Teesside CAS Hub Meeting

December 2014

The One About GCSE Computer Science

Agenda

- 16:00 - Refreshments & Networking
- 16:30 - Introduction
- 16:50 - GCSE Theory Workshops
- 17:35 - Break
- 17:50 - GCSE Computing: Content, Delivery & Assessment
- 18:40 - Plenary
- 19:00 - Hometime!

Regional Picture

Join CAS!

- **Master Teachers:**
  - North Shields - Jeanette Patterson
  - Teesside - Mark Clarkson
  - Newcastle - Lee Willis
  - South Shields - Andrew Charlton
  - Sunderland (Primary) - Kelly Smith

Regional Picture

Join CAS!

- **CAS Hubs:**
  - Teesside - Mark Clarkson
  - Teesside Primary - Dan Mount
  - Durham - Amanda Stewart
  - Sunderland - Liam Clark
  - Newcastle - Mike Carter

Regional Picture

Join CAS!

- **University Support:**
  - Teesside University - Michael Ryding
  - Durham University - Steven Bradley
  - Sunderland University - Lynne Dagg
  - Newcastle University - Nick Cook
  - Northumbria University - Alun Moon

Events

Tues 9th: LMC

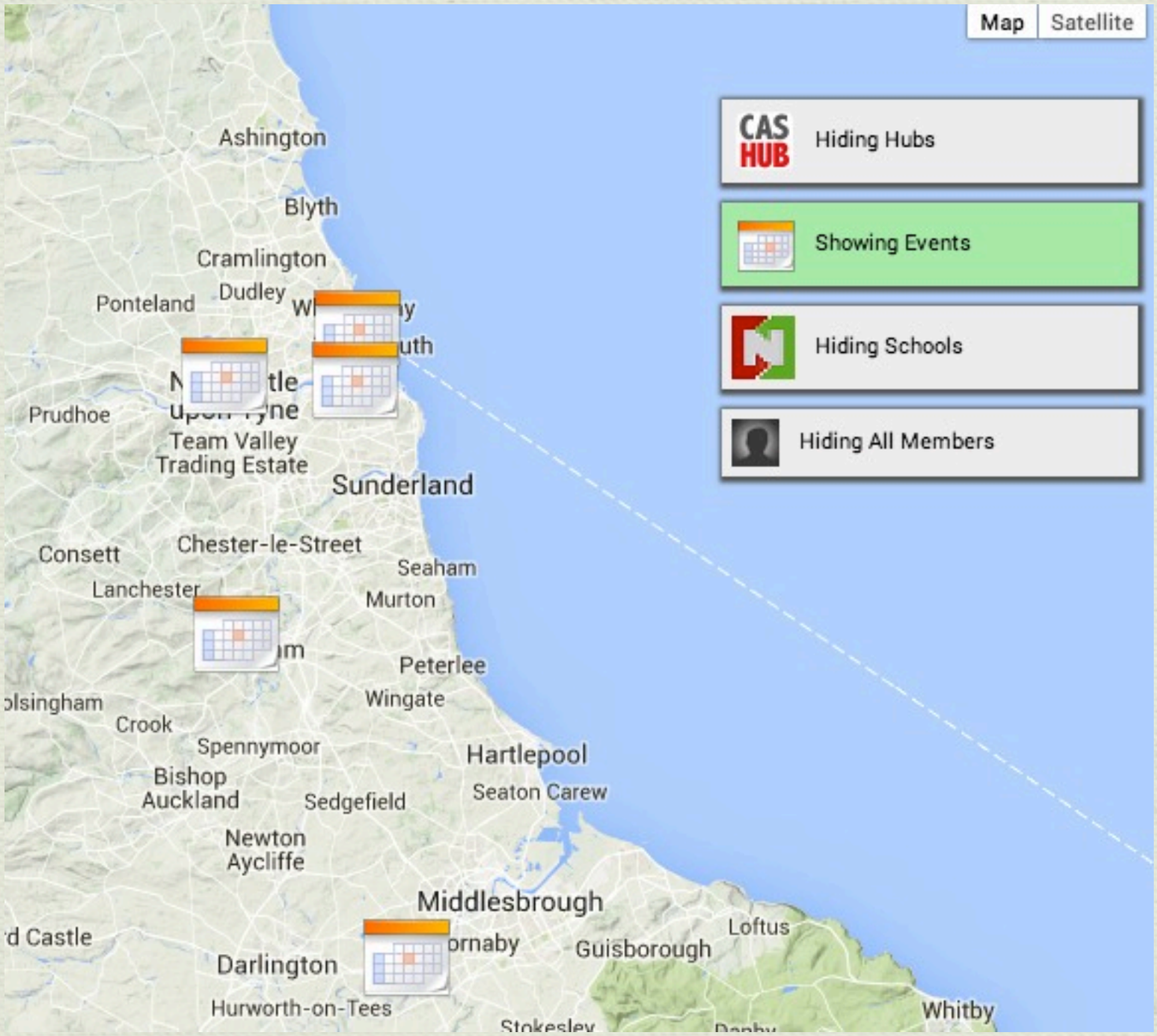
Wed 10th: Barefoot

Thu 11th: Barefoot

Jan 21st: Algorithms

March 25th:

Primary Conference



Teaching Agency

Subject knowledge requirements for entry into computer science teacher training

Expert group's recommendations

Computer Science Knowledge

Range and Content	Algorithms	Programming	Data	Computers & Social Informatics	Communication and the Internet
In addition to the above, a student about to embark on secondary teacher training as a CS specialist should know, understand and be able to:	A7 Explain how the choice of an algorithm should be influenced by the data. A8 Be able to explain and use several key algorithms (e.g. sorting, searching, shortest path). A9 Explain how algorithms can be improved, validated, tested and corrected.	P10 Program competently in a least two programming languages, at least one of which must be 'textual'. P11 Explain and use programming concepts such as selection, repetition, procedures, constants, variables, relational operators, logical operators and functions. P12 Explain and use truth	D6 Explain the difference between data and information. D7 Explain the need for and use of hexadecimal, two's complement, signed integers, and string manipulation. D8 Explain the need for data compression, and be able to describe simple compression methods.	