weeks instead of months or years.
- Extremely fast time to market vs. traditional approach to display and touch screen integration.

Intelligent Display Modules & Bare Displays

Graphics Controllers

Software Development Tools

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Replacing Buttons with GUI and Touch

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About 4D Systems

- HQ Australia
  - R&D
  - Manufacturing ISO 9001 Certified
- Regional Offices in
  - Austria
  - Malaysia
  - New Zealand
  - Philippines
  - Turkey
  - United Kingdom

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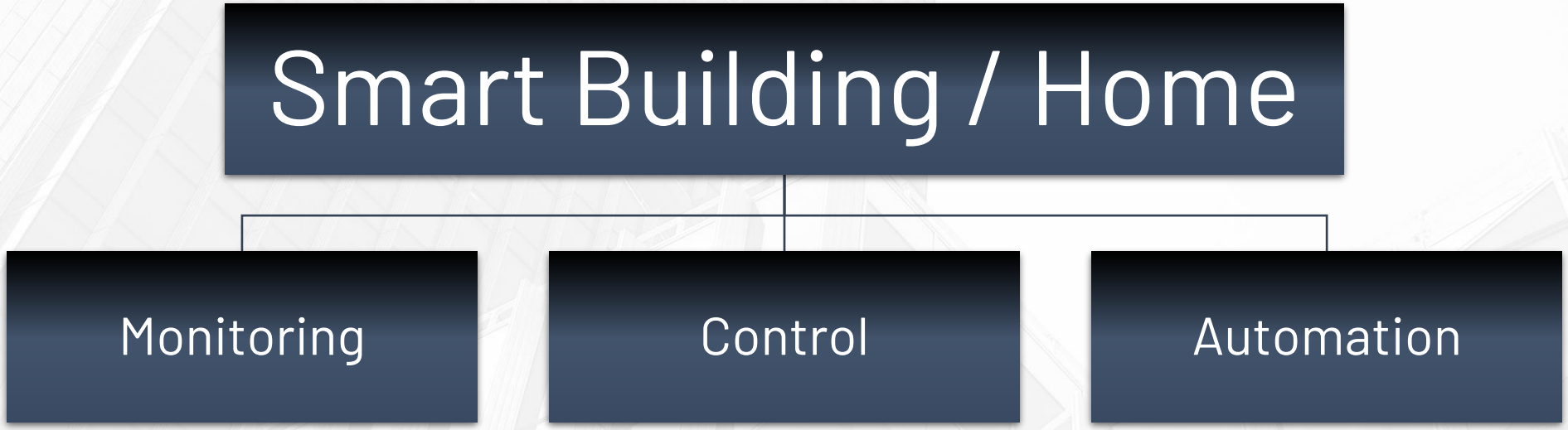

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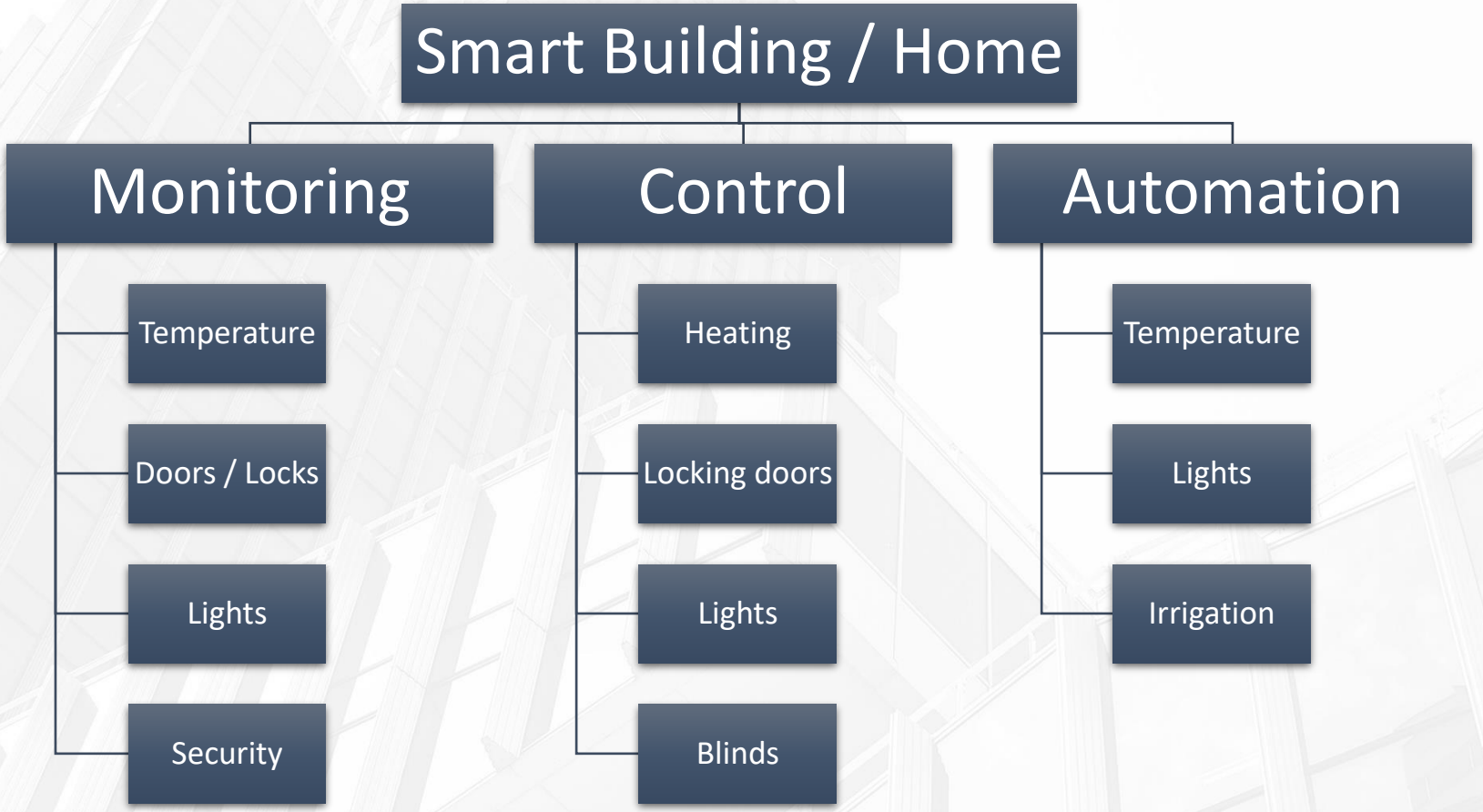

