OVERVIEW OF THE CAS ECOSYSTEM

Purpose

As Computing At School grows both in terms of membership and activity several roles have emerged. Sometimes it is not clear what these roles are, what they mean, and how they interact with each other to build the network of supporters that is Computing At School. This document provides background to CAS and the professional development programme run by CAS, with support from DfE, and summarises these roles to provide an overview of the ecosystem of CAS.

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1. Overview of Computing At School

"There is no them - only us!" (Simon Peyton Jones, Chair CAS)

Computing At School (CAS) aims to promote the teaching of computer science at school. CAS was born out of our excitement with our discipline, combined with a serious concern that many students are being turned off computing by a combination of factors that have conspired to make the subject seem dull and pedestrian. Our goal is to put the excitement back into Computing at school.

CAS is a grass roots organisation, whose energy, creativity, and leadership comes from its members. Members who run local hubs, provide face to face training for other teachers in their area, participate in online discussions, share their resources freely with other members through our community forum and a whole host of other activities. As one member put it:

"Being part of CAS means getting involved fully with CAS, giving as well as taking"!

We are part of the BCS through the BCS Academy of Computing, and have formal support from other industry partners. Membership is open to everyone, and is very broad, including teachers, parents, governors, exam boards, industry, professional societies, and universities. We speak for the discipline of computing at school level, inc. FE, and not for any particular interest group.

CAS has:

- **Expertise** - we know what computer science is
- **Experience** - we know what works
- **Excellence** - we aspire to excellence in CS teaching in all schools

CAS offers:

- **Encouragement** - local, buddies, community of practice, ideas, support
- **Engagement** - 'there is no them, only us'
- **Empowerment** - opportunity to grow a career

1.1 Purpose

The principal aims of Computing At School are:

1.1.1 The subject:
- Computer Science becomes firmly established in all primary and secondary schools as a foundational subject discipline, alongside mathematics and the natural sciences.

1.1.2 The teachers
- Teachers of Computing are confident, enthusiastic, and increasingly well qualified.
- Teaching Computing becomes a high-status, attractive career path for graduates in Computer Science and related disciplines.
- Head Teachers recognise Computing as of equal status to other core subjects and that it is essential to the future success of their school

1.1.3 The students

- A growing number of students willingly choose Computing-related subjects at GCSE, and continue with them through AS, A level, apprenticeships, further education, university, and employment.
- An increasing proportion of female students choose to follow a Computing path; they are extremely under-represented in Computing at the moment.
- All students develop excellent computational thinking skills, and are able to apply them in other studies, irrespective of whether they chose to continue to study Computing at higher levels of education.

The vision is ambitious but since Computing became a statutory subject in schools the challenge to translate this vision embodied in a three page programme of study into a vibrant reality in every classroom in the land is very real! Introducing Computing into schools is a huge transformation project on a scale never experienced by anyone in the current teaching profession, and unlike any other curriculum change they have ever faced before.

CAS will achieve these goals through two complementary strands of work:

- Inspiring, equipping, and supporting schools and teachers to deliver the Computing curriculum with confidence and enthusiasm

- Developing and articulating a vision for the subject of computer science at national level

CAS takes the open-source community as a model, that of a community of professional volunteers working towards a common goal. This model has a profound impact on the shape of the organisation:

CAS is school-led. CAS achieves scale primarily through its network of champions and local volunteers, both in schools and from industry. CAS employs a very small team to coordinate, motivate and support those champions and volunteers.

The primary way that things get done in CAS is by volunteers (teachers, or IT professionals who give their time to work in schools) rolling up their sleeves and doing it. The role of CAS's paid staff is primarily to inspire, motivate, equip, and support those volunteers, rather than to provide a service to teachers.

Membership of CAS is open to all (excluding school age pupils), in the expectation that members will actively contribute to their community. No membership subscription fee is charged: members are not buying a service, they are joining a supportive community of practice.

