

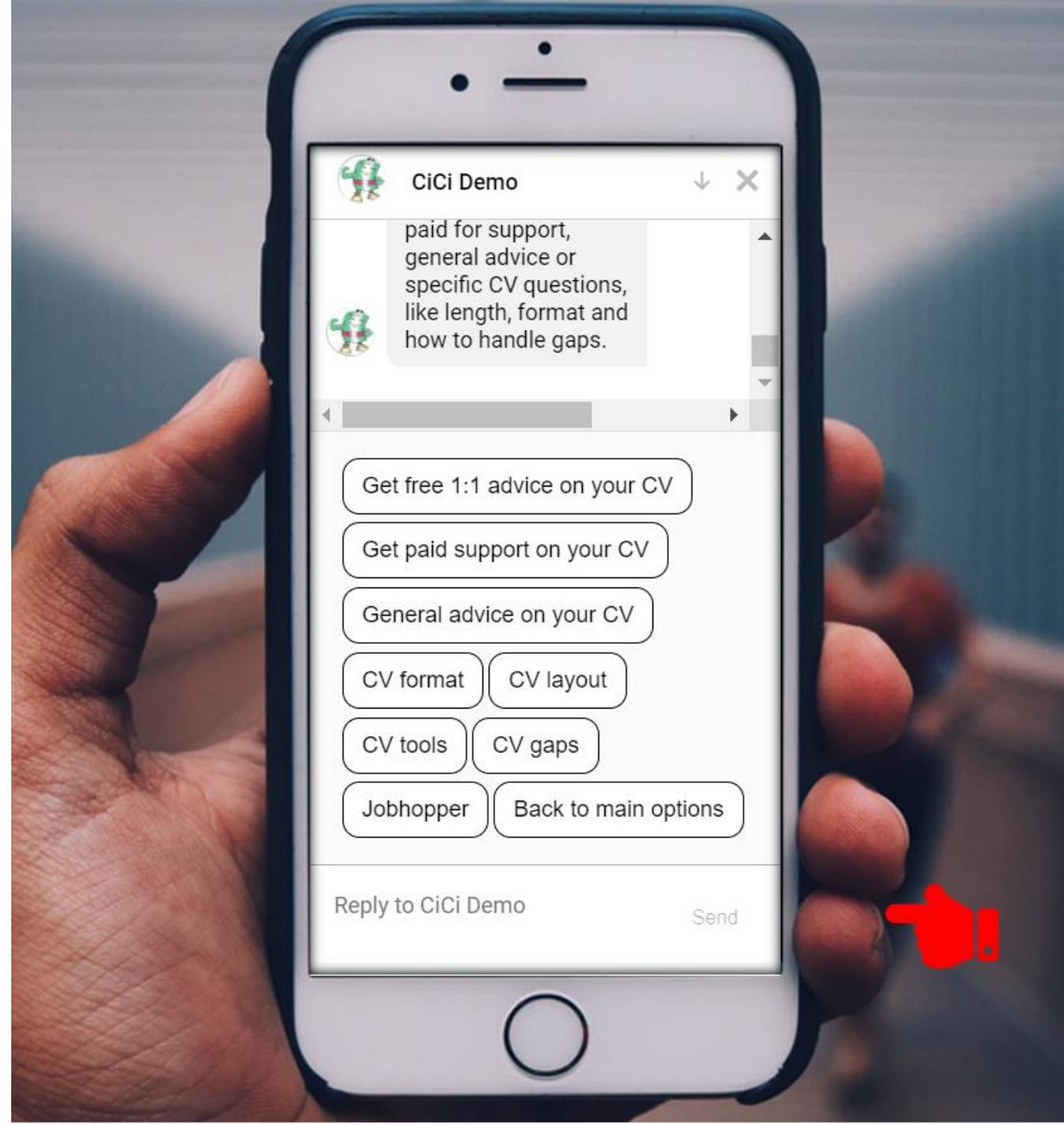


The powerhouse to support your career

Careers Technology Supported Learning: The Bots Are Coming!

