

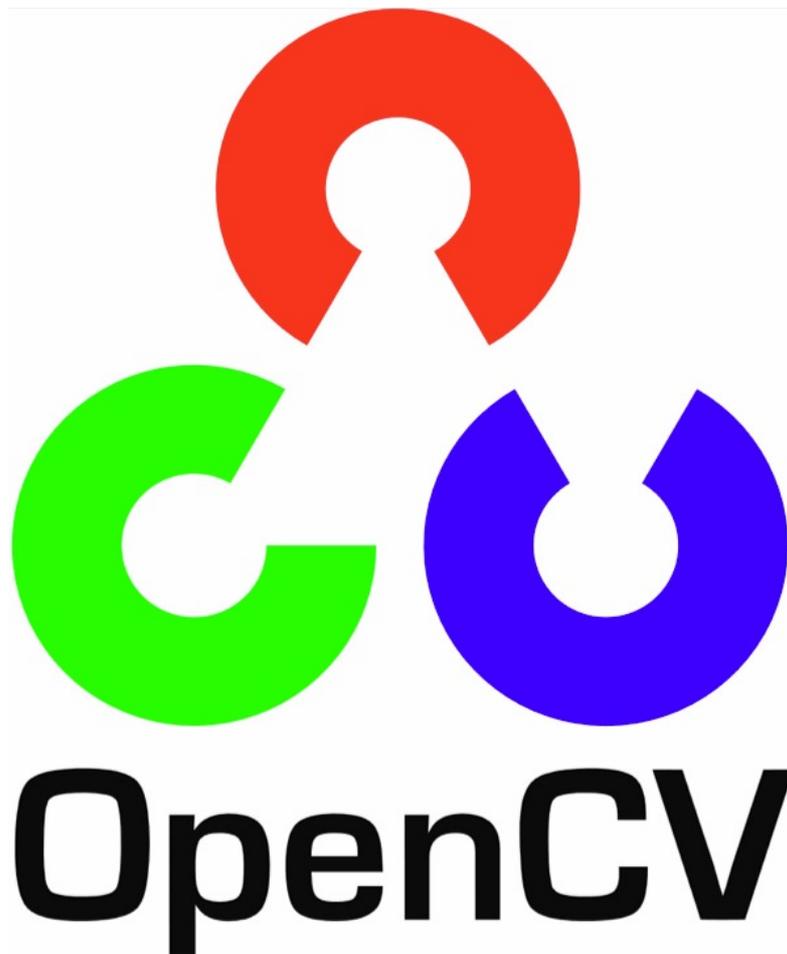
technocamps

Inspiring | Creative | Fun

Ysbrydoledig | Creadigol | Hwyl



Open CV Workshop Session Plan



Workshop Schedule

“By failing to prepare, you are preparing to fail.”



Event Set Up	30 minutes
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Introduction

Welcome / Pre-day Forms	5 minutes
Introduction	5 minutes

(Slide 1)

(Slides 2-13)

Visual Studio

Code first example	10 minutes
Talk through first example	5 minutes
Explain possible errors	5 minutes

(Slides 14-21)

OpenCV image coding

Image code questions	100 minutes
Camera code questions	40 minutes
Re-cap	20 minutes
Colour & object tracking	20 minutes

Q&A/Post-day Forms	5 minutes
Event Clean Up	30 minutes

Total: 4 hours 20 minutes for attendees

Total: 4 hours 55 minutes for staff involved

Hardware and Software Requirements

1. A laptop or desktop with Windows OS
2. Access to internal or external camera
3. Visual Studio 2012
4. OpenCV code folder



Attendee Prerequisites



1. Basic knowledge of programming
2. Aged 14+

Learning Outcomes

1. Improved understanding of programming
2. New knowledge of computer vision and its uses
3. New/improved skills in C++
4. New knowledge in OpenCV library



Event Set Up and Clean Up

Event Set Up

1. Prepare any pre and post-day questionnaire forms as required. Remember spare pens/pencils.
2. Ensure tables and chairs are arranged to naturally encourage people to sit in groups; ensure no one is sitting with their backs to the podium.
3. Test display equipment (e.g. projector) and ensure that presentation and internet connection are working and ready for use.



Event Clean Up

1. Ensure all pre-day and post-day questionnaire forms have been collected if required.
2. Clear up litter and refuse. Remember to recycle where facilities exist. Remember to switch off lights, computers, and projectors!



Introduction

Welcome and Pre-day Forms

The first 5 minutes is very much about welcoming and encouraging people to complete any pre-day forms before the workshop begins. Also ensure you read through the pre-day forms with the participants to confirm they have been filled in correctly.

Ensure that you welcome the attendees as they enter the room; this helps to create a positive connection.

Introduction

The introduction gives you time to introduce everyone involved with hosting the workshop.

It is not necessary at this point to give an elaborate history of every person involved; try to keep to simple facts.

The main aim is to have everyone settled, focused, and filling required forms, e.g. pre- and post-day questionnaires.

Example Introduction

(Slide 1: Technocamps Title)

“I’m XXX and I work for an across-Wales organisation called Technocamps.

Has anybody heard of Technocamps before or been to one of our workshops?

We are a £6 million government funded organisation working towards getting young adults and children of the ages 11-19 years old excited about Computer Science and what it has to offer you, in both your education and a future career.”

(Get a discussion going about technology and Computer Science) e.g. “Has anyone here got a smart phone? Laptop? Well it is the Computer Scientists of the world that design and make these for you to use. But unfortunately, there aren’t a lot of young adults deciding to do Computer Science as a career.”