1.2 CAS - A Community of Practice

"A community of practice (CoP) is a group of people who share a common concern, a set of problems, or interest in a topic and who come together to fulfil both individual and group goals. CoPs often focus on sharing best practices and creating new knowledge to advance a domain of professional practice. Interaction on an ongoing basis is an important part of this." (http://net.educause.edu/ir/library/pdf/nli0531.pd)

Communities of practice will have the following characteristics, they will:

- **Connect people**: Through the CAS Regional Hubs, the Network of Master Teachers and Lead Schools the aim is to facilitate that connection between people

- **Provide a shared context**: We share the desire to teach our subject better to pupils in both primary and secondary schools
- **Enable dialogue**: Through sharing our resources, ideas and best practice with each other we are each contributing to the whole
- **Stimulate learning**: Teachers never stop learning, both their own subject knowledge progresses as does their understanding of the pedagogy of the subject. Sharing these with each other stimulates further learning and transfer of knowledge
- **Capture and diffuse existing knowledge**: The NoE is finding, recruiting, and where necessary, training teachers of computing to be the local catalyst or champion in their area and to encourage them, in collaboration with the regional hubs and other CAS members to capture and disseminate to a wider audience their experience and understanding
- **Introduce collaborative processes**: There is much evidence insert link here pointing to the power of collaborative learning as effective CPD. This is actively encouraged in Master Teacher training sessions, as well as the spirit of many local hub meetings.
- **Help people organise**: provide support and help promote CPD and networking meetings.
- **Generate new knowledge**: Through the involvement of teachers in action research projects, CAS will contribute to the literature of the pedagogy of Computing teaching a very important growth area.

1.3 CAS Board of Management

Formally, CAS is part of the BCS Academy. This provides a supportive institutional framework whilst also ensuring CAS's autonomy and grass-roots style. CAS is internally governed by the CAS Board, formed from the membership.

The Board has the following responsibilities

- establishing the vision, mission and values for Computing At School, which must be consistent with the BCS Royal Charter
- designing strategy and structure to execute the CAS mission
- supporting staff members implement policy and strategy, whose responsibilities are delegated from the BCS Trustee Board
- monitoring and evaluating the implementation of strategic and operational plans and policies and reporting on implementation to the BCS Academy.

The Terms of Reference for the Board is published here and current Board members are published on the public CAS website.

1.4 CAS Central Staff

CAS is managed day to day by a small team of people employed directly by BCS, The Chartered Institute for IT. The role of CAS's paid staff is primarily to inspire, motivate, equip, and support the CAS Community and the CAS Champions. Also included as CAS Central staff are those employed or seconded for shorter period through project funding e.g. The DfE funded Network of Teaching Excellence for Computer Science (NoE).

Those currently employed by CAS in this way can be found here.

2. Overview of the Network of Excellence

"CAS is making a significant difference to the implementation of the new computing curriculum." (CEIR, Sheffield Hallam, June 2015)

The Network of Teaching Excellence in Computer Science (NoE) is funded and supported by direct grant from the Department for Education. It is a central project for the CAS Community based in England being the professional development programme for Computing At School and builds on the grass roots ethos which is central to CAS. The NoE brings many of the community building strands of CAS together in a formalised system of relationships and activity.
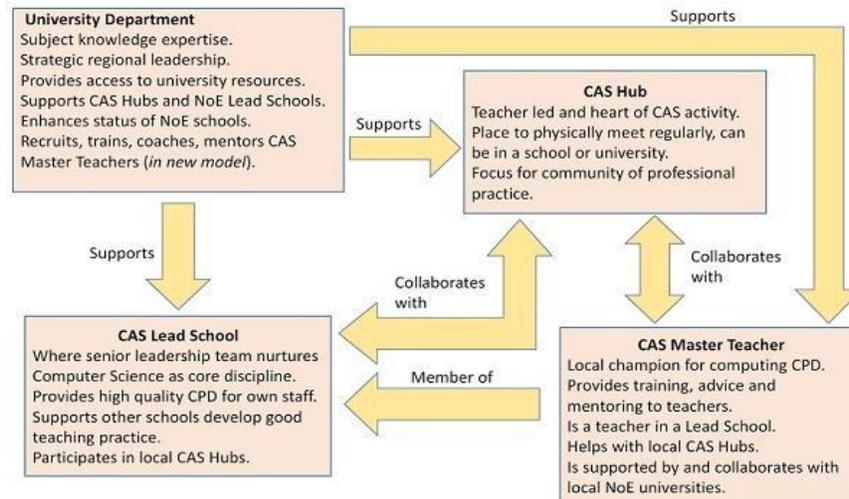
The Network is both a network of professionals working together and a wide-reaching programme of professional development, including many more aspects than simple provision of training courses. The NoE is based on striving for quality in teaching through a community of practice that involves local, face-to-face, peer-to-peer delivery.