OEB Berlin 1 Dec 2021

14:30-17:30, Charlottenburg III



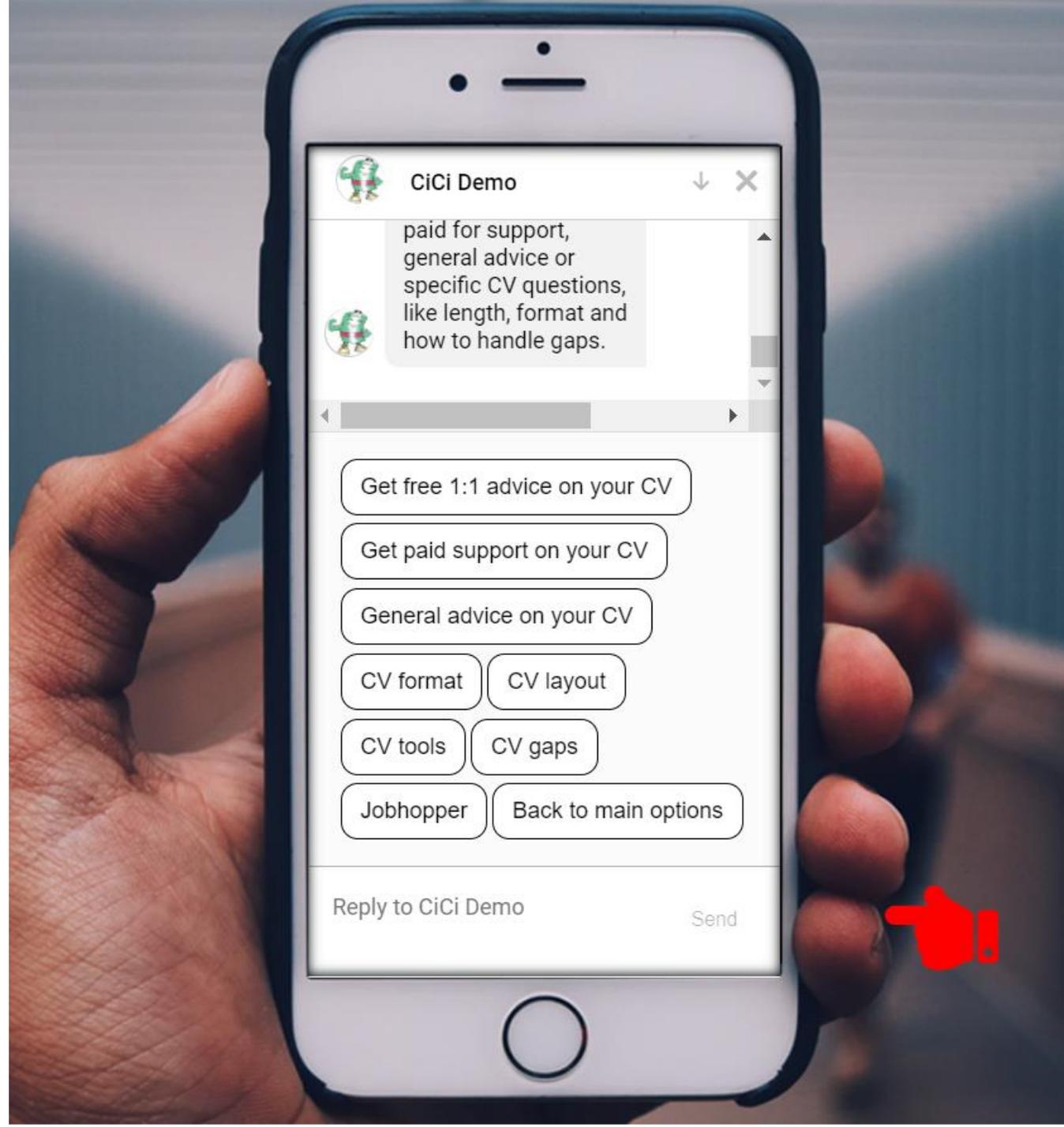
Session agenda

1. Welcome / Session Overview / Introduction to CiCi
2. What is your experience of bots (full group discussion)
3. A short intro to bots in education/guidance
4. A careers bot - what character should it have
5. CiCi - Chatbot demo
6. Using labour market info (LMI) in careers guidance
7. LMI needs for different clients (activity in groups)
8. Use cases / humans & bots working together intro
9. Use cases activity (activity in groups)
10. Wrap up and evaluation



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1. Introduction to CiCi



The CareerChat Team

Our intent: To create a digital solution where individuals and practitioners can easily and quickly access trustworthy careers information, advice and guidance all in one place.



Dr Deirdre Hughes OBE

An international and national careers specialist, researcher, trainer and careers consultant



Graham Attwell, Honorary Associate Professor

A Technology Enhanced Learning specialist and researcher, focused on labour market information



George Bekiaridis

Senior bot developer and programmer, CiCi technical lead



Chris Percy

An economist and careers researcher with expertise in quantitative methods

CiCi so far:

Working with Partners, Practitioners and Volunteers to get the idea right

Development, testing and contracts

- Tech dev seed funding from Nesta and the Department for Education (£50k)
- 60 careers professionals in SuperUser groups in 3 cities to shape initial design (Derby, Bristol, Newcastle)
- Prototype tested by 136 volunteer users
- Field testing with careers practitioners underway summer 2021
- FE college-tailored implementation under contract
- Discussions underway for secondary school service & a higher education pilot (initially aimed at applicants)

Recognition and coverage

- UK Prize Finalist, CareerTech Challenge 2020
- Shortlisted by UK Career Development Institute's National Award for Best Practice Research and Innovation in the Use of Technology 2021
- Featured in Forbes, FE News, blogs with the Institute for Employability Practitioners (IEP) and the UK Employment Related Services Association (ERSA), the IEP journal, and the Careers Matters profession magazine

→ Currently seeking further tech development and operational pilot partners





Modules live in CiCi
prototype
+ more in dev plan



Discover what job you might like



CV support



Training courses



Job vacancies



Job information (including LMI)