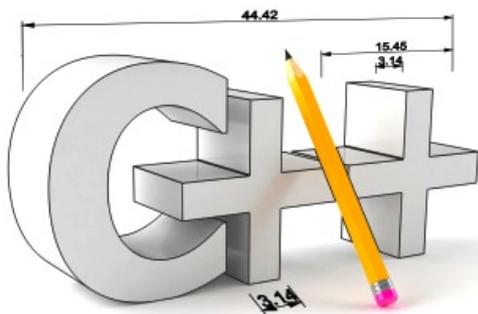
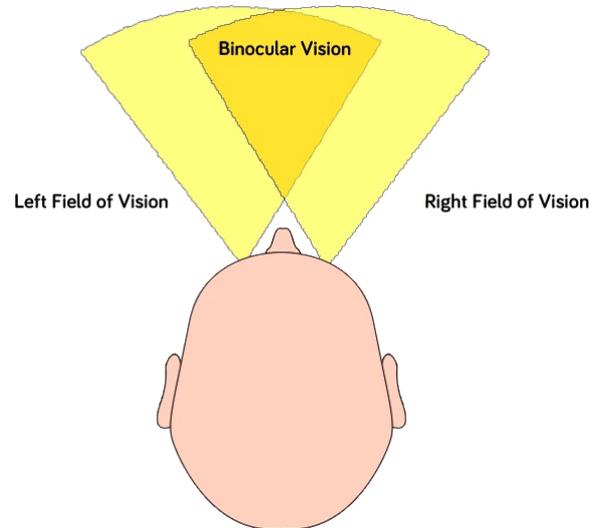
Open CV

(Slides 2 - 8: Human vision)

As a fun introduction to Computer Vision, begin the session by discussing the comparisons between Computer Vision and Human vision, particularly highlighting brain image processing mistakes can be manipulated to create optical illusions!

(Slides 8 -12: Stereo Vision)

Introduce to the participants computer stereo vision and what it is used for. Once the group understand what it is, can the group think of any examples where stereo vision is used?



(Slides 13 - 20: OpenCV)

These slides introduce the OpenCV library, progressively working through the workbook will provide each participant with the code and any tips and tasks to help progress their knowledge and understanding of computer vision and the programming language C++.

(Slides 21 - 33: Extended activities)

These slides can be discussed with the group as extension tasks, discussing various computer vision techniques and skills.

Q&A Session & Closure

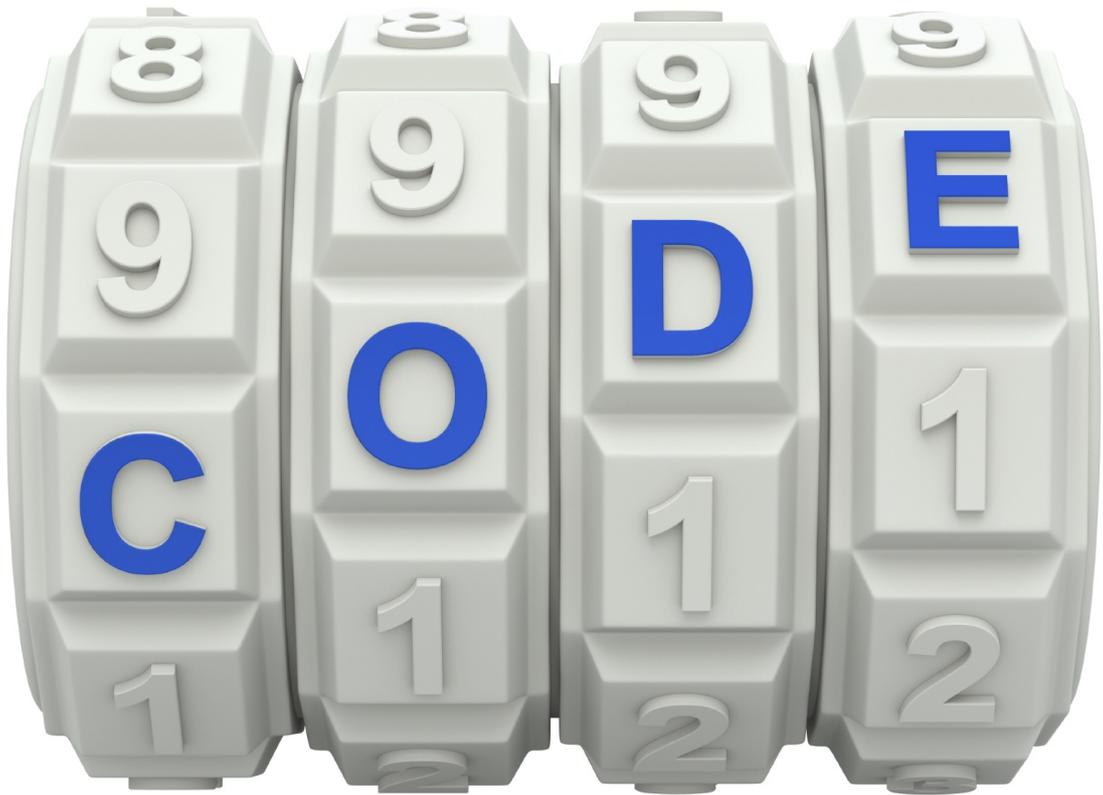
(Take several questions from the attendees)

(If no questions are asked by attendees, begin summarising topics covered)

Once an appropriate number of questions has been taken, you can then begin to close the workshop. Be sure to have any post-day questionnaire forms filled in by attendees as required. Some audiences may require more prompting to fill in such forms.

Closure and Post-day Forms

The last 5 minutes of closure must be used to, if required, ensure that post-day questionnaires are filled in by the attendees and talk them through the information they have filled in. Ensure that you collect all of the post-day form in before attendees depart, and be sure to thank each person for taking the time to fill in the forms.



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