The NoE is based on striving for quality in teaching through a community of practice that involves local, face-to-face, peer-to-peer delivery. In days of online delivery and time poverty, we maintain that professional development is a very human and not mechanical process, based on professional relationships and confidence levels of the people involved.

The heart of the programme is to build a high-quality, sustainable CPD infrastructure at low cost. This is being achieved by nurturing long-term, bottom-up collaboration between teachers, schools, universities.

From the outset the aim of CAS and thus the NoE has been to build fires of activity in local communities led by peers, supported by academics and other professionals. Change management has been problematic for many teachers of Computing moving from the old ICT curriculum to the new programme of study. For most the keyword is **confidence**. The target for all our activity has been to raise that level of confidence in the teachers' own ability to teach Computer Science.

Professional development takes many forms including training, workshops, peer collaboration, online courses and networking activity, mentoring and coaching. The NoE has sought to build on the principles of local, face to face support using mentoring, peer to peer support and cascade of subject knowledge via accessible role models, namely the Master Teachers. This has been supported through the pre-existing online CAS community site.

University Department
Subject knowledge expertise.
Strategic regional leadership.
Provides access to university resources.
Supports CAS Hubs and NoE Lead Schools.
Enhances status of NoE schools.
Recruits, trains, coaches, mentors CAS Master Teachers (*in new model*).

Supports

CAS Hub
Teacher led and heart of CAS activity.
Place to physically meet regularly, can be in a school or university.
Focus for community of professional practice.

Supports

Supports

Collaborates with

Collaborates with

CAS Lead School
Where senior leadership team nurtures Computer Science as core discipline.
Provides high quality CPD for own staff.
Supports other schools develop good teaching practice.
Participates in local CAS Hubs.

Member of

CAS Master Teacher
Local champion for computing CPD.
Provides training, advice and mentoring to teachers.
Is a teacher in a Lead School.
Helps with local CAS Hubs.
Is supported by and collaborates with local NoE universities.

Structure of the CAS Network of Excellence

The Network includes:

- Regional Centres (from July 2015)
- Master Teachers
- Lead Schools, and
- University Partners
- Local Hubs
- Regional Coordinators (replaced by CAS Regional Centre July 2015)

The heart of the programme is to build a high-quality, sustainable CPD infrastructure at low cost. This is being achieved by nurturing long-term, bottom-up collaboration between teachers, schools, universities.

More information can be found here.

The primary way in which CAS provides support to schools and teachers is, therefore, by inspiring, leading, training, and supporting a community of volunteers who actually do the work. This model is school-led, responsive to local needs, and has a variety of modes of provision.

Communities of Professional Practice can

"act as powerful sites of transformation, where the sum total of individual knowledge and experience is enhanced significantly through collective endeavour." (Kennedy, 2005)

The NoE model has been developed incrementally, gradually introducing new elements with the philosophy behind our approach being to support teachers to become empowered and confident in a new discipline; to do this we treat the phrase 'continuing professional development' in its widest sense and focuses on the individual taking action to develop their own skills and expertise with the support of their peers.

2.1 Phase 1 (September 2012 - March 2015)

Since September 2012, nearly 40,000 teachers have received training and support from the cohorts of CAS Master Teachers, CAS Lead Schools and CAS University Partners as part of the programme through both core and extended activity. The training and support has taken many forms. Professional development is a very human and not mechanical process, it is based on professional relationships and creating a virtuous cycle that improves the confidence levels of the people involved. The goal has been to create and nurture professional communities of practice in local areas led by participants in both the CAS Community through the regional hubs as well as those charged with responsibility through the funded NoE programme.

From a recruitment target of 400 Primary and Secondary Master Teachers the programme achieved 380 representing 95% fulfilment.

Schools are gradually recognising the benefits of being part of the NoE and 20 new schools are, on average, registering to join each month. The examples shown by the Lead Schools, who receive no direct funding unless they have a Master Teacher on staff, is illuminating and shows what can be achieved when the senior management of a school actively support their staff in the development of Computing in their school.

Our University Partners continue to contribute much to the NoE through CPD courses, conferences, Master Teacher Training and much more including providing much needed coordination of NoE with the wider CAS community activities and other stakeholders. Their role as guardians of the subject at this fragile time cannot be underestimated and we look forward to the development of their role and influence in Phase 2 of the project.