Local control - important & convenient

- Many systems rely on the Internet or cloud services
- Only mobile phone or tablet control can be inconvenient
- Dedicated local control adds convenience and stability

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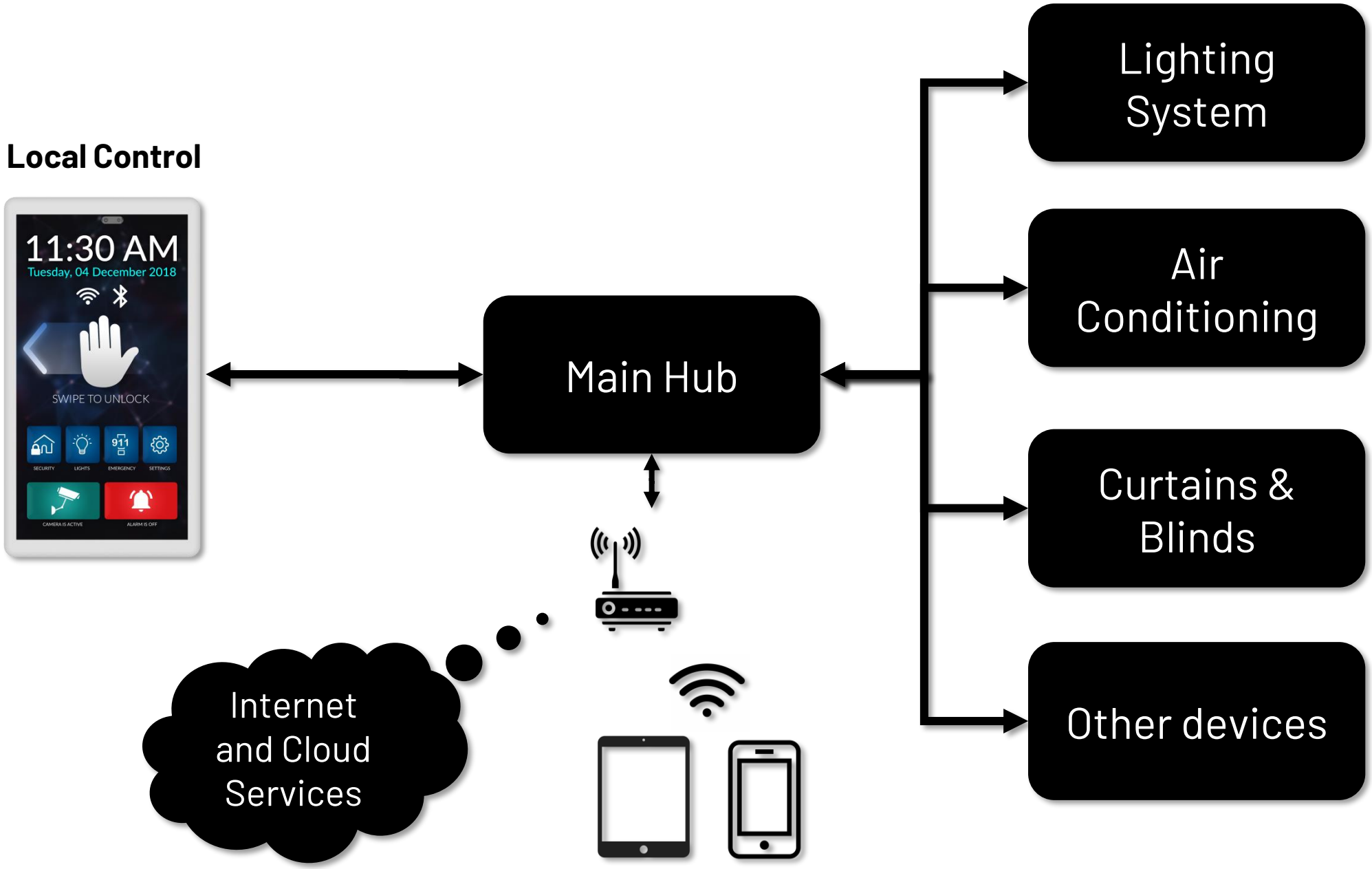
Local Control
11:30 AM
Tuesday, 04 December 2018
SWIPE TO UNLOCK
SECURITY
LIGHTS
EMERGENCY
SETTINGS
CAMERA IS ACTIVE
ALARM IS OFF
Main Hub
Internet and Cloud Services
Lighting System
Air Conditioning
Curtains & Blinds
Other devices

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4D Systems Solutions for local control and monitoring

4Discovery Line

Building Automation and Machine Control

- 4Discovery-35

- 4Discovery-50

- 4Discovery-13 (coming soon)

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4Discovery-35

- 3.5” TFT LCD with Resistive Touch
- DIABLO16 Processor
- RJ45 Interface with RS485 Communications (PoE ready)
- Wall or Panel Mountable
- Programmed with Workshop4 IDE