C9 Explain the use of logic gates and registers. C10 Explain Von Neumann architecture. C11 Explain the fetch-execute cycle. C12 Explain and use low level instruction sets and assembly code. C13 Explain what compilers and interpreters are and do and give some examples of when they are used.	I6 Explain the concepts of: client/server models; MAC addresses, IP addresses and domain names; and cookies. I7 Explain a 'real protocol' e.g. using telnet to interact with an HTTP server. I8 Explain routing; redundancy and

Workshops

Networking	Logic Gates
Peer-Peer vs Client-Server	Logic Gates, Truth Tables & Logic Circuits
Kyle Brown	Mark Clarkson
Main Hall	Room 16

Break!

Statutory Requirements

Key stage 4

All pupils must have the opportunity to study aspects of information technology and computer science at sufficient depth to allow them to progress to higher levels of study or to a professional career.

GCSE Reforms

- New GCSE Specifications
  - First teaching 2016-18 (current Year 8)
  - Grades 9 - 1
  - No controlled assessment?
    - "...except where [exams] cannot provide valid assessment of the skills required"

Introduction

	AQA	Edexcel	OCR	WJEC	Other?
Controlled Assessments	Programming + Programming	Programming	Investigation + Programming	Programming	
Examination	90 minute paper	120 minute paper	90 minute paper	90 minute paper 120 minute on-screen test	
Weighting	60% CA / 40% Exam	25% CA / 75% Exam	60% CA / 40% Exam	25% CA 30% Onscreen 45% Exam	

Board-specific discussions

- Theory - Gaps, Pedagogy
- Programming - Languages, Delivery Method
- Controlled Assessment
  - Preparation
  - Delivery
  - Assessment

Standardisation

- Who is following the same course?
- Who is tackling which controlled assessment?
- Who can host a standardisation meeting?

What next?

- Tuesday, 2nd December: Little Man Computer
- Tuesday, 20th January: Linux
- Tuesday, 10th March: Mobile App Creation
- Spring Term: Hub Meeting - Agenda?