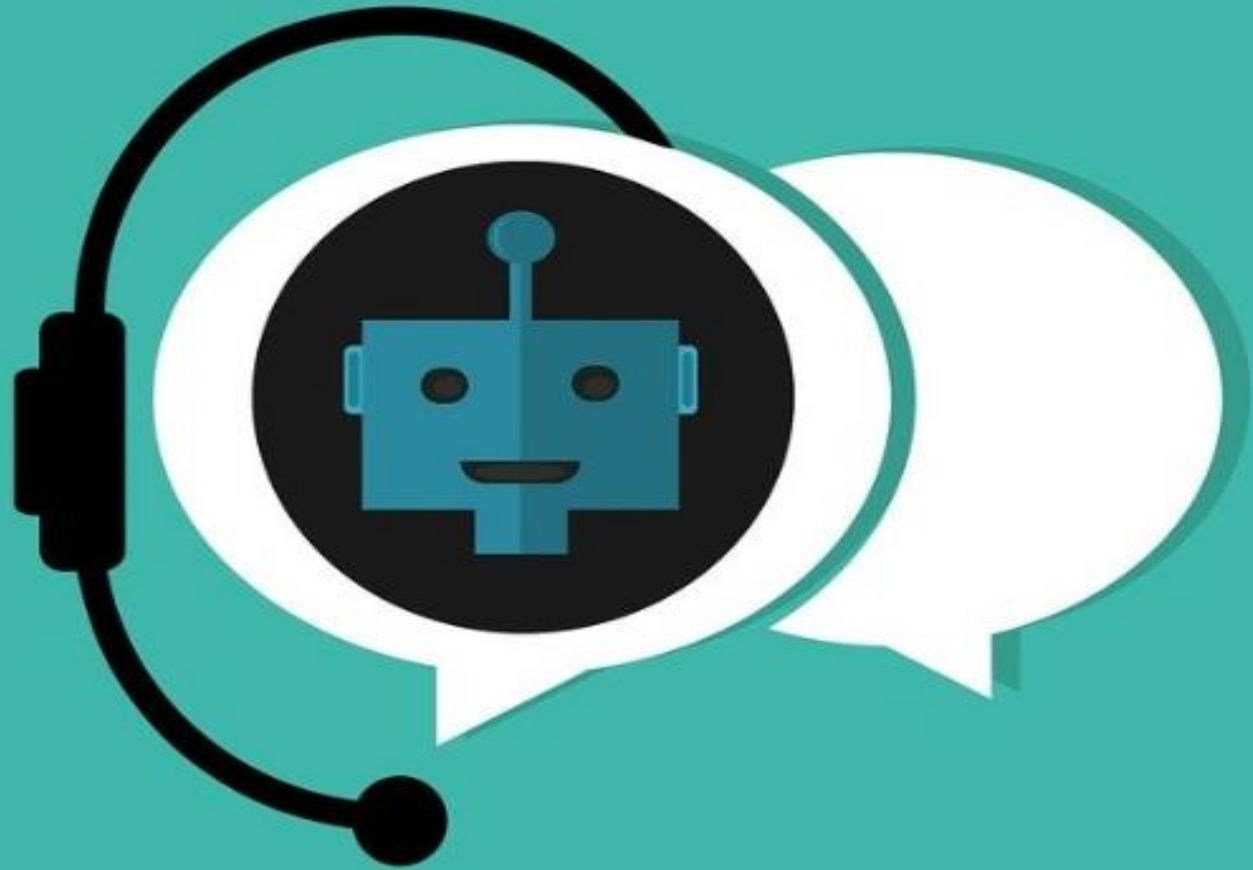


CareerChat: The art of AI and the human interface in career development

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NEW INNOVATIVE TOOLS, BIG DATA AND ARTIFICIAL INTELLIGENCE

These hold promise in helping provide end-users with high quality, tailored online careers information and advice



These give rise to increases in *self-directed learning* that can transform people's lives.

“Holistic guidance and personalised support will require some form of skillful human intervention. This certainly applies to complex and deeply social activities like counselling” (Cedefop,2019,p.4).

A TAXONOMY

*A taxonomy of career-guidance intervention models: **the curriculum model**, **the centre model**, **the individual model (specialist- or semi-specialist)** and **the virtual model**, setting the stage for digital and face-to-face interventions (ETF,2014)*

Career guidance is challenged when it comes to providing support for all categories of clients: e.g. migrants, ethnic minorities, low-skilled workers, citizens with a low socioeconomic status, NEETs, unemployed adults or people involved in new forms of work (platform work, gig economy, self-employed, online work)

Half of the world's population has no online access, including 360 million young people (UNICEF, 2020).