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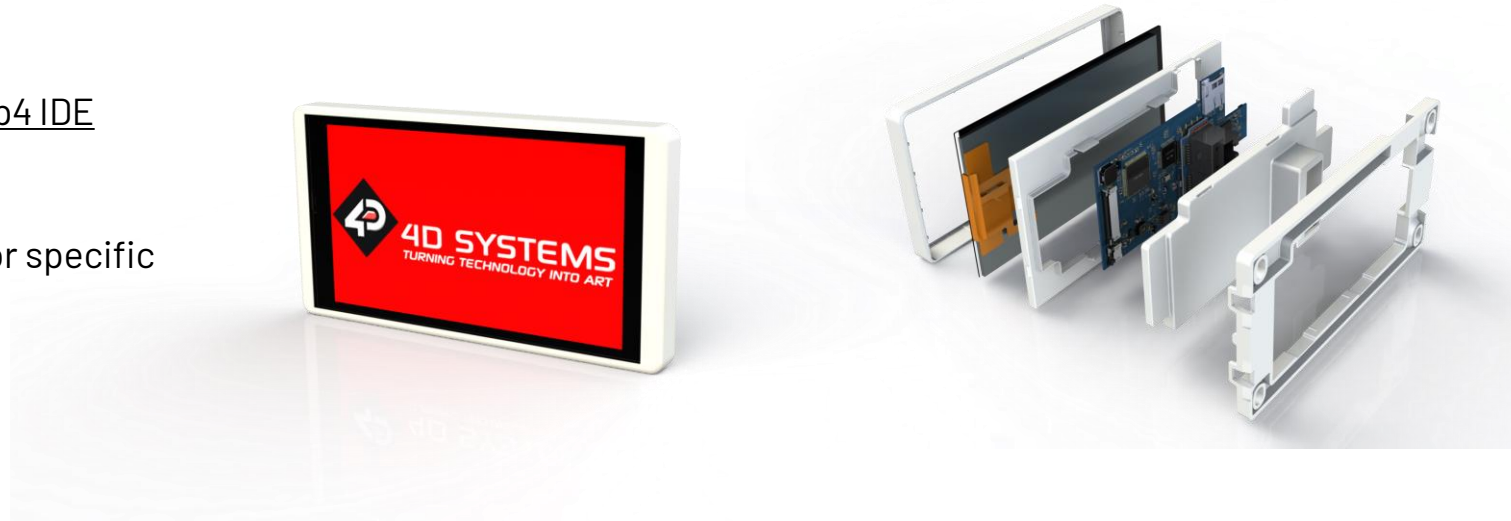
4Discovery-50

- 5.0” High Resolution IPS Display with 480x854 pixels.
- Capacitive Touch Screen
- Enclosure included
- 2 x RJ45 jacks with RS485. Can be used to daisy-chain if / when needed. Not necessary to use both jacks.
- Integrated Proximity Sensor to wake the device up from sleep mode
- Easy access to microSD card for media updates
- GUI Design and Programming done in 4D Workshop4 IDE
- Low power requirements
- Daughter board design allows for customisation for specific requirements
- Optional
  - Integrated WiFi and WiFi Antenna
  - Integrated Bluetooth



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4Discovery-13 – *coming soon*

- 1.3” Round High Resolution IPS Display with 240 x 240 pixels.
- Capacitive Touch Screen
- Enclosure included – black or white
- RS485 Interface or UART Interface
- 32MB Flash for graphics elements
- GUI Design and Programming done in 4D Workshop4 IDE
- Optional
  - Integrated WiFi and WiFi Antenna
  - Integrated Bluetooth

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all year round.

Bradford™ Ventilation

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CSR

Easy-to-use touch screen control panel

New display screen with added features and benefits.

Set and forget

Simply set your desired temperature settings in your living or roof areas, and Odyssey will automatically provide all the comfort you need throughout your home. There's a BOOST setting, that is manually controlled, to provide an extra burst of fresh air and get rid of odours.

All year round comfort and protection

In summer, set your system to remove stifling hot air and freshen your home. In winter, draw in warmer, outside air to improve those cold, damp living areas. In addition, moisture and potentially damaging condensation can be controlled all year round. Relative humidity is displayed for the living area, roof space and external environment.

Simple operation

Temperature data can be logged and viewed in 24 hour periods, going back six months, and the settings screen displays easy to understand tiles for simple operation.

Hubbell

HUBBELL Control Solutions

PRODUCTS RESOURCES SOLUTIONS BRANDS

NX SimpleTouch™ Graphic Wall Station

by Hubbell Control Solutions
Collection Name: NX Distributed Intelligence

The NX SimpleTouch™ graphic wall station is an attractive and capable user interface for a NX controlled space. The 3.5″ high resolution touch screen is highly visible from any angle and is simple to use. NX SimpleTouch provides users with a flexible and intuitive lighting control solution for switching, dimming, SpectraSync™ color temperature (CCT) control and preset activation. The NX SimpleTouch display is designed to be mounted to a standard single-gang rectangular wall box using the provided trim. Alternately it can be mounted into an enclosure or panel, enabling a wide range of customer applications NX SimpleTouch is a low-

