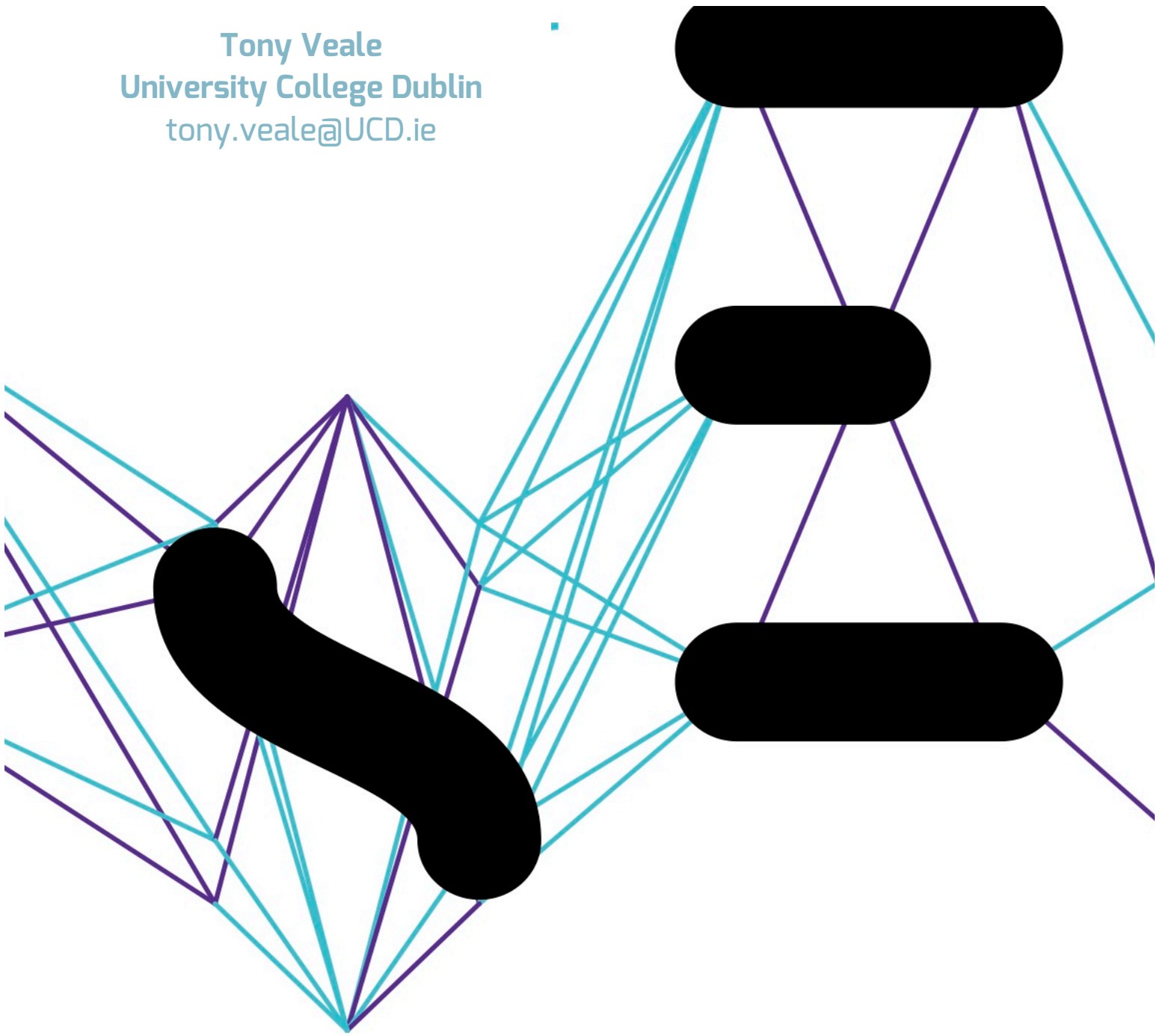


Year Two Management Report

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Deliverable: D5.2



Management Report, Year Two

1. Introduction

The PROSECCO project has now been operational for two years. In its second year it has extended its initial goals in terms of: *outreach; education and field-development; as well as management/coordination* of the above activities.

