Arcade Installation

Challenge Rating: 2/5 -> 4/5

VLC is a very well-known video player. But did you know it has a command-line / python / java libraries? We did.

We want to use VLC in a BIG way. You will have noticed an LED Curtain in John Dalton East. We're after doing an eye catching installation with it.

What's the installation?

We want to attract passers-by to look at a message we have for them. We want to attract their attention, make them stop, enjoy a brief interaction, and read our message, before moving on.

How do we attract their attention?

You have a 12 foot LED curtain!

How do we interact with them?

You have a Raspberry PI, and various things. Connect your things to the Raspberry Pi, put them next to the LED curtain, and wait to snare your punters.

How do we put it all together?

The LED Curtain has a resolution of 90 x 80 pixels.

The LED Curtain is driven by some software running on a Windows 7 Laptop. It's called LED Show T9.

One of the options it has is to capture a small piece of the Laptop screen, so that it can transfer it to the LED curtain.

If VLC is also running on the Laptop, we can stream video to it, from another device.

The Raspberry Pi is just such a device.

Raspberry Pis run Python, and VLC has a Python library. We can use it to generate visualisations and send it to display on a 12 foot screen.

Raspberry Pis also have a wealth of other capabilities which can be used to interact with their surroundings:

- Camera
- Movement detection
- Motors and Relays
- Temperature, Humidity, Air pressure
- Switches, buttons, pressure pads
- Microphones and speakers

I'm stumped. Give me an idea

OK...

Starfield Simulation

Remember the Windows Starfield Simulation?

Use the Raspberry Pi's camera and OpenCV to detect a person, and alter the direction though the starfield.

Allow the person to experiment with they way they move to alter the direction. (Back / Forward = Up / Down)

Message

Place a microphone in the corridor (but not in the middle - you know people will fall over it... ;-)).

Connect to the Raspberry Pi. Use the Python Speech Recognition Library to:

- Produce scrolling words, based on what people say
- query the Google image search to find icon resources (90 x 80, remember) to display
- Send text to a chatbot, and return its response

Pong

Place 2 dial controllers (rotary encoders) on a table.

The controllers are used in a game of Pong. First to 5 points wins.

OK - I'm in. What next?

Got an idea? Good. Write it down as a response to this brief. Tell us exactly what you want to do. We'll take a look and see if it's feasible. If it isn't, we'll suggest alternatives. If it is, we'll buy all the stuff you need, while you do the design and investigation work. The stuff should arrive in a week.

Do it quick, though :-)