Read More

Contact Us

Product Details | Resources / Downloads | Stocked Items

Sinclair Hotel – Fort Worth Texas

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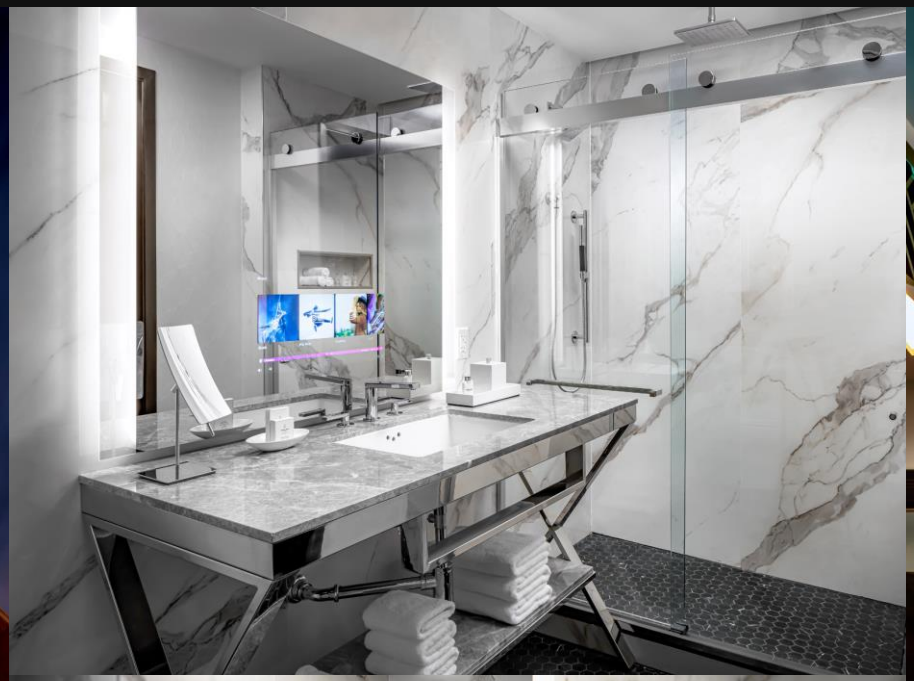
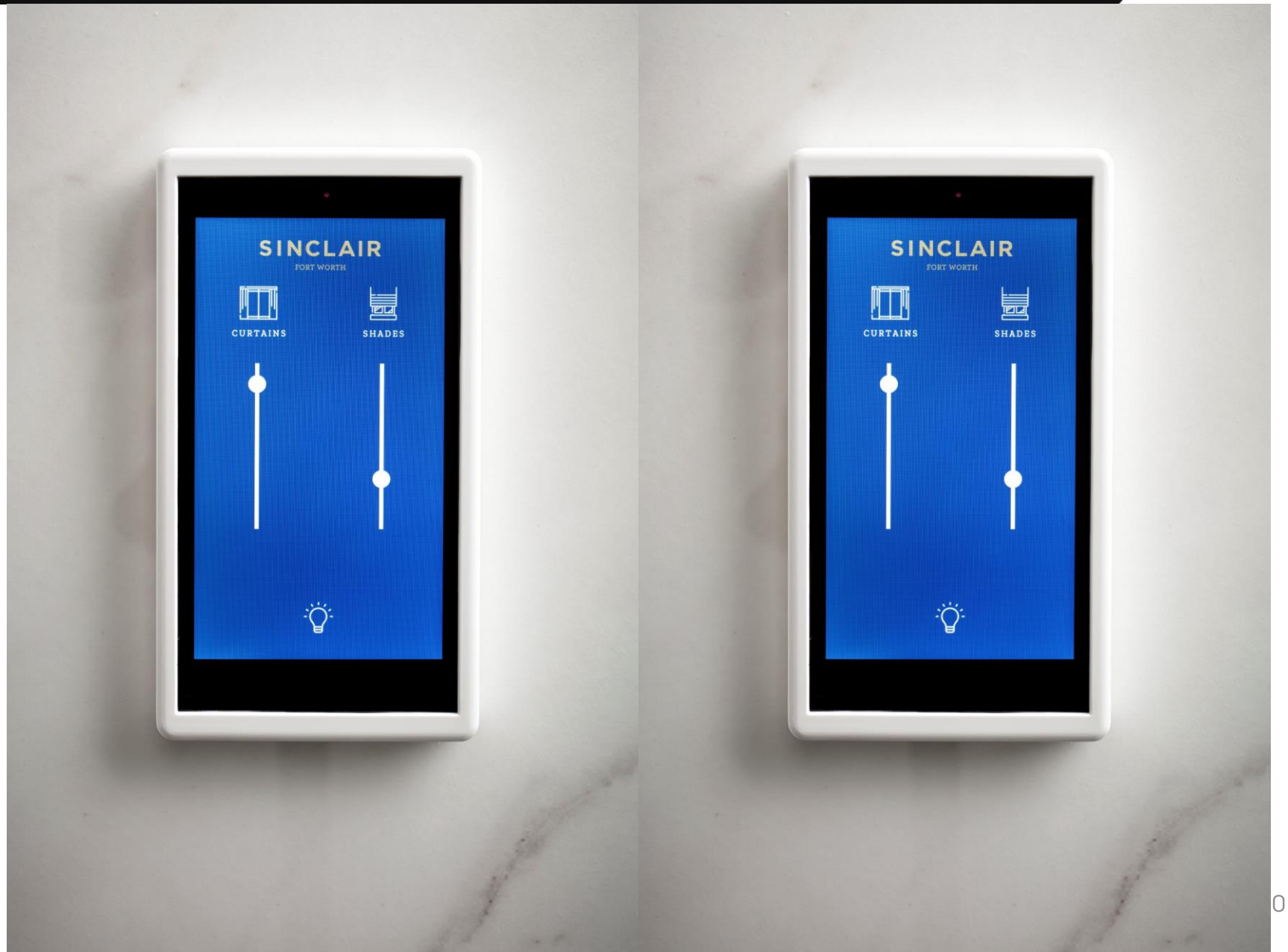