This report outlines and explains the management decisions that contributed to the implementation of each of these activities, and looks forward to the activities of Year Three. We begin, in the next section, with a summary of the Year 2 goals of the coordination action, and of the deliverables to be completed in achieving these goals.

1.1. Project Meetings in Year Two

The wide range of CC events in Year two – some organized by PROSECCO, some organized by related EC-funded CC projects such as WHIM and CONCRETE, and some organized by the ACC (Association for Computational Creativity, whose charter was Y1 deliverable D1.3) such as the annual ICCC (International Conference on Computational Creativity) has afforded many opportunities for PROSECCO partners to meet and discuss the goals of the coordination action. A major meeting of the PROSECCO action took place in June 2014 in Ljubljana, Slovenia, during the 2014 ICCC conference. All members of the action were present, as were advisory board members Dan Ventura and Raphael Perez y Perez.

Issues considered at the meeting included: location of the Y2 Code Camp (PROSECCO partner Amilcar Cardoso agreed to be local organizer of the camp, with Tony Veale as co-chair, in Coimbra, Portugal); the date of the code camp (January 2015 was chosen as the most suitable period); improvements to the PROSECCO web-site (as recommended in the Y1 review); and organization of a multi-project CC event in 2015 (also recommended by the Y1 review). PROSECCO partner Geraint Wiggins volunteered to host the latter event at Queen Mary, University of London with PROSECCO partner Simon Colton as co-organizer.

Another significant PROSECCO management meeting took place in April, 2015 in London as part of the PROSECCO co-sponsored joint event on Computational Creativity at Queen Mary, University of London. Issues discussed at this meeting chiefly concerned plans for a journal of Computational Creativity (JCC, see section 7), the upcoming Handbook of CC Research (Readings in Computational Creativity, from Springer; see section 8), and revisions to the PROSECCO web-site (see section 9 of this deliverable).

Overall, project communication between partners has been more than adequate, in large part due to the increased number of opportunities for face-to-face interaction at CC-related international events. As in year 1, a substantial amount of preparatory decision-making has also been enabled by email communication between partners.

2. Goals and Deliverables, Year Two

With strong foundations laid in year one, year two included outreach to creative practitioners in the realm of digital arts, further educational outreach to future researchers in CC, and the creation of resources for the sustenance of the CC research community. The following deliverables were due in this period:

- D1.5** *Report of Y2 Contact Forum*
- D2.2** *Interim Report of the International Advisory Panel*
- D2.3** *Y2 mission report*
- D3.4** *Y2 Outreach report*
- D4.2** *Editorial Processes handbook*
- D4.3** *Handbook of CC research (or “Canonical Readings in CC”)*
- D5.2** *Y2 Management Report*

With the exception of D5.2 (which is this document) we include here a short summary of each deliverable and its associated project goals in the following sections.

3. The Y2 Contact Forum

The second PROSECCO international contact forum was held in Ljubljana, Slovenia, from June 9th to 13th 2014 inclusive, to run in parallel with the 2014 ICCC (International Conference on Computational Creativity), for which the local organizer/chair was PROSECCO partner Nada Lavrač. Our goals for this event were to engage with the art world on *their* terms, by staging an exhibition of artworks by artists who have shown an interest in the notion of computers being independently creative. To this end, a five day, public exhibition of screen-based art, entitled *You, Me, It* was held in the art gallery of the Jožef Stefan Institute in Ljubljana, with local organization taken care of by PROSECCO organizer Nada Lavrač.

The curator and creative force behind the exhibition was Ian Gouldstone, an award winning animator with much experience of art event management, who is also undertaking a PhD in computational arts in the Computational Creativity research group at Goldsmiths. The aim of the exhibition was to raise philosophical questions about the nature of collaborations between artists and machines, in the context of autonomously creative software raised by PROSECCO involvement in the event. Seven artists were invited to exhibit work in the gallery, and a further five were invited as distinguished guests, to take part in the contact forum. We took the opportunity to co-locate the exhibition with the International Conference on Computational Creativity (ICCC), as this is the largest annual gathering of Computational Creativity researchers. As such, it presented a unique venue for the artists to meet and share ideas with a broad range of Computational Creativity researchers.