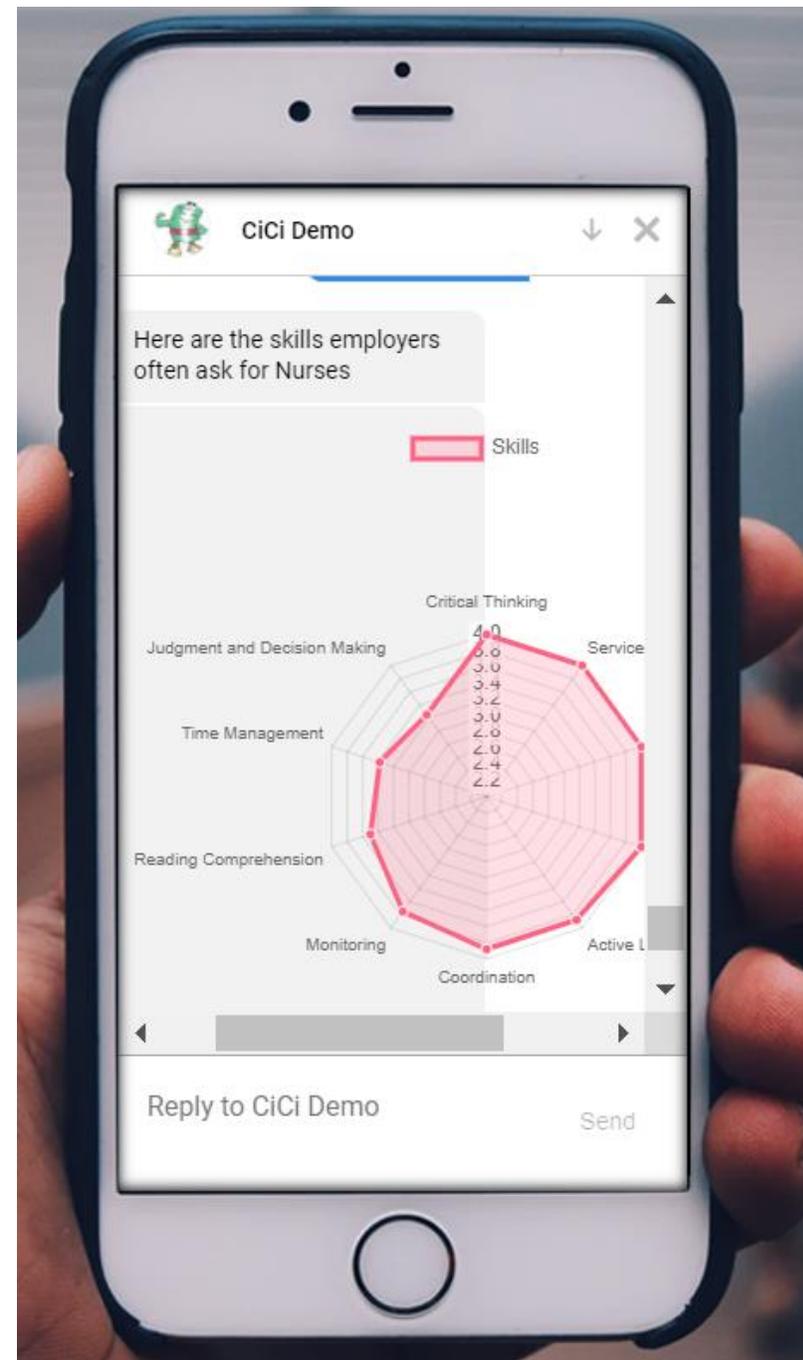
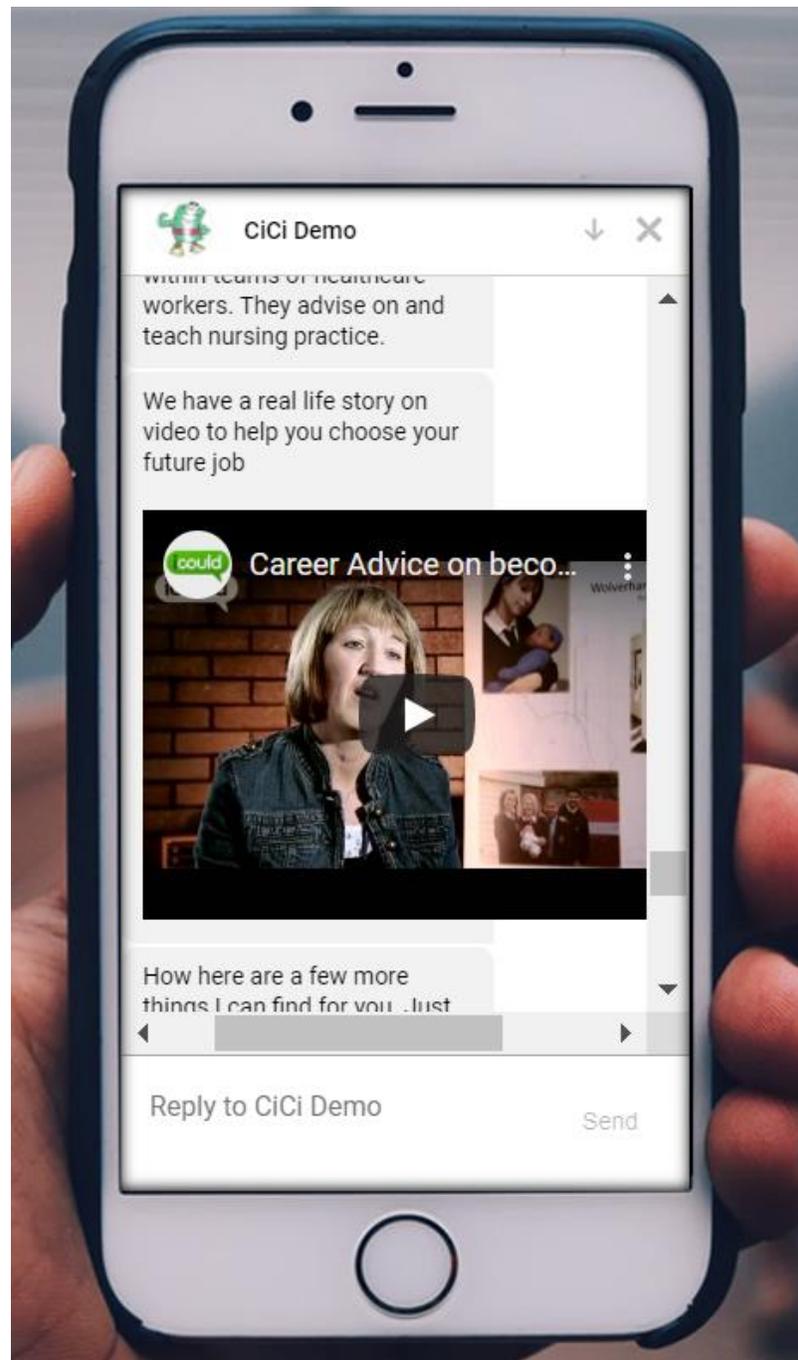
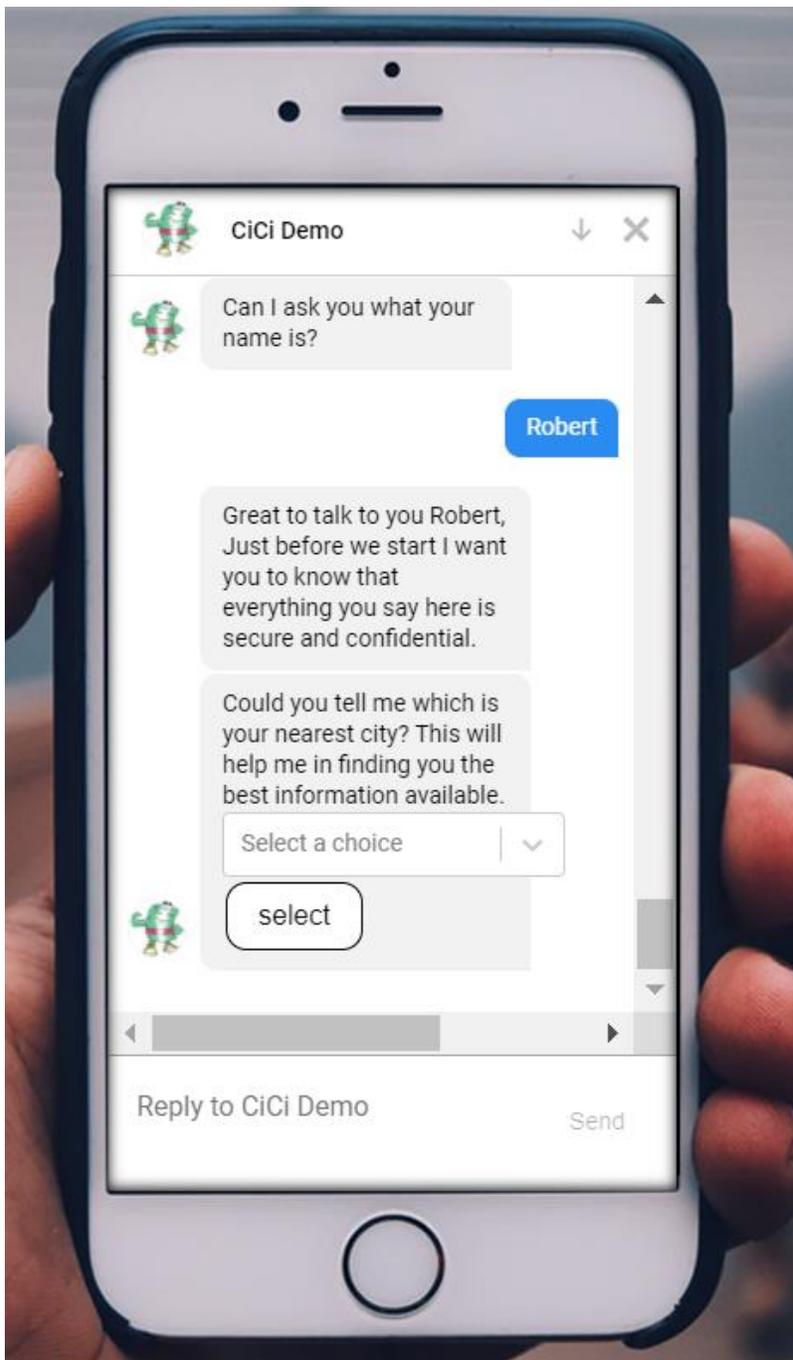
Volunteering