Sinclair Hotel – Fort Worth Texas



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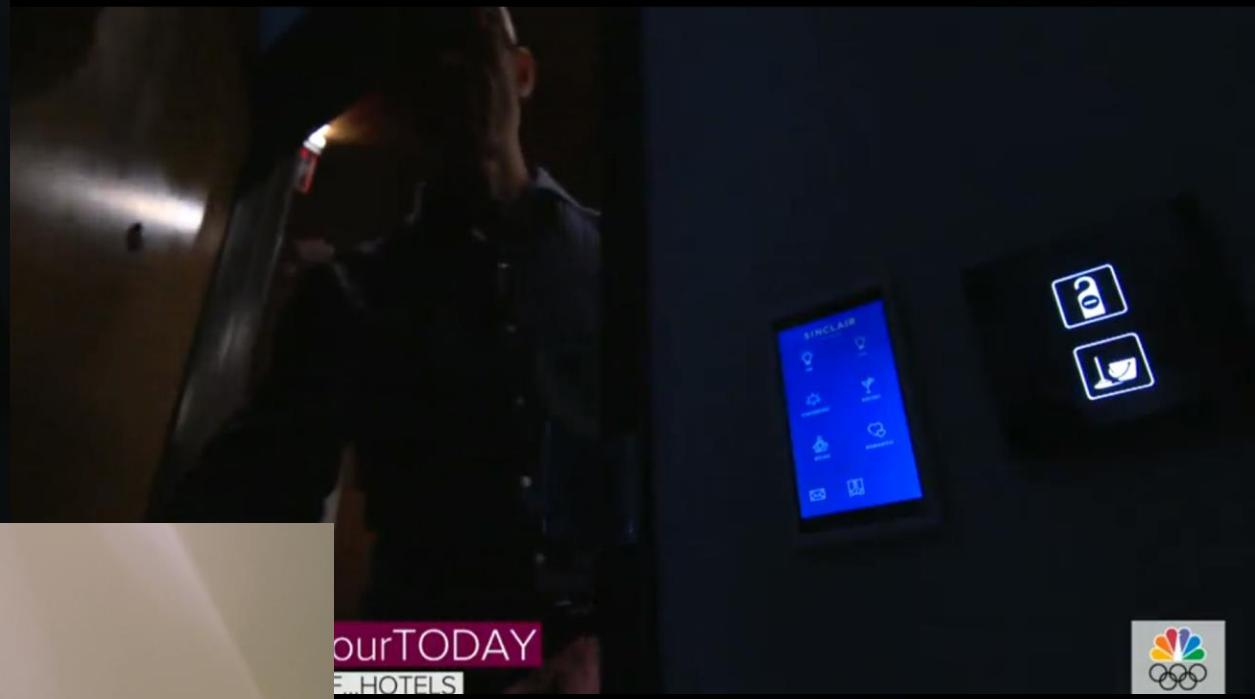
INTEL CORPORATION
3RD HOUR TODAY
@3rdHourTODAY
FUTURE OF...HOTELS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Software Tools – 4D Workshop4 IDE

- Combines
  - **Editor**
  - **Compiler**
  - **Linker**
  - **Downloader**
  - to develop complete 4DGL application code.
- All user application code is developed within the Workshop4 IDE.
- Available as a free download.
- Includes multiple development environments, to cater for different user requirements and skill level.

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Four Design Environments

Designer
This environment enables the user to write 4DGL code in its natural form to program the display module.

Serial
For transforming the module into a slave device and control it from any host microcontroller with a serial port.

ViSi
A Visual programming experience, suitably called ViSi, enables drag and drop type placement of objects to assist with 4DGL code generation and allows the user to visualise how the display will look while being developed.

Visi-Genie
An advanced environment that doesn't require any 4DGL coding. Everything is automated. Simply lay the display out with the objects you want, set the events to drive them and the code is written automatically.

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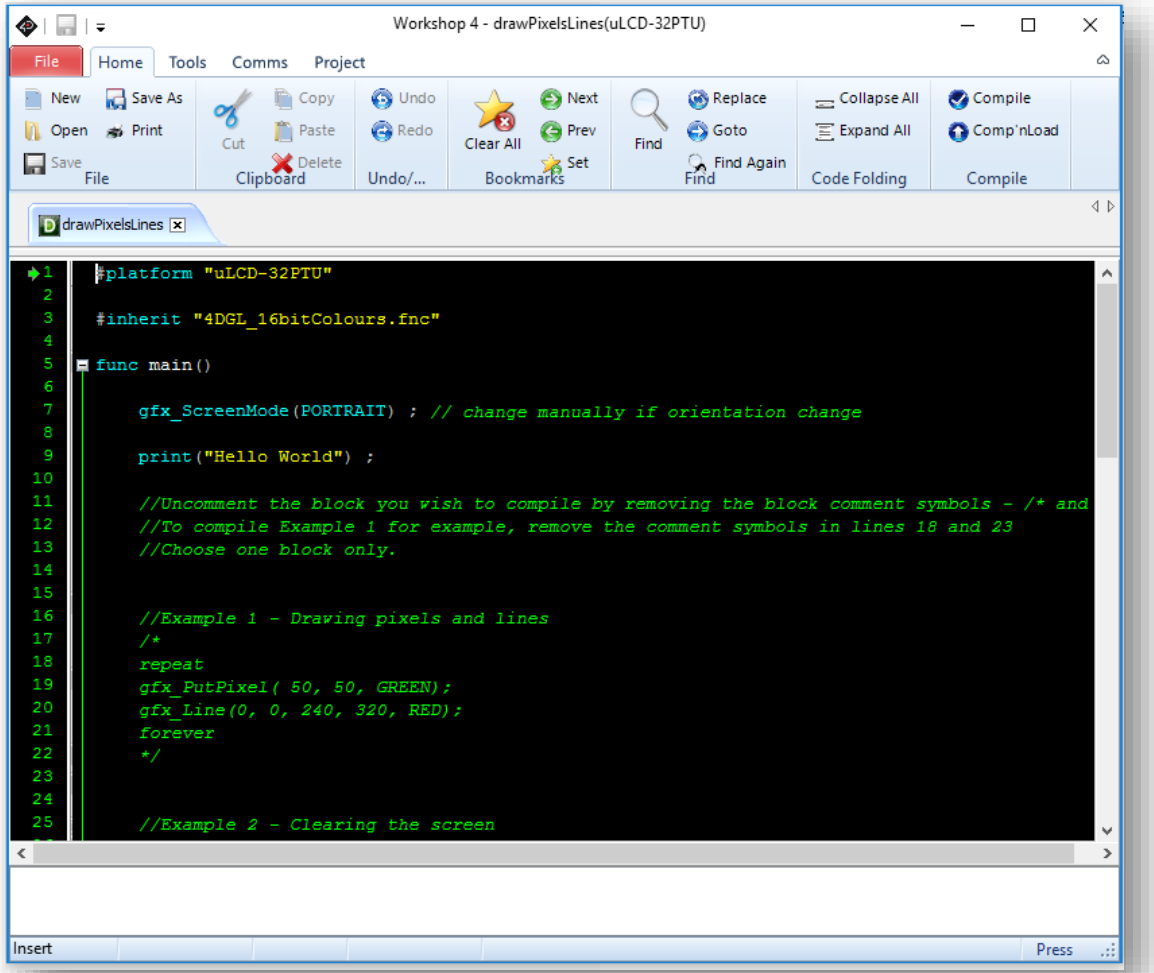
Designer Environment