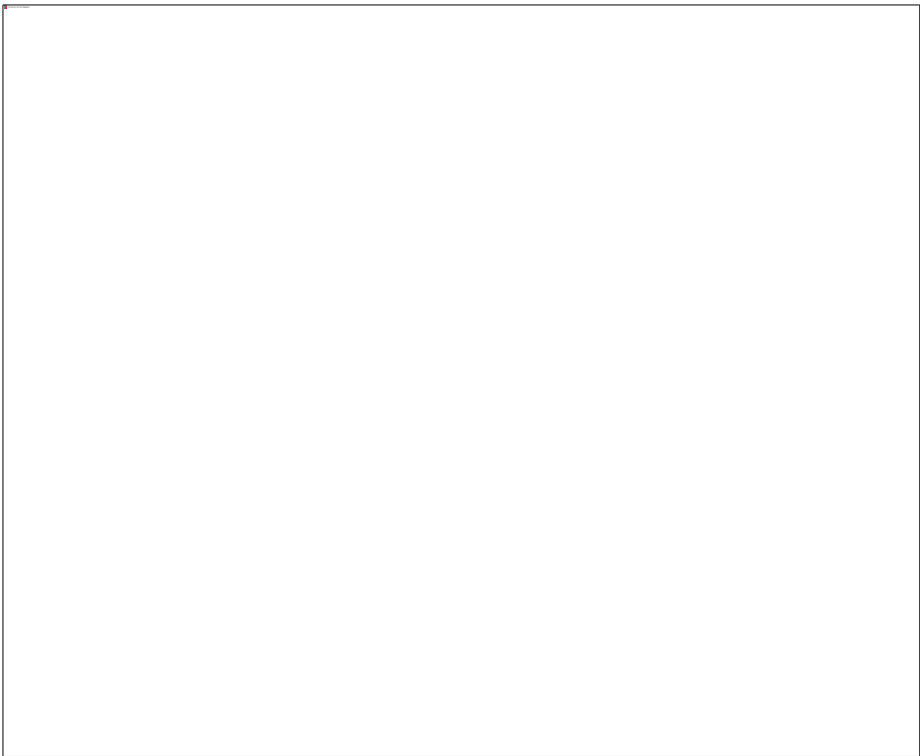


DIFFERENTIAL SERVICE DELIVERY & LEVELS OF READINESS

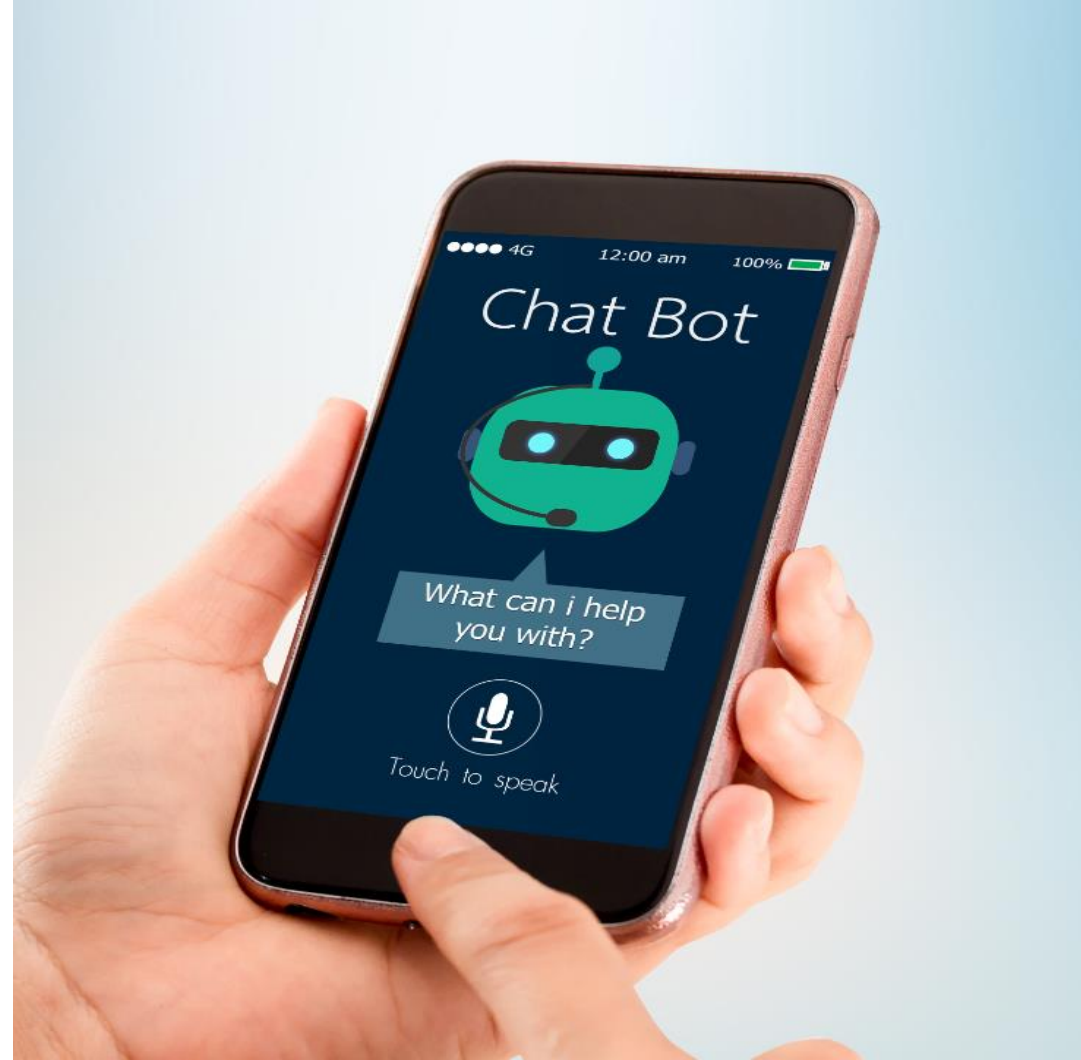
Differential service delivery as a response to this challenge