Self-employment



Referral to a human adviser



Early user feedback – and ongoing work



- 67% of testers would recommend CiCi
- 60% of testers said CiCi, even at prototype stage, provided a relevant response to their query
- 94% of practitioners said a chatbot would be a helpful complement to existing careers provision

"I thought it was easy to have one place for all the information and not have to scroll many different sites."

"The skill pictures for jobs was fab! Links to extra help were readily available which is good."

On the right track



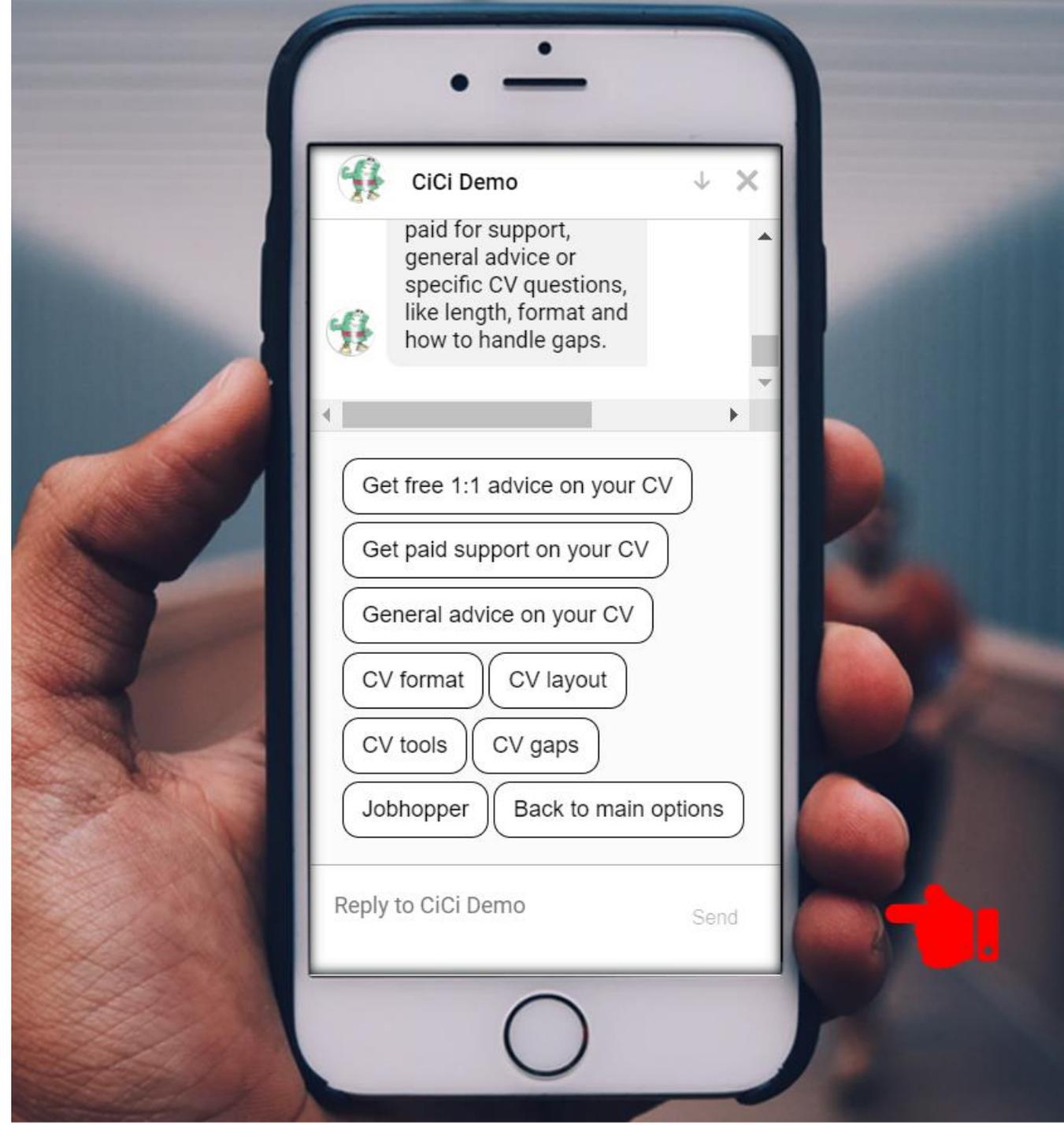
- Some key data feeds need adding, e.g. apprenticeships (added in 2021)
- Need to improve look & feel (still underway)
- Need to search for post-16 courses given career interests (prototype implemented for an FE college)
- Need to develop guidance/functionality to support practitioner/client joint usage (plans for 2022)