From feedback received from Master Teacher training we see the impact the training received is having on both their practice and their pupils. A 33% increase in teacher confidence as a direct result of Master Teacher training and 98% reporting that courses they have attended would have a direct impact on their practice is hugely encouraging. Those attending these courses appreciate that they are face to face, local and led by credible, well informed colleagues.

The teachers who have received training and support through our programme have shown considerable dedication and often worked evenings and weekends in seeking to up skill themselves in order to execute their teaching responsibilities professionally.

Is this task complete? No! Ensuring that every child, in every generation, has an outstanding computing education is a long term challenge, it will not be met in either the short or medium term. The NoE approach of leading from the classroom, bottom up, is having a systemic impact.

2.1.1 Phase 1 Headline Statistics (May 2015)

- Master Teachers (recruited): 380
- Primary: 195
- Secondary: 167
- Coordinators: 18

- Member Schools: 1424

- – Primary: 504
- – Secondary: 942
- Lead Schools: 435
  - – Primary: 168
  - – Secondary: 298
- MT Events: 447
- Other MT activity: 38,189 teachers reached
- CAS Regional Hubs: 150

3. The CAS Champion – "There is no them, only us"

CAS encourages all members to contribute informally:

Communities of practice are groups of people …
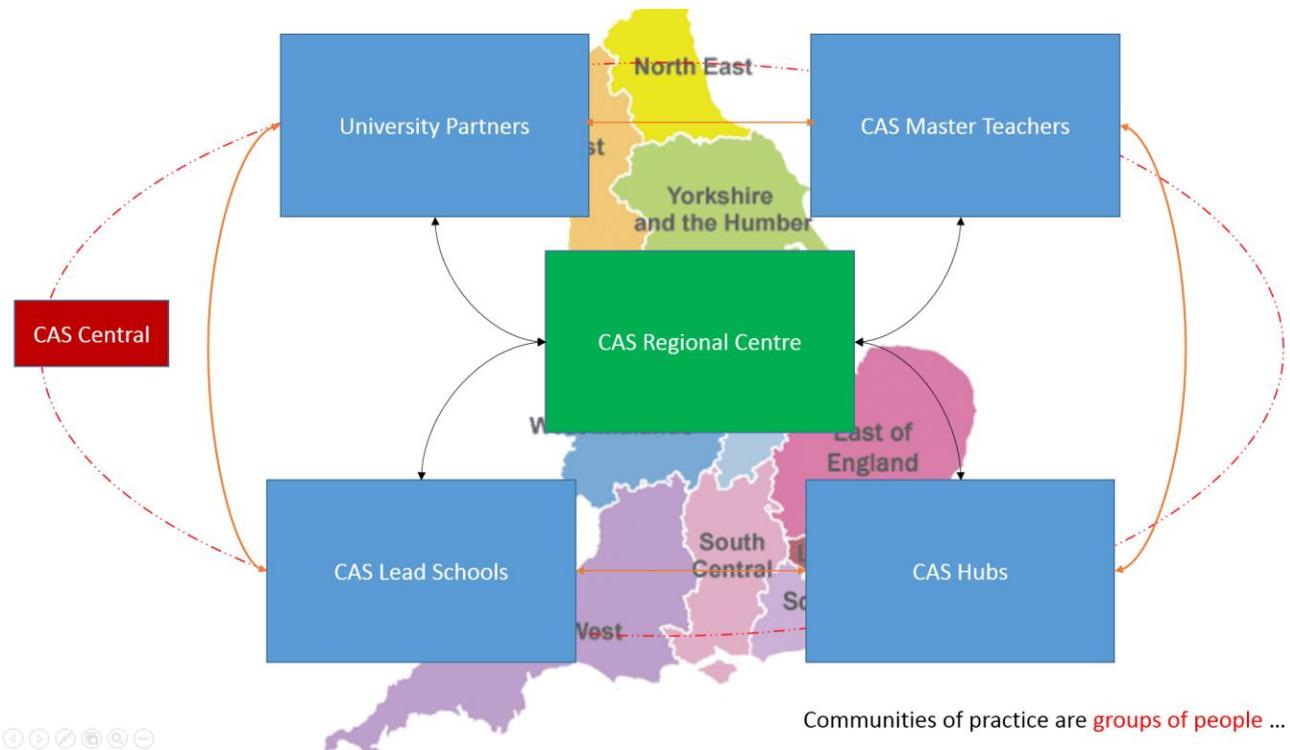
This may include:

- Forum participation - e.g. starting discussions, responding to questions, uploading resources.
- Contributing to working groups - formed as and when needs arise.
- Representing CAS - speaking or attending meetings and conferences and reporting on the proceedings.
- Responding to consultations
- Authoring CAS materials and resources

Since the inception of CAS, and especially through the development of the NoE, a number of designated roles have emerged within the community each aimed at supporting an emergent community of

practice in their local area. These communities of practice are at the heart of CAS activity. These roles include:

• Hub Leaders
• Master Teachers
• University Partner Lead Contacts
• Lead School Lead Contacts
• Regional Coordinators (replaced by CAS Regional Centre July 2015)

From July 2015 a new role is being supported through a grant from the Department for Education:

• CAS Regional Centre

Collectively these may be regarded as **"CAS Champions"** (formerly "CAS Working Members"). CAS Champions will take on various roles within the community categorised as:

• Champions - promoting computing and its importance.
• Organiser - organising meetings, events, workshops and hubs.
• Networker - creating and maintaining networks of teachers.
• Broker - supporting colleagues to access support or to connect with networks.
• Curriculum adviser - offering advice on curriculum development.
• Professional developers - leading professional development activities.

Some may fulfil all of these, others only one but they are still regarded as **CAS Champions**!

From July 2015 CAS is setting up a number of Regional Centres based in 10 of our leading universities. This development provides an opportunity to reaffirm these roles, clarify their purpose and consider how they interconnect so that each is aware of what they may bring to their local community of practice.

The remainder of this document summarises the various CAS Champion roles.

3.1 The CAS Regional Centre

Introduced in September 2015 the CAS Regional Centre (CRC), housed in a number of universities, will take on and develop the role of the Regional Coordinator from the first phase of the Programme. The CRC will seek to cover all the categories listed above.

There will be 10 CRCs from July 2015:

• Newcastle
• York
• Manchester
• Lancaster
• Birmingham (Birmingham City University)
• Nottingham (Nottingham Trent)
• Hertfordshire

- London (QMUL + KCL)
- Plymouth
- Southampton

It is acknowledged that this will not provide full geographic coverage but it is a start! The CRC is the focal point for activity in the region and brings much needed coordination to their regions. They will be working closely with all "CAS Champions" and supporting each as they build and contribute to their local communities of practice.

Funds provided by the Department for Education will be used by these Regional Centres to expand on their existing activity and to specifically provide staff support to enable the CRCs to meet their objectives:

- Engage and support existing Master Teachers to help them maintain and extend communities of practice across the CRC Region.

- Build relationships with head teachers and senior leadership teams (SLT-s) of the CAS Lead Schools and other schools within the CRC region.

- Working with Master Teachers to help them build their communities of practice. This may include helping to develop appropriate course content and providing logistical support such as organising venues and catering, course promotion, and delegate registration and feedback collection

- Organise regular meetings for local CAS Hub leaders, Master Teachers, Lead Schools, BCS Scholars and other local NoE universities.

- Plan and run regular CPD events for schools within the CRC region in collaboration with Master Teachers.

- Organise promote and run annual regional conference(s) for school teachers in their region.

- Collaborate with CAS Hub leaders, Master Teachers and Lead Schools, to write produce and disseminate a half-termly newsletter.

- Report on MT and other activity within the CRC region

- Identify, encourage and enable potential MT to become part of the NoE

The CRC will seek to harness the CAS Champions in their region, encourage and enable them to work together and begin to establish a reputation as a training centre for teachers of computing.

3.2 The CAS Master Teacher - Phase 2

The CAS Master Teacher is an experienced, high performing classroom teacher who, with the full support of their Head Teacher and the equivalent of an afternoon each week, are enabled to support other teachers of Computing in their local area. The Master Teacher is part of the local community of practice and will work alongside the local hub(s) and University Partners in delivering subject and pedagogical knowledge to their community of computing teachers. What characterizes all Master Teachers is a passion for the subject, enthusiasm, energy and active involvement in CAS activities. Master Teachers are, first and foremost, teachers.