*Depending on the individuals' level of readiness for career decision-making, a dynamic suite of approaches is required to meet the **diversity of individuals and their unique set of circumstances.***





CareerChat (CiCi)

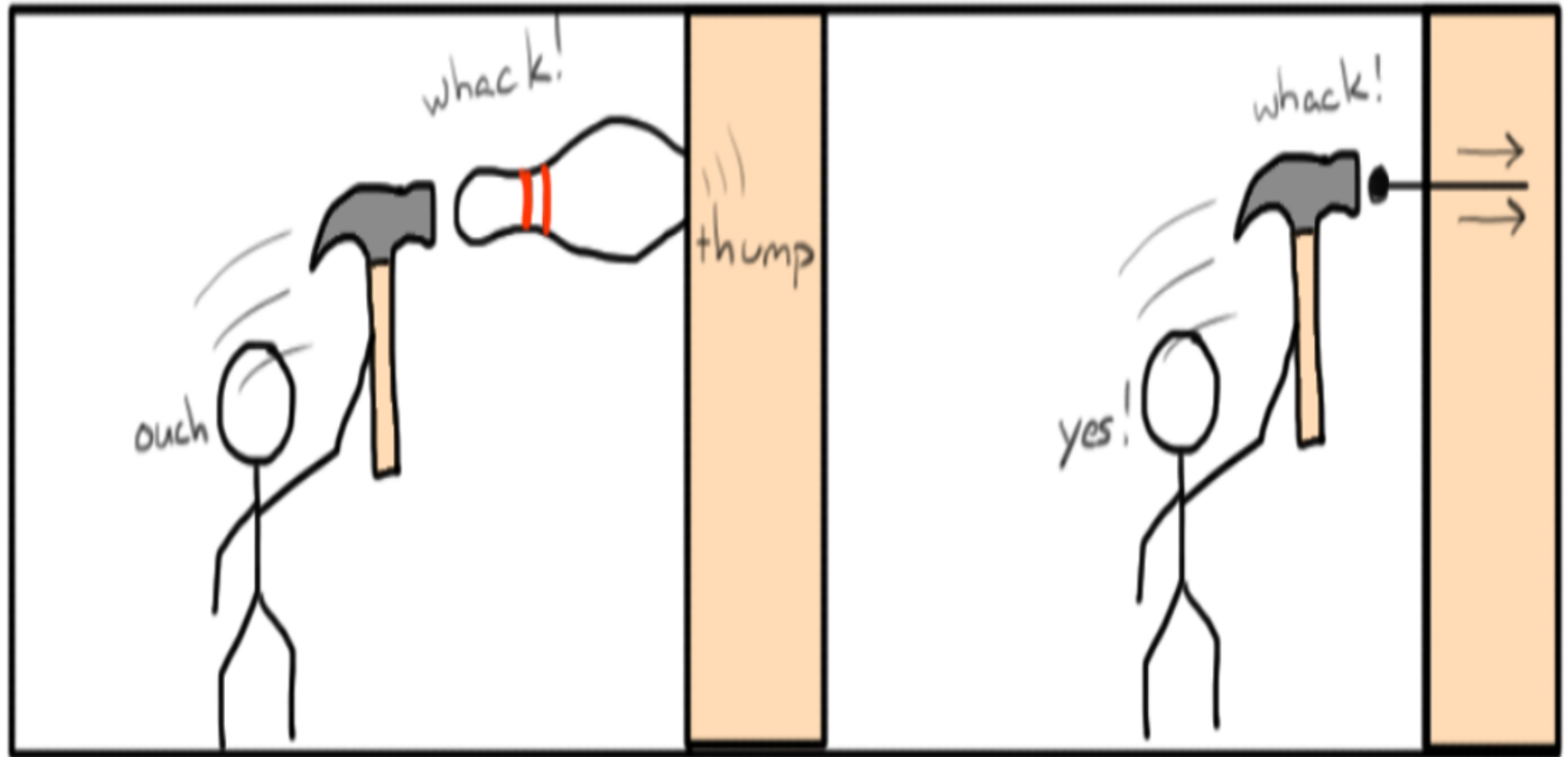


CHATBOTS AND YOUR EXPERIENCES

What comes to mind when you think of a bot?

- What are your experiences of a chatbot?
- If you could design your own chatbot – who would it be?
- What character would it have?

Career Development Services - Under Pressure



When harnessed correctly and controlled, pressure can work for us

Primary user group is those where at least one of the following applies:



By using CiCi, this type of user gains at least one of the following four immediate benefits:



...which supports one or more of these outcomes:

- Overwhelmed by volume of information online
- Needs quick and easy access to careers information relevant to their specific needs
- Concerned about the quality of or intents behind information online

The overall in-scope group is those with low skills or working in at-risk sectors in Derby, Bristol or Newcastle, who also have sufficient literacy and access to use a ChatBot interface²

1. **New useful, relevant information is obtained, e.g.**
 - Local and national labour market information
 - Details about available training courses / jobs
 - Skills assessment and CV advice
 - Insights about themselves and career options
 - Basic career coaching to assist with motivation
2. **Confidence and/or direction gained** for the user to pursue career-related tasks outside of CiCi
3. **Action plan** created by user in CiCi, helping individuals to track and complete key career-related tasks
4. **Referral to and from expert career development professionals that is enabled/enhanced by CiCi**

- Researches and develops new skills
- Joins education/training programme
- Finds, applies & secures a better match job
- More motivated or engaged at work
- Increased confidence /agency in their career

Assumption/hypothesis to test: There are sufficient users for whom this theory of change is valid to justify investing in CiCi



The little powerhouse
to support your career