Steers for the future



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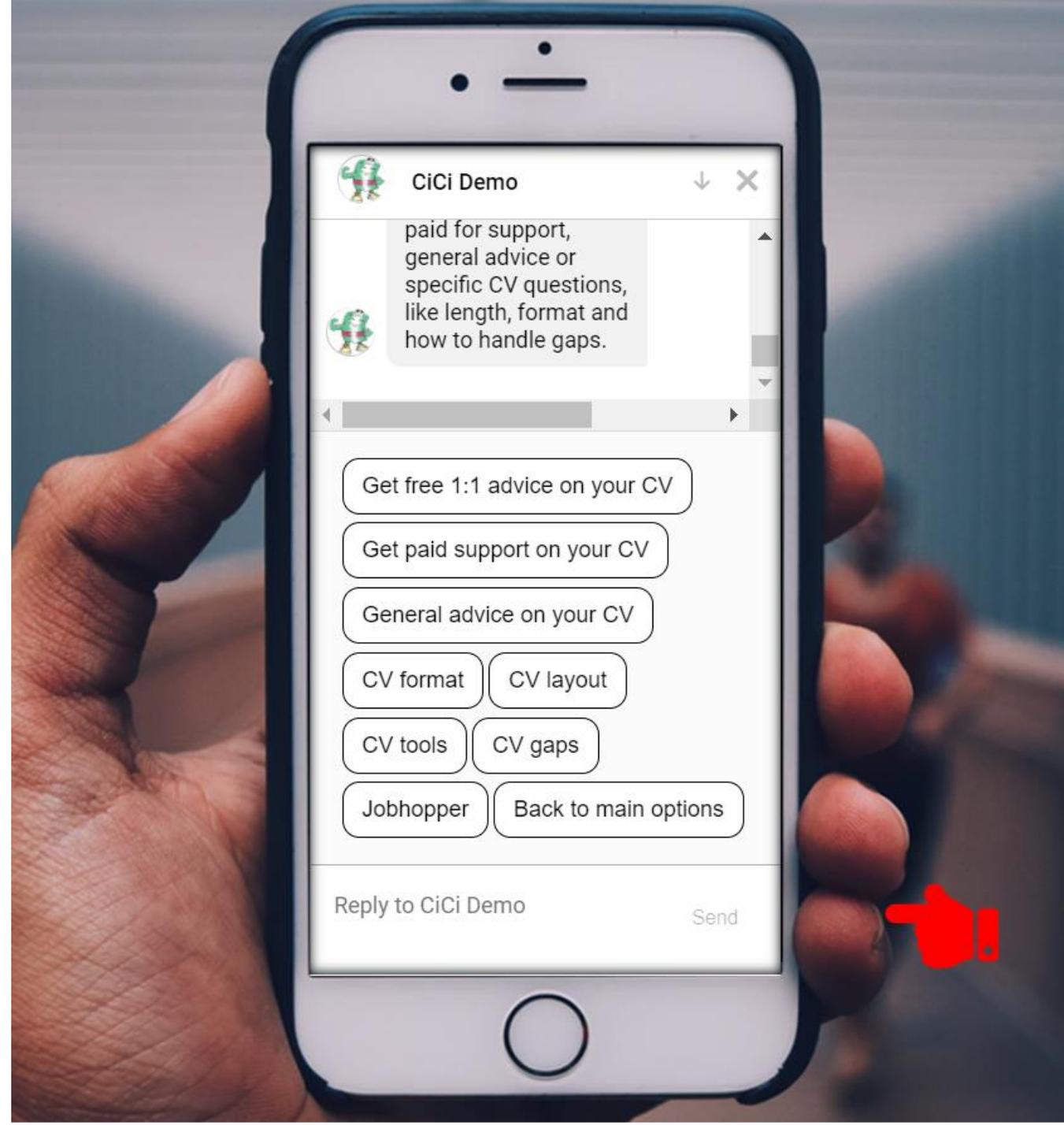
2. What is your experience of bots?





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3. What character should a careers bot have?



Step 1

Google Conversation Design Process :
Brainstorm a list of adjectives (e.g., friendly, technologically competent). Focus on the qualities you want users to perceive when talking to your chatbot.

Step 3

Google Conversation Design Process:
Come up with a few different characters who embody these qualities (e.g., a barista, a fashion icon, a world traveller). Your persona doesn't have to be a person. It could also be an anthropomorphized animal, an alien, an artificial intelligence, a cartoon character, etc.