The CAS Master Teacher:

- champions computer science in schools and the wider teaching profession
- provides training, mentoring and coaching to teachers in their local communities
- fosters collaboration between schools and universities and lead in developing CPD provision from universities to schools

It is expected that through the support of their Senior Leadership Team and Head Teacher the Master Teacher will spend approximately three hours each week (the equivalent of an afternoon a week) fulfilling their role. The support they provide might include low-cost training sessions and other mentoring and coaching opportunities.

The motivation for becoming a Master teacher is twofold, neither is mutually exclusive:

- a means for personal professional development and in order to benefit their own school,
- a desire to support others.

3.2.1 The Roles of a Master Teacher

The Master Teacher is a "Practitioner Champion", an adaptive teacher leader who enables the professional development of others and catalyses or supports curriculum change. The Master Teacher will specifically fulfil the role of *curriculum adviser* and *professional developer*. (They may also engage in the other roles at various times as well!)

These two roles are conducted in two main ways: either in the context of a one-to-many activity e.g. a training course, workshop, visit to a school; or one-to-one e.g. responding to email or phone calls, tweets or CAS forum posts.

Each CAS Master Teacher is in a regional team overseen by the representative at the CAS Regional Centre. The CRC directly supports the CAS Master Teacher by e.g. approve content of CPD sessions, provide feedback on CAS Master Teacher sessions, provide training and mentoring as needed by the CAS Master Teacher. Each CRC operates differently so the level of support may vary but in all cases the CRC is the first point of contact for CAS Master Teachers.

3.2.2 Terms and Conditions

There is no payment made to the Master Teacher[1]. The first phase of the programme allowed for modest funding, paid to the school in the first year only. The expectation is for the school to release you for the equivalent of an afternoon each week from your timetable. Income generated by CPD sessions should fund release time in subsequent years (see below).

Each Master Teacher, and their Head teacher, must agree to the following Terms and Conditions:

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[1]Master Teachers are encouraged to charge for their activity on behalf of their school. See section on Charging for events and services.

- Build, and actively contribute to, a community of practice in association with your CAS Regional Centre, local hub network, University Partners and local schools
- Provide training and support to meet local need and demand for teachers of Computing, and to be professional in all dealings with those requiring support and help
- Share all resources used during CPD events with the CAS community on CAS Online (using a Creative Commons license)
- Respect copyright when producing resources to support CPD
- Comply with CAS guidance when working with external organisations
- Complete an audit of relevant and related activity each term
- Attend one day of Master Teacher orientation each year
- Agree to your name and contact details being published on the public register of active CAS Master Teachers

3.2.3 The Master Teacher Register

CAS Central maintain a public register of active CAS Master Teachers to authenticate your status. This is publicly available and may be used by those beyond the CAS Community by those seeking help or by those looking for training or speakers for training events.

The register is reviewed annually, via the Master Teacher Audit, to check who is still active and make sure the register is kept up to date. In recognition of your inclusion on the register you will receive a certificate for your school to display showing your commitment to your community of professional practice. A Master teacher can opt out of the register at any time my emailing admin@computingatschool.org.uk. Their entry in the register will link to their profile page on the CAS Community web site. Thus, Master Teachers are encouraged to keep their profile page on the CAS Community Site up to date!

All Master Teachers are members of Computing At School and will be given a CAS email account which is used for all CAS communication. They may also use the Master Teacher logo in the signature of their emails and for other communication as needed.

3.2.4 Master Teacher Audit

At the end of the academic year each Master Teacher is required to complete an audit of activity which is used to determine continued status as a Master Teacher for the next academic year. As long as the Master Teacher is (a) using the CAS Booking system for events and (b) maintaining their record of activity on CAS Online and ©Uploading resources to CSA Online the audit will be semi-automated.

Thus, keeping on top of the 'paperwork' is important otherwise the audit will become really difficult to complete. The NoE admin area of the CAS Community website has all that is needed to keep a log of activity. It is advised that every few weeks Master Teachers access their log and complete.

3.3 CAS Hub

First and foremost, CAS hub meetings are **for teachers**, run **by teachers**.

A CAS hub is a meeting of teachers who wish to share their ideas for developing the teaching of computing in their schools, their classrooms and their community. It is a meeting of like-minded individuals with the general objective of supporting each other and the specific aim of providing (at least) one idea that can be taken and tried in the classroom. It's a low maintenance, high impact activity.