Find the right course



Labour Market Intelligence



Jobsearch



Self employment



Skills
Assessment



Build Your CV



Essential Skills for data scientist
Skills found :23

"execute analytical mathematical calculations"
"collect ICT data"
"interpret current data"
"implement data quality processes"
"online analytical processing"
"data mining"
"visual presentation techniques"
"deliver visual presentation of data"
"perform data cleansing"
"data models"
"information extraction"
"query languages"
"resource description framework query language"
"information categorisation"
"design database scheme"

Select an occupation from the list below to see its essential skills

Occupations in IT business analysts, architects and systems designers
Total occupations found :18

"integration engineer"
"ICT intelligent systems designer"
"ICT consultant"
"ICT business analysis manager"
"user experience analyst"
"green ICT consultant"
"ICT system developer"
"data scientist"
"computer scientist"
"ICT system analyst"
"IT auditor"
"ICT business analyst"
"enterprise architect"
"ICT system architect"
"data analyst"
"ICT system integration consultant"

Reply to CiCi V0.1

Send

Reply to CiCi V0.1

Send

C CiCi V0.1



C CiCi V0.1



I am looking for a (new) job

September 18, 2020, 18:05

C Could you tell me what job or career you are interested in?

hi

data engineer

Hi, Thanks for getting in touch

I am CiCi, the careers chatbot :-)

You can get a lot of information here about courses, skills and jobs and help for you to explore your future career and job.

C I'd like to find out how I can help you. If you look below there are some buttons to tell me what you are interested in. Simply press the relevant button(s).

Job titles matching your criteria
Total jobs found :2

- "Debt, rent and other cash collectors"
- "IT business analysts, architects and systems designers"

You selected : IT business analysts, architects and systems designers

IT business analysts, architects and systems designers

Workers in this unit group provide advice on the effective utilisation of IT and design IT systems in order to meet the business objectives or to enhance the business effectiveness of the organisation.