Step 2

Google Conversation Design Process :
Narrow your list down to 4-6 key adjectives that describe your persona's core personality traits.

Step 4

Google Conversation Design Process:
Choose one character that best embodies your chatbot and write a short description, no more than a paragraph. This description should provide a clear sense of what this character is like, especially what it would say, write, or do.

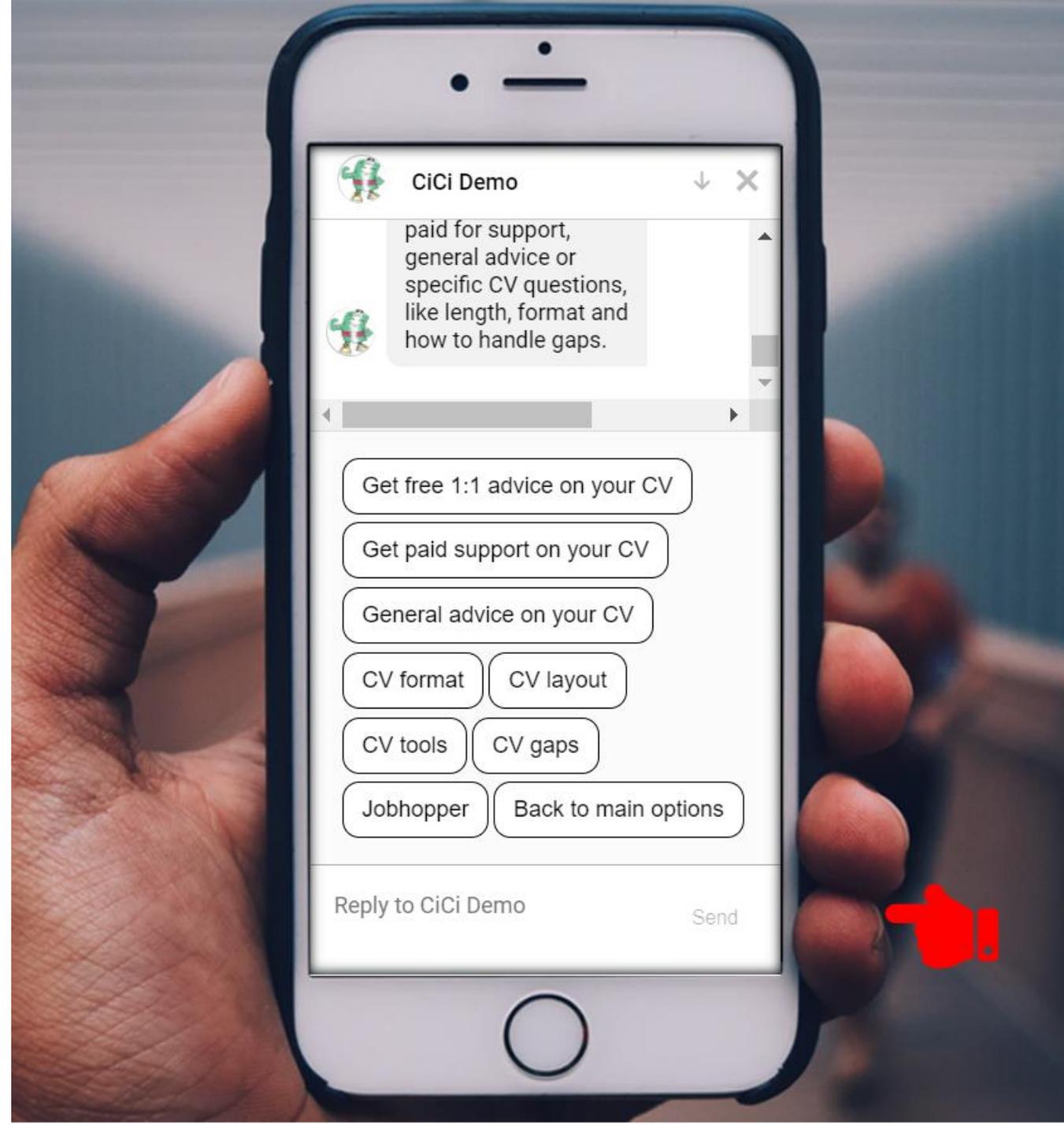
Step 5

Google Conversation Design Process:
Find, or create, an image or two that visually represents your character. Pictures are a great memory aid and can help you keep the persona in mind when writing dialogue.

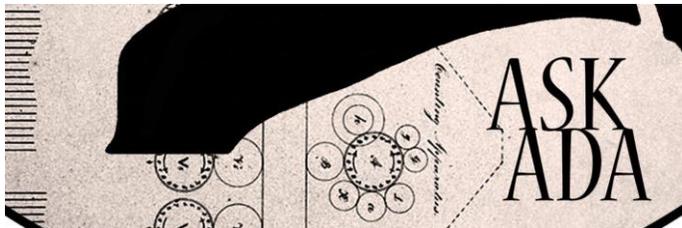


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4. A short intro to bots in education/guidance



The Bots In Education



POUNCE

RCT: 22% reduction in
"Summer Melt"

Bots for Career Guidance? Two (simplified) models

Public-facing

- Chatbot-style interface for searching publicly-available data
- Convenient integration of multiple databases in one place
- Nudge tactics to promote users to engage and be proactive in their job search / course search
- Main focus: help unemployed adults find work

e.g. bob-emploi-.fr



Practitioner-facing

Level 1: Repository of curated, QA-ed info for guidance practitioners
e.g. LMI, trends, courses, vacancies, skills etc.