The hubs form the foundation for most of the work of CAS. They provide:

- the opportunity for teachers to meet in a relaxed and informal atmosphere
- to share ideas and resources
- to receive training, and
- to gain mutual support from discussing teaching methods with colleagues.

Furthermore, CAS derives much benefit from drawing in members from Universities and industry as well as schools. The CAS hub provides a unique opportunity to meet colleagues from local higher education institutions and local employers.

Claire Davenport, the Hub Group Support Manager, says:

"I can see the immediate and positive ripple effect of Hub group meetings in a geographical area - membership applications rise in the days following a Hub meeting, where people have attended a meeting for the first time, and have been persuaded to join CAS. These groups are of great value as they offer the personal face of CAS, not just online forums but real 'live' support from keen volunteers who understand the pressures that fellow teachers can face."

Running a CAS hub, and being a CAS Hub leader, is a vital part of the CAS system. CAS Hubs leaders adopt many of the roles identified earlier i.e.

- Champions - promoting computing and its importance.
- Organiser - organising meetings, events, workshops and hubs.
- Networker - creating and maintaining networks of teachers.
- Broker - supporting colleagues to access support or to connect with networks.

Hub leaders may also be Master Teachers thus fulfilling:

- Curriculum adviser - offering advice on curriculum development.
- Professional developers - leading professional development activities.

However, many are not and are encouraged to connect with their local Master Teacher if they wish to offer training at hub meetings.

3.3.1 Being a CAS Hub Leader

The hub leader is the point of contact for CAS into that locality and is the point of contact for local teachers who wish to become involved in the work of CAS. The hub leader will champion the cause of CAS and look for opportunities to connect with local teachers and provide opportunities in the hub meetings to meet the needs of the teachers in the area.

It is not expected that the hub leader will present at any of the hub meetings. Of course, they hub leaders are encouraged to draw on other members of the hub, especially Master Teachers, and external speakers wherever possible. The hub leader will 'chair' the meeting and introduce guests etc..

The practicalities of organising the local meeting is the responsibility of the hub leader i.e. setting the date, the venue, the catering, the topic, gathering feedback etc..

Hub Leaders agree to the following commitments:

• All Hub Leaders need to be enrolled as CAS members. This is free and can be done by visiting the CAS Community site

• Hub groups meet at least three times a year (usually once per term) providing at least one month's notice of hub meetings to ensure maximum promotion and gain maximum attendance.

• Hub meetings are posted via the CAS Event Booking system, which connects to Eventbrite (online event software) to set up and promote hub events.

• The focus of each meeting is to support computing activities in the classroom, primary or secondary.

• Feedback is gathered from attendees to ascertain group requirements in order to offer targeted meeting programmes in the future.

• All resources used in the CAS Hub meeting are uploaded on to the CAS Resources section on CAS community site after the meeting.

CAS Central staff are available to support all hub leaders specifically with:

• Providing training and resources to help the Hub run effectively.

• Telephone/email support.

• Participation in hubleaders@computingatschool.org.uk closed mailing list.

• Dedicated space on the CAS Community Site for the hub

• Sign up to Hub Mentor/Buddy system (if you want to work with more experienced hub leaders or be a buddy to new hub leaders).

• First call on participation in wider CAS activity and other opportunities.

More information about running a CAS hub can be found here.

3.3.2 Hub Meetings

For every CAS meeting the teachers should leave with one thing, a lesson plan, resource, that they can use in their classroom. This should be the top priority.

Meetings should be informal and allow maximum opportunity for teachers to chat with each other whilst maintaining sufficient direction to ensure flow.

It is helpful to have a theme for the meeting. Hub Leaders should choose a topic that interests them as this quite likely to be of interest to others. Feedback forms are an excellent way of finding out what others would like as well.

Feedback forms are a 'necessary evil'! The on the day feedback form for all hubs is here

It is **strongly recommended** that all CAS Champions support their local hub as much as they can. For Master Teachers it is particularly valuable. The local hub provides an immediate audience for promoting your work. Offering to present is an ideal way of helping those in your area see you and hear what you have to offer.

3.4 CAS Lead School (and NoE registered schools)

All schools (primary or secondary) in England are welcome to the join the NoE. This can be regarded as institutional membership of CAS and the NoE. Being a member school makes a public statement that Computing, as a subject, is valued and is important for that school.