The event, which was considered a success by both CC researchers attending the ICCC conference and by the artists themselves, is discussed in greater detail in D1.5.

4. The International Advisory Panel

PROSECCO encourages oversight from other members of the Computational Creativity community to ensure that its goals are addressed in a way that maximally benefits the community. The advisory board draws its members from the international community. At the end of Y1 the board comprised 4 international CC researchers, though in year 2 one of these members cycled out of the board and a new member, from Mexico, took his place.

The following 4 international researchers were selected by unanimous agreement at the initial PROSECCO kick-off meeting in April 2013:

- **Dan Ventura**, Brigham Young University, Utah, USA
- **Bipin Indurkha**, IIT, Hyderabad, India (and, at present. Krakow, Poland)

- **Graeme Ritchie**, the University of Aberdeen, Scotland
- **Oliviero Stock**, Foundation Bruno Kessler (FBK), Trento, Italy

Bipin Indurkha has been of special value to the project, by lending a cognitivist perspective to the feedback we receive, and by organizing (for instance) a creativity evening at the 2013 PROSECCO Autumn School. In 2015, Rafael Perez y Perez, the current president of the ACC (Association for Computational Creativity) and respected story-generation researcher, was asked to join the advisory panel once Bipin Indurkha came to the end of his term. He now has two members from Europe and two from the Americas, to offer a global perspective on the development of the CC field.

The feedback offered by the advisory board has been compiled into an interim report of the board, which is to be found in full in Y2 deliverable D2.2.

5. Travel Missions in Y2

Travel missions in Year two were principally used to support the movement of students between partner sites, or to PROSECCO events, though they were also used to support movement of the partners themselves to events or to other participating sites. A fuller picture of PROSECCO-funded travel in year two is offered by deliverable

Since the annual ICCC is the principal academic event in the CC calendar, we have striven to organize PROSECCO events in conjunction with the yearly conference. In this way, the students who are funded by PROSECCO to attend these events also have the opportunity to attend ICCC and see the full CC community in action. In 2014, for instance, the second international contact forum (aimed at the digital arts community) was held in conjunction with the 2014 ICCC in Ljubljana, Slovenia. In addition, a PROSECCO tutorial on Computational Creativity was offered at this event, free to all attendees, registered or otherwise. An audience of 60+ attendees thus attended a tutorial jointly offered by PROSECCO partners Geraint Wiggins and Tony Veale, the latter introducing the attendees to the CC potential of Twitterbots. As Twitterbots are currently of interest mostly to internet artists, this topic provided a topical synergy with the contact forum on digital arts. Veale's presentation is available online at [Slideshare.com/kimveale](http://slideshare.com/kimveale), where it has received almost 500 views. PROSECCO's use of travel funds to encourage potential CC students has yielded observable fruits at the ICCC. The 2015 conference, whose program chair was PROSECCO partner Hannu Toivonen (held in Park City, Utah, with PROSECCO advisor Dan Ventura as local chair) attracted a wide swathe of eager new students (and, in some cases, their supervisors) to the CC community.

An interesting use of travel mission funds in year two enabled the delivery of a graduate course on Computational Creativity at the University of Helsinki (the institute of PROSECCO partner Hannu Toivonen) by PROSECCO coordinator Tony Veale. This eight week course was a notable success, as measured by the strongly positive feedback surveys solicited by UH for this course. This travel mission was co-funded by PROSECCO and by UH, the latter supporting Tony Veale as a visiting professor to the university. UH students were especially vocal in their views on creativity, and the potential of machines to achieve human-level generative capabilities, yet this experiment suggests that students in other universities are just as eager to attend graduate-level courses in Computational Creativity. As with the PROSECCO tutorial organized as part of ICCC 2014, the practical work for this course focused on the construction of intelligent generative Twitterbots. One student in particular, Khalid Alnajjar, showed great promise as a future CC researcher, and co-authored a well-received paper on his Twitterbot project accepted for presentation at ICCC 2015.

