CiCi: The little powerhouse that supports your career

Deirdre Hughes, Chris Percy, Graham Attwell and George Bekiaridis

Since April 2020, a small team of innovators have been working on the development of a careers chatbot (CiCi) that works uniquely alongside careers and employability professionals. In this article, we describe what we have done and what the future may hold when it comes to new forms of blended careers support.

All of us have experienced the imposition of lockdown as an initial shock to the system, whether it made us feel anxious, stressed about work, managing home schooling, lonely, or all of the above, all at the same time. As individuals, we have had to make adjustments – both big and small – to our everyday lives.

New forms of digital communication have recreated new in-person experiences. Video conferencing, zoom calls and using Facebook enable individuals and groups to connect socially and/or in work. Mobile phones, the internet, and big open datasets have created unprecedented opportunities to leapfrog into new forms of digital careers support. We believe humans and 'bots' can work well together.

In April 2020, dmh associates and Pontydsygu were awarded a national CareerTech Challenge Prize by NESTA in association with the Department for Education (DfE) in England. What began as a 'seed of an idea' to design a chatbot, using the power of natural language processing (NLP) and artificial intelligence (AI) situated alongside the expertise of careers and employability professionals, became a reality. CiCi is a chatbot prototype using the latest smart-technology to provide real-time data on careers information and advice.

We started the development work by focusing on the learning and work needs of adults in three major cities – Bristol, Derby and Newcastle. We initially formed 'SuperUser Groups' comprising careers and employability professionals, Further Education college staff, Local and Combined Authority and Local Enterprise representatives and a small cohort of employers. At first, we had to collectively think of the career chatbot's personality and to give it a name. We asked colleagues to think about the people who inspired them. Unsurprisingly, we received examples of sporting leaders (Jürgen Klopp), keep-fit fanatics (Joe Wickes), great orators (David Attenborough, Michelle Obama), radio personalities (Jo Whiley) and comedians (Sara Millican, Sanjeev Kohli). This stimulated a conversation about the gender of the chatbot – male, female or non-binary. We decided to name the chatbot 'CiCi' – capital 'Cs' for CareerChat supported by a little powerhouse of careers inspiration and ideas.

We then focused on contemporary career conversations such as: where are the latest job vacancies, what's involved in certain jobs, how can I become self-employed, how do I easily find local course information and, most importantly where can I go for careers support? Our idea was not simply to create a chatbot. Instead, our goal was to challenge the oversimplified notion that the use of technology in careers work is disruptive. We believe technology can be a force for good when situated in a combined social and professional context.

We conveyed a dual message to individuals in work, out of work or in-between jobs. Firstly, you are not alone in your search for meaningful learning and work. Secondly, CiCi can give you access to a huge range of resources, including contact with a local expert adviser, to help boost your confidence and chances when it comes to taking the next step. In an increasingly complex world, CiCi helps you quickly and easily navigate your way to new opportunities from your phone or your laptop.

Clearly, for those displaced from the key sectors most affected by the pandemic and new entrants to volatile, uncertain, complex and ambiguous (VUCA) labour markets, having easy access to trustworthy careers information, advice and local careers support is vital.

During the pandemic, careers and employability professionals have adapted and transformed their careers support policies and practices. They have discovered more inclusive and innovative ways of using technology to good effect (Cedefop, 2020)[1]. Examples include: distant and e-based careers policies and practices, delivered either by telephone, online 1:1 interviews or group webinar sessions, virtual career fairs, virtual work experience, virtual internships, career podcasts and 'careercraft' gaming. Using a chatbot within a practitioner's toolkit is a natural extension of the effective use of technology. We learned from the professionals in each of the three cities that they could see the significant potential of using a bot that could easily remember where the person left the conversation. No need for him/her to repeat their story and start all over again. Also, the bot could, with the formal permission of the client, share the online career conversation transcript and action plan with the human adviser.

This is complicated work but well worth the effort. CiCi offers the potential for increases in more self-directed learning anytime of the day or night - in the knowledge that someone local is on standby to assist, as and when required. Eight months on, we are testing the efficacy of the CiCi prototype with a wide range of adults in each of the three cities. Early results from circa 100 adult volunteers indicate CiCi can help with:

- assessments to find out more about you and your skills
- your CV
- searching for job vacancies
- information about job roles – what skills are needed, average salaries etc.
- information about training courses
- local volunteer opportunities
- self-employment tips
- referral to a human adviser.

The majority of respondents so far indicate the CiCi prototype was supportive and friendly. The careers information and advice has proven both accessible and understandable. Crucially, CiCi provided a quick and relevant response to the volunteers' specific needs. We are now in the process of undertaking observational research to learn more about the interaction and iterative relationship between practitioners, clients/customers and the bot. We are also embedding inspirational bite-sized coaching and motivational tips.

Using a combination of open datasets, local labour market information and short videos, the CiCi prototype is producing some additional interesting results. For example, local labour market information can be tricky to source, especially during a pandemic. Much of the existing LMI data is based mainly on historical trends and, in some cases, this is not linked to standard occupational classification (SOC) codes. Similarly, the same applies to course information which seldom can be searched for successfully by a job title. Government-funded courses for adults and associated information is not contained in a single place to access easily.

---

[1] Cedefop – Notes on Lifelong Guidance and the Covid-19 pandemic: Responses from Cedefop's CareersNet 28/4/20 - https://www.cedefop.europa.eu/files/2020_05_27_llg_and_pandemic_cnet_b.pdf See also: European Commission report:
https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8284&furtherPubs=yes

Our unique approach involves working closely with city partners and organisations who are committed to improving individuals' life chances and livelihoods. We believe in bots with well-trained and skilled professionals at the fore-front of their design and delivery.

For more information: Visit: https://careerchat.uk/
Contact: Dr Deirdre Hughes OBE, Programme Director
Email: deirdre.hughes3@btinternet.com

.