When registering to join the NoE any school can self-designate as a Lead School. This means the school is taking a **lead** for Computing and computer science education in their area by supporting other schools. At the end of each academic year Lead Schools are required to complete an activity audit in order to maintain their status as a lead School in the NoE.

Read the 2014 Lead School Audit Report.

Lead Schools are expected to:

• recognise that Computing as a subject is important, it should be part of the school development plan.
• be developing or have developed a broad and balanced computing curriculum that shows clear, planned progression
• offer support (to at least one) other schools in your community through sharing your good practice e.g. team teaching, lesson observations, shared schemes of work or running joint planning sessions, helping colleagues set up a Code Club in a local school or run Computing focused transition days etc..

Lead Schools may also wish to:

• publish resources or contribute to discussions on the CAS Community Website
• run a CAS hub or offer support to CAS win another way such as presenting at CAS events or taking an active role in the development of the community
• provide extra-curricular computing opportunities for pupils
• conduct interviews as part of the BCS Scholarship programme

It is expected, of course, that computing staff in Lead Schools will be members of CAS! Master Teacher schools are automatically Lead Schools.

3.4.1 Membership Benefits of being a Lead School

• Enhanced public recognition, reflecting your staff's expertise and commitment to Computing and Computer Science, with the entitlement to use the NoE Lead School logo on your organisation's documentation and website
• Provides prospective new staff members with the confidence that your organisation is effectively developing its Computing and Computer Science provision and the potential for career development in the future
• Receive invitations to speak at CAS Hub meetings
• Opportunity to submit proposals to present at the annual CAS National and Regional Conferences
• New and exciting opportunities are always offered to Lead Schools first e.g. Bids to the Major of London Fund to role out Digital Schoolhouse projects across London
• The Network of Excellence will facilitate introductions to local Initial Teacher Education providers to attract PGCE Computer Science students for placement
• Access to support the BCS Scholarship Bursary scheme and opportunity to attract the best PGCE applicants

It is important that other CAS Champions are aware of the NoE registered schools in their area, including Lead Schools. Hub Leaders can invite staff to their meetings; Hub Leaders can invite Lead School staff to present at their meetings; Master Teachers can advertise their courses to the NoE registered schools; CRCs can monitor the outreach activity in the NoE schools and use this in their termly reporting cycle; CRCs can connect with the Head Teachers and Senior Leadership Teams in the member schools; CRCs can seek case studies from the member schools re the development of Computing in the curriculum.

3.5 CAS University Partner

University faculty (both Computer science and Education departments) are central to the success of the NoE. There is a need for both subject knowledge and pedagogical knowledge development. We want to encourage university colleagues to forge links with the primary and secondary schools in their area, find out what they need, work with master teachers in the area to design and deliver suitable training opportunities, find ways of Utilising undergraduates or post-graduates to support both curricular and extra-curricular activities with the schools or just be at the end of a friendly email stream to help answer questions from the teachers.

Over 70 universities are connected to the NoE many actively involved in supporting teachers in their local area. Given the range of institutions involved there is a diverse array of support on offer including short courses e.g. Manchester; students running hackathons e.g. Lancaster; creating teaching resources e.g. UCL; running regional conferences e.g. Newcastle.

From July 2015 ten CAS University Partners will be selected to form a CAS Regional Centre. It is hoped this will the start of many more! The CRCs will work all stakeholders in their region to bring coordination and coherence to CAS activity in the area.

4. Charging for events

Finally, whilst all CAS Champions work as volunteers this does not mean that events should not be charged for. As a general rule CAS Hubs are free and the more formal one-to-many training events/courses e.g. those run by Master Teachers will carry a reasonable charge paid to the Master Teacher's school. "Reasonable" would be in the region of £30 for a twilight session (approx. 2.5 hours) and £80 for a full day (approx. 6.5 hours), thus £12 per hour of contact time. There are no hard and fast rules imposed by CAS here as each institution will have different constraints to work under except that any payments must be paid to an institution e.g. a school or a university and not the trainer's personal bank account.

CAS Hub Meetings should be free to attend with the host donating the room and possibly even refreshments. However, it would seem reasonable for hub leaders to ask for donations from participants towards tea/coffee and any other expenses incurred.