- Enables user to write 4DGL code in its natural form to program the display module.
- 4DGL is optimized for GOLDELOX, PICASO and DIABLO Controllers.
- 4DGL Syntax is very similar to C. No real need to learn a new language.



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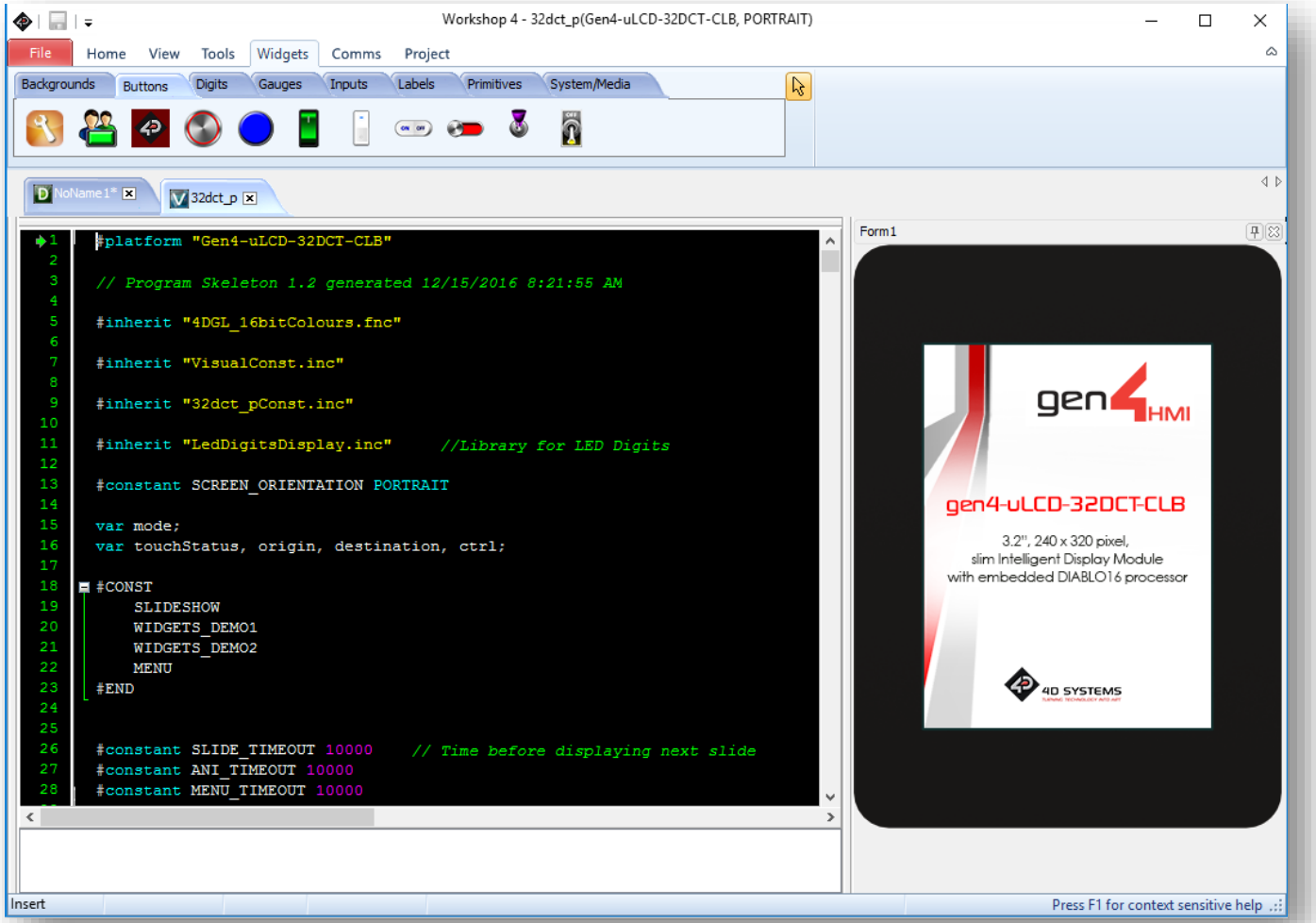
ViSi Environment

- A Visual programming experience
- Enables drag and drop of objects in a WYSIWYG editor
- Software generates 4DGL code for the graphics