Level 2: Professional supports access for client/class
e.g. introduces tool, empowers for independent use
– continues to help with reflection/action

Level 3: Integrated public/professional usage,
e.g. public front-end for simple queries
+ localised referrals + profile for action tracking

e.g. careerchat.uk



Positivity in principle from practitioners & sector leaders

→ Observational interviews underway to test with clients in practice

“The CDI has been delighted to support this highly innovative project as part of our digital strategy, by sharing information with our 4,900 members through webinars and conferences. We firmly believe that the reach and impact of career guidance and development can be enhanced by working digitally and embracing new emerging AI technologies, such as the carefully designed chatbot, CiCi, to manage the lower-level tasks, freeing up career development professionals to focus on individual career counselling and coaching.”

Jan Ellis, then CEO, UK Career Development Institute

“The CareerChat team offers new insights to the innovative use of artificial intelligence and chatbots. For employability professionals this new tool and approach could hold significant promise in supporting adults with their employability skills and subsequent transitions into fast changing learning and work environments.”

Scott Parkin, CEO, Institute of Employability Professionals



“It will support and complement careers guidance sessions if clients have an opportunity to start building their own fundamental knowledge on these areas before they meet us in person”

- Practitioner, Bristol



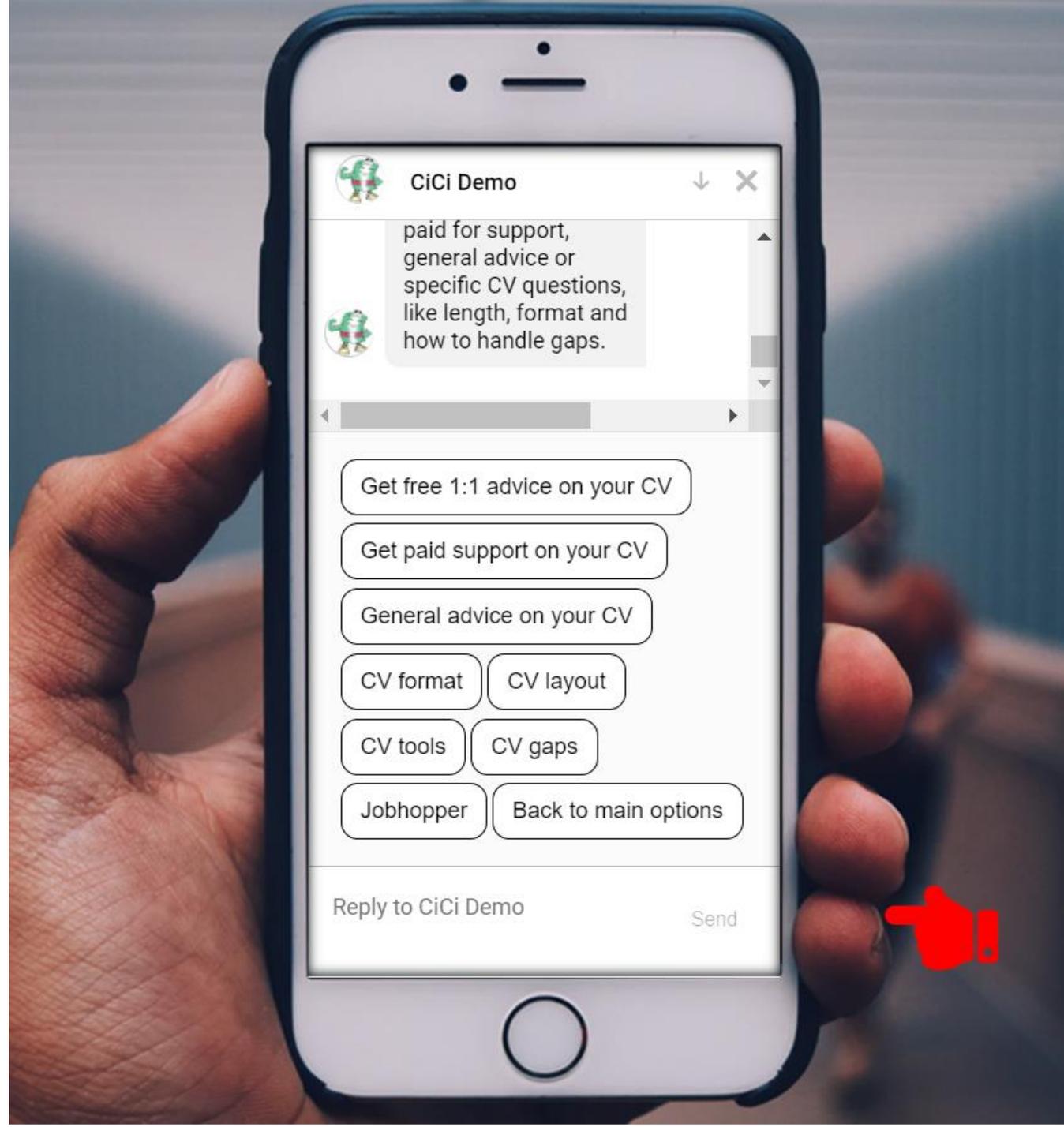
“I like the speedy reaction to my inputs, it’s fast and I like the features which reflect many of the enquiries we receive from adults using our service”

- Manager, Derby



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5. Demo....