6. Outreach in Y2

Outreach efforts in Y2 comprised big-ticket events such as the PROSECCO Code-Camp (see section 1 of deliverable D3.4) and the International Contact Forum aimed at digital artists and the games community (see section 3.2 of deliverable D3.4 and its companion deliverable D1.5), as well as smaller (and thus less expensive) efforts such as keynote talks, media interviews, targeted articles in relevant magazines, and events affiliated with the annual ICCC (International Conference on Computational Creativity). Each of these efforts is described in detail in deliverable D3.4. We have also engaged social media in Year 2 with the creation of the Twitter account *@PROSECCOnetwork*, which was used to live tweet the talks at the 2015 ICCC conference, and made efforts to turn the PROSECCO web-site into more of a community resource to support future outreach efforts (see section 9 of this deliverable).

As detailed in D3.4, PROSECCO partners have been especially active in Y2, as measured by the number of media interviews and articles/programmes and keynote addresses that they have delivered. The principal educational outreach event in Y2 was the international code-camp held in Coimbra, Portugal in January 2015 (12th to 15th). The local chair for this event was PROSECCO partner Amilcar Cardoso, who also served as program co-chair with PROSECCO coordinator Tony Veale. We are especially proud of this event given the amount of organizational and conceptual effort that it required to execute successfully.

As with the tutorial offered as part of ICCC 2014, the focus of the code camp (which carried the strapline “*Postcards from the Edge of Tomorrow*”) was creative Twitterbot construction. The 32 students who were funded to attend the camp were allocated to eight teams of 4 students each, in such a way that core competences (e.g. Java/Python development skills) were allocated as evenly as possible across groups. As such, great care was taken to ensure that each team was a viable combination of technical and conceptual skills. Each team was assigned a mentor, an established CC researcher, to ensure that they answered the challenge of the camp in a way that was neither too ambitious nor too uncreative. This involved a delicate balancing act from which we learned a great deal for future events (the constructive feedback of mentor Graeme Ritchie, also a member of PROSECCO’s advisory board, was especially useful in this regard).

As is it a major goal of PROSECCO outreach events that young researchers be drawn into active roles in the CC community, we considered it vital that young researchers play a key role in the delivery of the code camp’s educational content. To this end, two active young researchers – games researcher Mike Cook (from London) and design researcher Tom DeSmedt (from Antwerp) – were invited (and sponsored via PROSECCO travel missions) to deliver the opening lectures at the camp. Mike Cook delivered an excellent survey talk on Twitterbots, focusing on both their techniques and their artistic/conceptual rationale, while Tom DeSmedt gave an invaluable technical tutorial on the use of the *Pattern* library for Python (of which he is a co-developer). Student teams were then tasked with using Python/*Pattern* to build their own Twitterbots, taking inspiration from the survey talk by Mike Cook to inject a unique theme and personality into their creations. Students found the Twitterbot construction task to be both fun and technically challenging, with a topical internet resonance that nonetheless echoed the excitement of the ‘60s experimental poets and their innovative use of the cut-up method.

It was of utmost importance that students not fall into the trap of *Mere Generation* – the alluring belief that machines can be programmed to generate creative outputs without being able to appreciate those outputs for themselves – and build generative systems that would be accepted as creative by the CC community. But machines cannot appreciate their own outputs if they lack knowledge about the semantic components of their outputs, hence

the need to provide students with a comprehensive knowledge-base of interconnected and semantically-grounded beliefs, and the need to enforce the use of this knowledge-base in every Twitterbot that was constructed. This last requirement – essentially forcing students to use a common knowledge resource – was perhaps the most onerous, but also the most important, insofar as it gave students a very real sense of the difference between merely generative and creatively generative systems.