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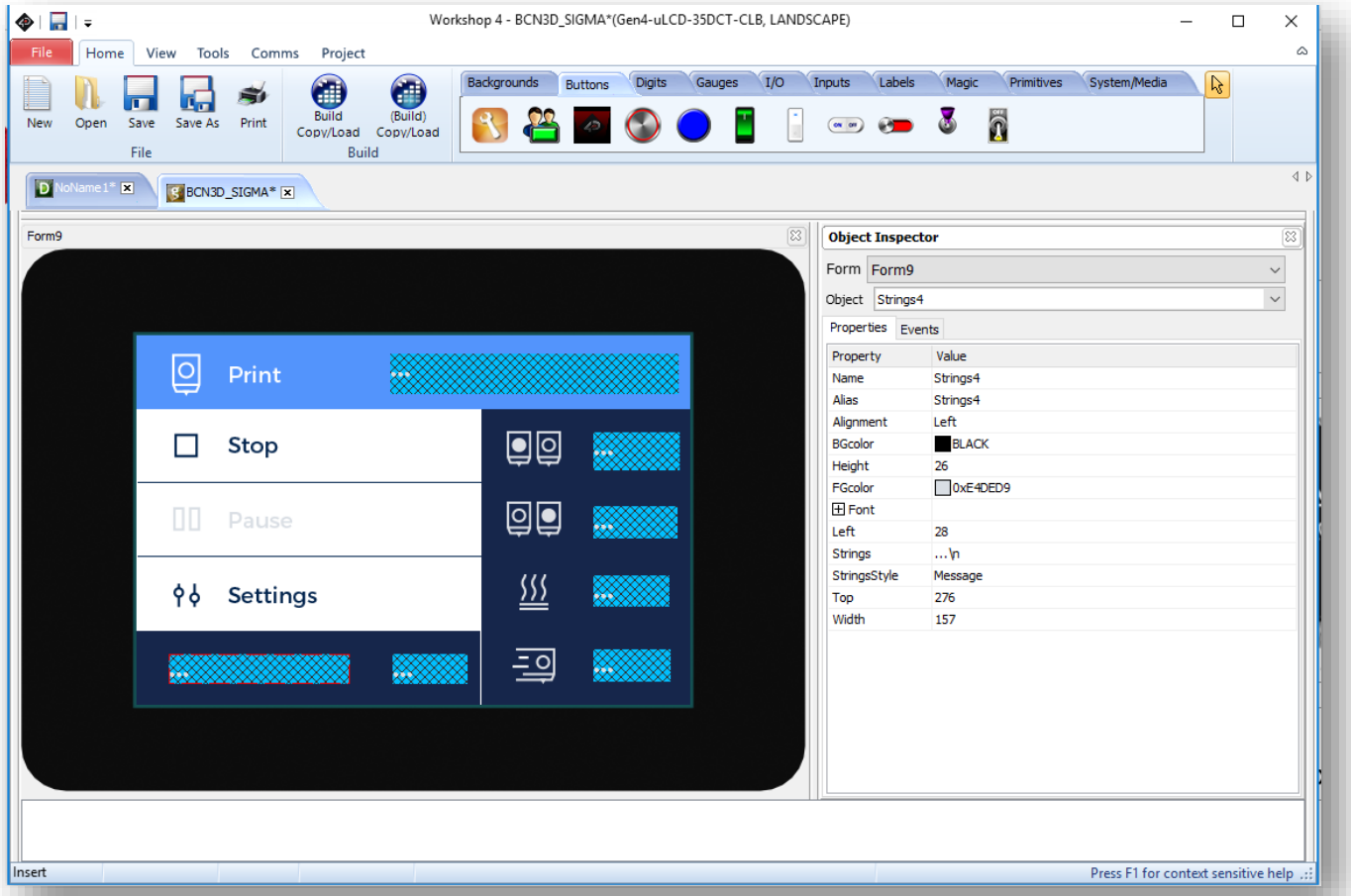
ViSi Genie Environment

- No Coding Required
- Everything is automated
- Drag and drop objects on the display and define the events
- Code written automatically



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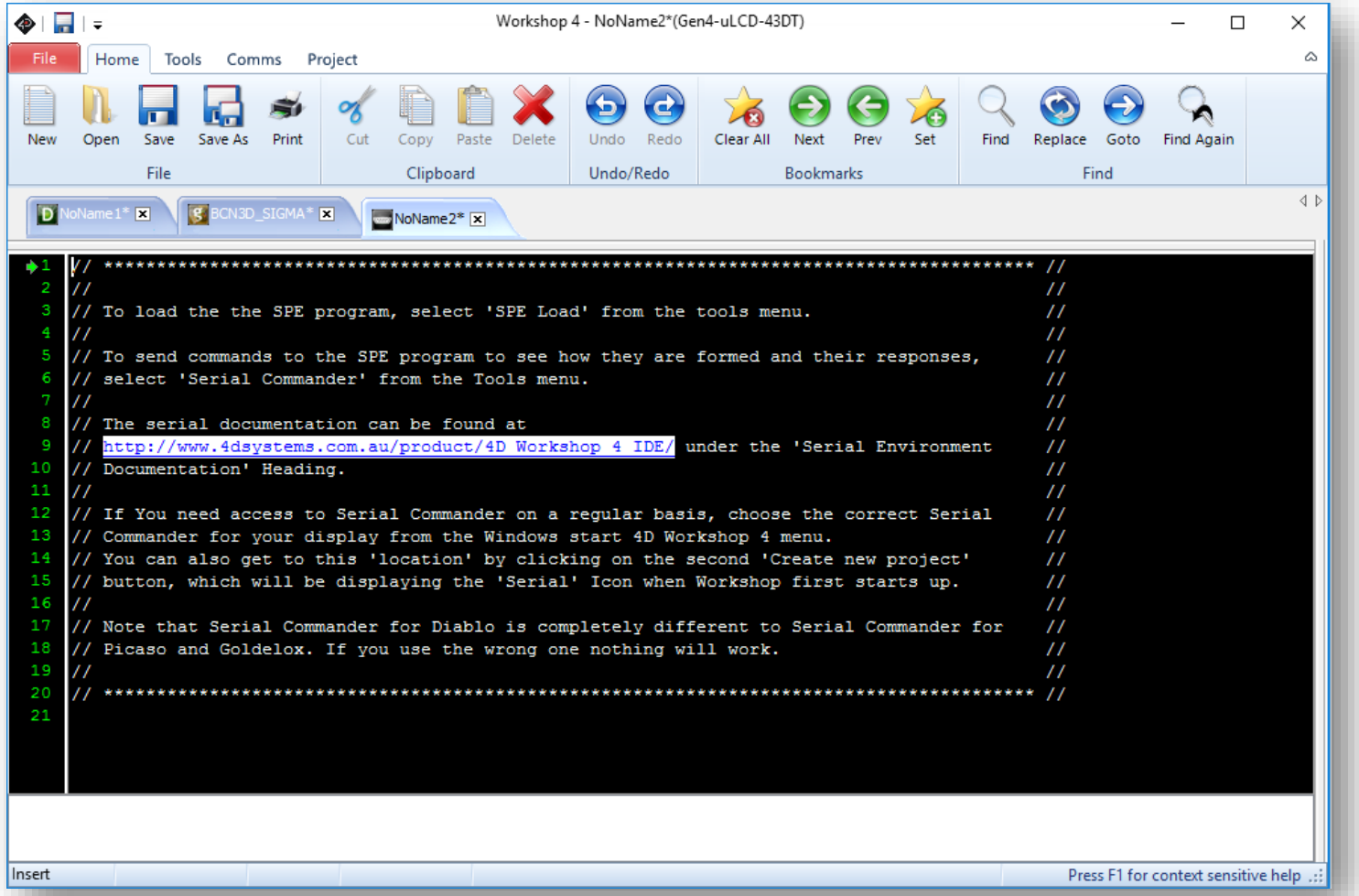
Serial Environment