Select an occupation from the list below to see its essential skills

Ocupations in IT business analysts, architects and systems designers

Reply to CiCi V0.1

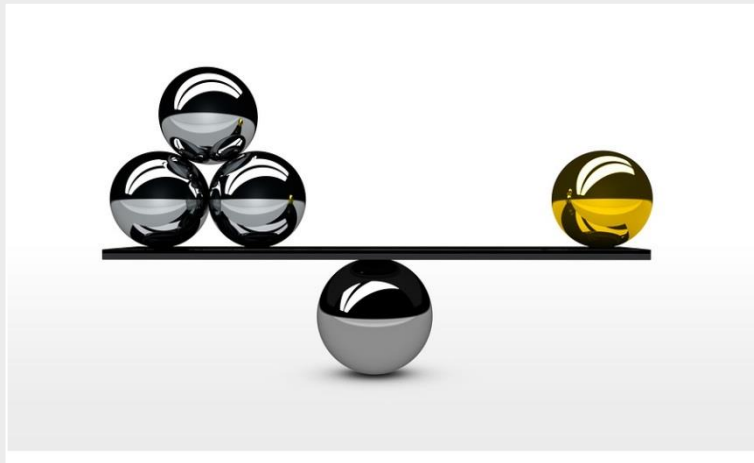
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Reply to CiCi V0.1

Send

HOW TO MIX AND BALANCE?

A common strategy is to rationalise careers support through a combination of blended delivery channels.



- ✓ The right combination depends on users' needs, which are usually progressively assessed to adjust the support they receive.
- ✓ Access to face-to-face interaction tends to be reserved for users with greatest needs (Cedefop,2019).
- ✓ Flexible services delivered via multiple channels seem to be effective and respond to the different needs of different target groups.
- ✓ Services available to all need to be multi-channelled or blended comprising face-to-face and online provision.
- ✓ The art of AI could be most successful when human interface relationships are integral to the developmental process.

HUMAN INTERVENTION

counseling is designed to help individuals live healthier, happier lives

In counselling, human presence and contact in helping contributes to healthy levels of the neurotransmitter dopamine in an individual's system. This can contribute to increased motivation and energy.

The majority of communication is non-verbal, documenting research that 55% of communication pertaining to feelings and attitude is conveyed through facial expressions (with 7% conveyed vocally, and 38% by how things are said) (Hart, 2008).



ROLE OF PROFESSIONALS



Practitioners should be well-prepared for their role of ‘keeping hope alive and affirming the dignity of their clients’ (Herr, 1997) by:

- ✓ supporting young people in tackling career confusion,
- ✓ dealing with a higher diversity of clients (disadvantaged youth, older workers, migrants, adults involved in new forms of work, etc.),
- ✓ implementing a more individualised service provision,
- ✓ introducing the sustainability dimension, developing clients’ transversal skills for the future, and
- ✓ making more use of new technologies in career guidance.

USEFUL READING...

- Ohm, A. & Bhavani, K. (2019). Chat bot for Career Guidance Using AI, Vol.7 (6), International Journal of Computer Science & Engineering, pp. 856-860, June 2019
- Ashley. M. (2018) Will AI take our jobs? Will it kill us? It's time to have a human conversation now, Forbes, September 2018
- Vlahos, J. (2019) Talk To Me: How voice computing will transform the way we live, work and think, New York: An Eamon Dolan Book, Boston
- Cedefop (2019). Briefing note - Not just new jobs: digital innovation supports careers.
<https://www.cedefop.europa.eu/en/publications-and-resources/publications/9143>
- Anuradha J. Bakshi & Stephen Goss (2019) Trends related to ethics, technology, counselling and careers, British Journal of Guidance & Counselling, 47:3, 265-273, DOI: 10.1080/03069885.2019.1630603.
- Kern,P; Rizoiu,M.A; and Mccarthy,P.X.(2019). Robot career guidance: AI may soon be able to analyse your tweets to match you to a job. <https://www.newsbreak.com/news/1476439570319/robot-career-guidance-ai-may-soon-be-able-to-analyse-your-tweets-to-match-you-to-a-job>
- Irvine,A;Drew,P; Bower,P; Brooks,H; Gellatly,J; Armitage, C.H; Barkham,M; McMillan,D &Bee,P. (2020) Are there interactional differences between telephone and face-to-face psychological therapy? A systematic review of comparative studies. Journal of affective disorders,265, 120-131.

THANK YOU!

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