The resource in question was manually constructed by PROSECCO coordinator Tony Veale to ensure its quality. Called the *NOC List* (Non-official Character list), the resource provided approx. 30 thousand semantic triples on the topic of famous figures from popular culture, whether contemporary or historical, real or fictional. The resource provides a sufficiently rich model of 800+ figures (ranging from Julius Caesar to Darth Vader) to support knowledge-based systems for metaphor/simile generation, conceptual blending, and simple story generation. Student groups used the NOC List to build knowledge-based 'bots that, e.g. generated knock-knock jokes (containing in-jokes about famous people), riddles (the RiddlerBot, which was the topic of an ICCG-2015 paper by the team in question), game-like interactions and short story-like dialogues. The NOC List continues to be a substantial resource that can be used in future CC events, or as the basis of future CC coursework whenever CC courses are taught. The resource is freely available to the CC community from:

<https://www.dropbox.com/sh/a2hwhk3vuhp5vf2/AAA8pzNdMNPkOGbsArxf3Nm7a?dl=0>

Though we were very pleased with the execution and outcomes of the code-camp, feeling the students involved showed an obvious and strengthened enthusiasm for CC, it is worth noting that we can learn from such events how to better organize future outreach efforts. For this reason, we include here the constructive criticism offered by team mentor (and advisory board member) Graeme Ritchie:

“Here are some comments on the recent code camp in Coimbra. (I'll also put shorter notes on this in my contribution to the PROSECCO Advisory Board report.)

The code camp seemed to be broadly very successful, particularly with regard to the organizational aspects. There were two aspects of the academic activities that I think would merit some reconsideration if another such event is planned: the emphasis on the goals set to the participants, and the supervisory role of mentors.

It is all too easy for students to perceive CC as being primarily about clever hacking, without regard for more theoretical, abstract, or principled matters. Also, some of the students attending a code camp might not have a background in CC as we understand it, particularly those aspects which are less concerned with cute programming. Although Tony's introductory talk mentioned many of the creativity issues, it was tied very closely to the Twitterbot topic, and the tone had already been set by starting with a talk about software tools, followed by Mike's talk specifically on the twitterbot artifacts. Instead, the talks could have been in the reverse of the order used, and the first talk could have placed even more emphasis on what the aims of CC projects might be. Also, having talks on the mornings of the first two days, and group work sessions on the first two afternoons, might have helped the students to get into the ideas first, before the actual coding took over. The first afternoon group session, for example, could have been explicitly about ideas and not about coding details.

Some of the steering of the students could have been done by the mentors, which brings me to my second point. The remit given to the mentors was to leave the students alone as much as possible. This raises the question of whether it was worthwhile employing such an experienced and knowledgeable team of mentors.

There was an opportunity for the students to learn working practices and methods from the mentors, and to pick up a better idea of what CC is about, but the "hands off" remit worked against this. One participant (not from my group) said afterwards that he would have preferred if mentors could have taken on a "project manager" role. On a personal note, I was uncomfortable with this lack of involvement. Having spent a lot of time over the years supervising students at various levels, I think I could have contributed much more to helping the students to organize their work and to focus on the more important aspects. However, I felt inhibited by the general advice to let the students make their own way.

As I said at the start, the event as a whole seemed to be successful. However, I think it could have been even more effective, and the above comments are intended as constructive suggestions for future code camps.

Thanks again to the organizers for making this such an enjoyable and smooth-running event, and thank you very much for inviting me to it."

7. The Journal of Computational Creativity

The repository of CC publications provided on the PROSECCO Web-site was originally intended to provide an evolutionary pathway to the development of a Journal of CC research (JCC). With this in mind, deliverable D4.2 was created to map out how peer-reviewed papers (of a longer form than those accepted by most conferences, including the ICC3) would be solicited for the online repository. The planning that led to D4.2 has now been superseded by new plans for the journal discussed below, which do not view the journal as an offshoot of the repository but as a full online journal in its own right.

The PROSECCO consortium has agreed a framework for the proposed Journal of CC research that allows for efficient management, minimal workload, sustainable operation, peer scrutiny, freedom of access and respect for ethical principles. The proposed journal publication scheme will also provide the Association for Computational Creativity (ACC) with an official regular publication that may become indexed by prestigious databases (e.g., SCOPUS, ISI).