- Transforms the module into a serial slave
- Control the module from any host micro with a serial port
- All serial protocols and documentation are provided



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User Interface Programming

RS485
(Serial Protocol)

Interpreter / Translator / Hub

4DGL can be programmed to send and understand Interpreter Language

Interpreter needs to be programmed to understand 4D Serial Protocol

- Lighting System - e.g. Dali-based System
- HVAC - e.g. tech from LG
- Curtains / Servo - e.g Tech from Somfy
- Other devices

Benefits of Smart Displays

- Everything is included in a convenient single package
  - Easy and reliable to source
- Easily build your own local control GUI for your systems
- No low-level design required – get started out of the box
- Fast Development time – fast time to market
- Little specialized expertise required
- Customizable to your needs
- Easy to use free software tools

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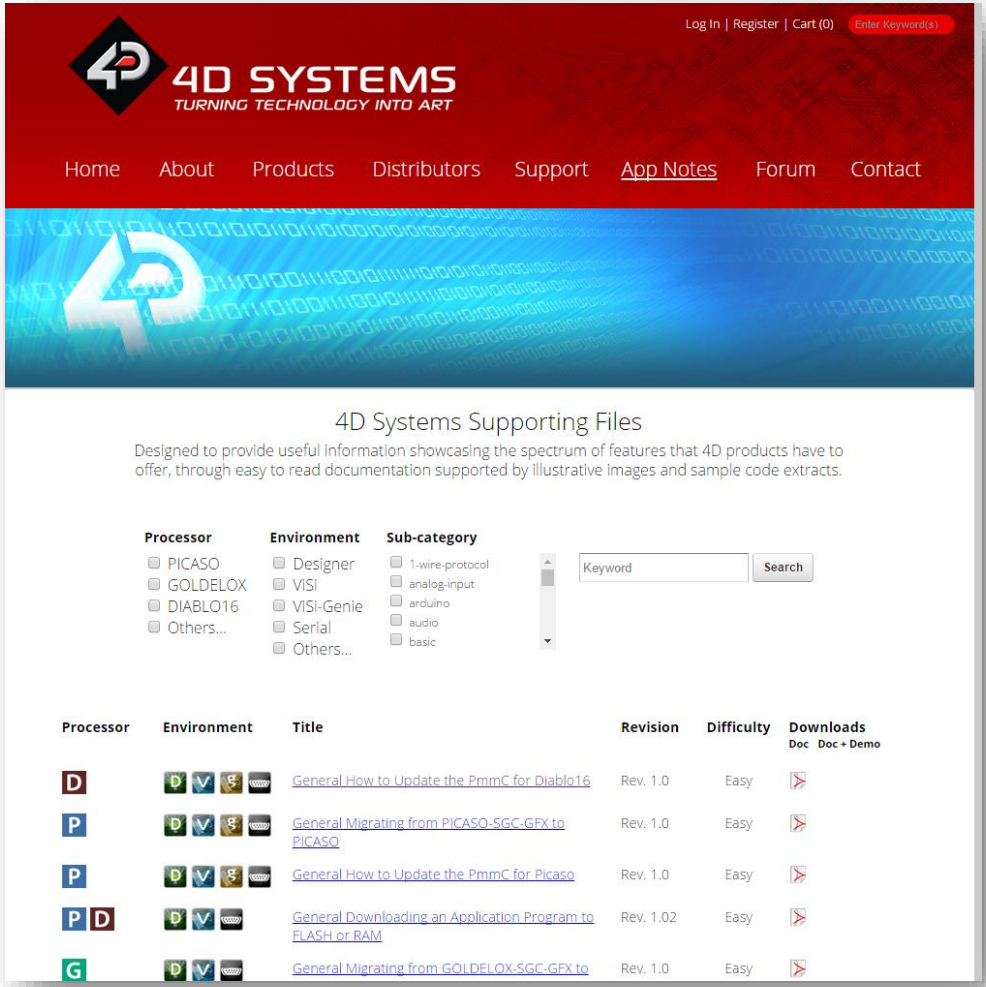
Knowledge Resources



- Datasheets
  - www.4dsystems.com.au
- Hundreds of application notes for beginners and advanced users.
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Thank You

Q&A

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