The PROSECCO partners agreed the following principles for the operation of the journal:

1. The Journal of Computational Creativity (JCC) is an official publication of the Association for Computational Creativity (ACC), which will act as Publisher. It is published at least once an year and all the content made available online.
2. The purpose of JCC is to disseminate timely and informative articles that represent the current state of the art in Computational Creativity (CC) and to keep its readers posted on ACC-related matters. The articles are selected for appeal to readers engaged in research and applications across the broad spectrum of CC.
3. The mission of JCC is aligned with ACC in its purposes. JCC articulates its action with ICC3 to obtain synergies, namely in making joint publications, synchronizing reviewing plans, and sharing reviewing resources, articles and reviews.
4. The Journal adopts an Open Access policy. All material published is published under an Open Access License that allows unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The current proposal is to apply the Creative Commons Attribution (CC BY) license.
5. The Journal will be indexed by prestigious databases as soon as possible, and the bodies in charge will work towards attaining that goal in the minimum time.

6. The core contents of JCC will be peer-reviewed, and a description of the peer review process will be publicly available.
7. The Journal will be published on a regular basis, have an International Standard Serial Number (ISSN) as registered with the ISSN International Centre and have content that is relevant for and readable by an international audience².
8. The Journal will have a publicly available publication ethics and publication malpractice statement. The current proposal is to apply the ACM Code of Ethics and Professional Conduct.
9. All the Editors of JCC will have to adhere to the Code of Conduct and Best Practice Guidelines for Journal Editors proposed by the Committee on Publication Ethics (COPE).

It has also been agreed that the journal will be organized along the following lines:

1. **Volumes:** The Journal will be organized in yearly Volumes.
2. **Issues:** Until otherwise decided by the ACC, Volumes will *not* be organized in Issues.
3. **Regular Articles:** Regular articles will be published online sequentially and numbered sequentially starting at 1; Regular articles are published online as soon as they are considered ready by the Editorial Team.
4. **Regular Sections:** The Journal may have Regular Sections; Each Regular Section will be organized by an Editor; The Editorial Team will decide on the existence, organization and objectives of each Regular Session, and will nominate the respective Editor.
5. **Special Sections:** The Journal may have Special Sections; Each Special Section will be organized by one (or more) Guest Editor(s) and will comprise a collection of reviewed articles.; The Editorial Team will decide on the existence, organization and objectives of each Special Session, and will nominate the respective Guest Editor(s); Guest Editor(s) will organize a Guest Editorial Board, will publicize the Section, will manage and monitor the reviewing process and disseminate the results; The Guest Editorial Board will work on the reviewing and selection of articles to include in the Special Issue; Special Sections may consist, for example: i) of extended and updated versions of selected papers previously presented in ICC3; in these cases, it is expected that the PC Chair(s) of the conference will assume the role of Guest Editor(s); ii) of papers selected for a possible Journal Track in ICC3; in these cases, it is expected that the Chair(s) of the Journal Track will assume the role of Guest Editor(s); iii) of collections of selected papers on a relevant CC theme.

The following governance structures have also been agreed by PROSECCO partners:

1. Governing Bodies

- 1.1. The governing bodies of JCC will be the Editorial Team and the Editorial Board.
- 1.2. The Editorial Team (ET): a. Is composed by an Editor-in-Chief, who leads the team, and two or more Editors. The Editor-in-Chief is elected by the ACC. The Editors are nominated by the Editor-in-Chief. b. Will serve for a fixed term of 2 years.
- 1.3. The Editorial Board (EB): a. Is composed by ex-officio and non ex-officio members. b. All the sitting members of the ACC Steering Committee are ex-officio members of the Editorial Board. c. Non ex-officio members are nominated by the Editorial Team.

2. Responsibilities

2.1. Of the Editorial Team (ET):

- a. The production of the journal, including the management and monitoring of the processes of Reviewing, Publishing and Dissemination.
- b. Nominate non ex-officio members to the Editorial Board.
- c. Decide on the organization of Regular Sections and nominate Editors for them.
- d. Decide on the edition of Special Sections and nominate Guest Editors for them.
- e. Decide on the final acceptance of each article for publication.

2.2. Of the Editorial Board (EB):

- a. The reviewing of regular submissions
- b. Other editorial tasks proposed by the Editorial Team

Regarding the planned launch of the journal, it was agreed that the journal would most likely not be launched before **2017**, taking account of a number of deciding factors. It is vital that when the journal *is* launched that it is launched effectively, and so the matter will be discussed again in 2016, to determine whether the timing and the calendar is right for the launch of the journal. The field cannot afford mistakes with this effort, as a botched launch may alienate the very researchers we wish to attract to the CC community. Furthermore, at present the academic publishing calendar is already experiencing an embarrassment of riches regarding special issues on the theme of Computational Creativity.

8. Handbook of CC / Canonical Readings in Computational Creativity

A proposal for a collected volume entitled Readings in Computational Creativity has been accepted by Springer for publication in 2016. Unlike other collected volumes of CC papers, Readings in CC will bring together revised and updated versions of older papers in CC that have proven their worth by laying the foundations of a distinct sub-area of Computational Creativity research. Taken as a whole, these papers will serve as a handbook of CC research that demonstrates both its scope and its methods.

The full proposal is provided in Y2 deliverable **D4.3**.

9. Web-Site, Visual Identity and Social Platform

Following the Y1 PROSECCO review, it was recommended that the PROSECCO web-site (PROSECCO-network.eu) be revised to look more like, and serve better as, a community web-site rather than a project web-site. With this in mind, PROSECCO partner Hannu Toivonen has tasked a University of Helsinki graduate student with revisions to the web-site.

The site has been modified in multiple ways, some more obvious than others. A rotating carousel of PROSECCO-event-related images now features prominently on the front page of the site. The CPU-intensive moving PROSECCO logo (implemented in *processing*) has now been moved to sub-page within the site, to reduce the load of the page on browsers. Site menus have been reconfigured (and menu bars altered) to allow the site to better serve as a community site and to appear less obviously a project-specific web-site. The site now also offers a content-rich blog, a web forum and a mailing list to serve the larger CC community, so as to e.g. allow community-wide debates to be handled via email and online

comments/discussions. Changes to the content of the site are now signaled clearly with a *Recent Changes* panel in the bottom left of the main page.

We shall be aggressively pushing the new PROSECCO blog on Computational Creativity in the remainder of 2015 and 2016. It is our goal to make it the go-to site for debating issues on our field (e.g. regarding the desirability and utility of Turing-Test-style contests for the outputs of CC systems). The blog, which is open for comments from the general public, may be accessed at <http://prosecco-network.eu/blog> while the PROSECCO forum may be accessed here: <http://prosecco-network.eu/forum>

A new addition to the PROSECCO site is a Twitter widget (bottom right of the main page) that provides an up-to-the-minute view of the *@PROSECCOnetwork* Twitter timeline. This new Twitter account allows us to reach the broader CC community with announcements regarding upcoming PROSECCO events, media coverage or online CC demos. We aim to establish a synergy between Twitter account, blog and forum, to reach people via short messages and to attract them into longer-format debates on the PROSECCO site.

10. Concluding Remarks about Year Two

We aim for a light touch to management in PROSECCO, allowing partners to take the initiative wherever and whenever they feel that PROSECCO funds can be put to good use in advancing the goals of the CC community. Many opportunities have presented themselves to promote the field of CC, as shown by the outreach efforts detailed in deliverable D3.4. Nonetheless, partners continue to be careful in choosing which opportunities to exploit. For instance, we have largely resisted media pressure to engage in Turing Tests of machine creativity, feeling that such tests are neither true to the spirit of Turing's vision of machine intelligence (his view of the thought experiment which bears his name are considerably more nuanced than the views held by most media outlets) nor true to the spirit of CC. By simultaneously encouraging a race to the bottom (in terms of quality) and a race to the surface (in terms of the superficiality of a system's outputs), "Turing" Tests encourage the merest of mere generation when our goal as a field is to instead encourage and promote deep appreciation by a system of its own outputs. In Year 3 we shall continue to promote the true foundations of CC (that is, a disavowal of mere generation in favor of deeper understanding and greater system knowledge) while ensuring that the CC community maintains an identifiably clear philosophy about the creative capabilities of machines.