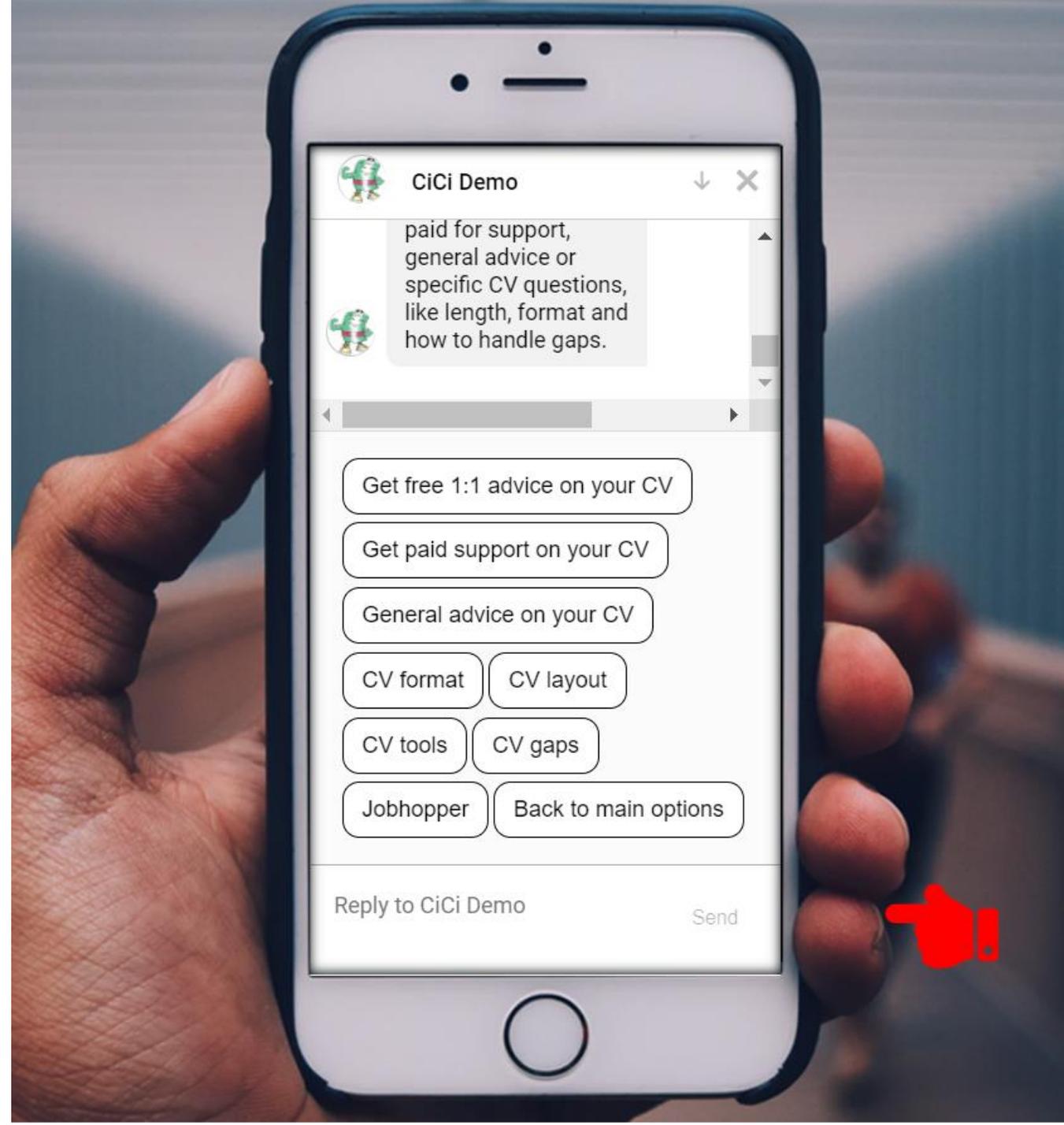




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6. LMI in career guidance intro

7. Group activity



Why is LMI important?

LMI is *pivotal* to effective careers practice because high quality, impartial, current, expert knowledge about the labour market distinguishes careers support from other types of helping. A careers practitioner or teacher is likely to use LMI every time they interact with someone seeking help. Questions about course choice, self-employment, how much money could be earned in a particular job, where the local job vacancies can be found, what will the 'hot jobs' be when they leave education? None of these questions or issues could be addressed without LMI. LMI can help to demystify the world of work and can help individuals achieve their career goals.

In summary, LMI provides the knowledge and understanding of how the labour market functions and is crucial for making sense of changing economic circumstances. It can also help when thinking about what the future might hold, so can support career decision making.



Why use LMI?

- Broadening horizons
- Exploring options
- Developing Resilience
- Understanding the Changing Labour Market
- Pursuing equity



The 'talent-matching' approach

Practitioners should give LMI as a central part of careers interventions, because it enhances the matching process (at the core of this approach) of clients/learners to the best employment opportunities

Clients/learners behave rationally and their career decision-making and transition behaviours are both planned and logical

High quality LMI provided by practitioners as part of career support will stimulate the desired behaviour change in clients/learners (e.g., giving LMI about selection procedures and deadlines for a particular job or training course will result in the client conforming to these requirements).



The humanistic client centred empowerment approach

An empowerment approach – suggests that career guidance should concentrate on helping learners develop their own skills, knowledge and understanding needed to undertake their own LMI research into career options throughout their lifetimes, rather than relying on information given as part of a one-off career intervention. Here, it is argued that using LMI in this way:

- Empowers clients/learners to become autonomous, so is more viable in the longer term because they are less reliant on a trained professional
- Supports the client/learner to take ownership of the LMI they find, making it more likely that they will act upon it, rather than being tempted to ignore or sideline
- Increases the likelihood that clients/learners will be able to cope on their own with career transitions throughout their lifecourse, if need be.



Social Learning

Social learning argues that, since careers guidance comprises an ongoing learning process (rather than a one-off matching process), information should be provided in a structure and form that enables the learner to interact with, and learn from, it. Here, the core task of the career practitioner is to evaluate the accuracy of the learner's understanding of their career development so that they can integrate suitable LMI into their career learning process as relevant. This model/framework advocates the importance of career practitioners:

- Challenging misconceptions, stimulating exploration and developing decision-making skills
- Understanding clients'/learners' goals and resolving goal conflicts, using LMI to solve any problems arising
- Using teaching and learning techniques, like reinforcement and modelling.



Principles underlying the use of effective LMI as part of career guidance

- Ensure that the client/learner wants, and is ready, to receive, LMI
- Help clients/learners relate the information to their own situation
- Check clients/learners have understood, accurately
- Make sure that the LMI is appropriate for the clients'/learners' ability level and age
- Ensure the LMI is as reliable and up-to-date as possible
- Provide information in a manner that shows respect for clients/learners and a genuine desire to help.

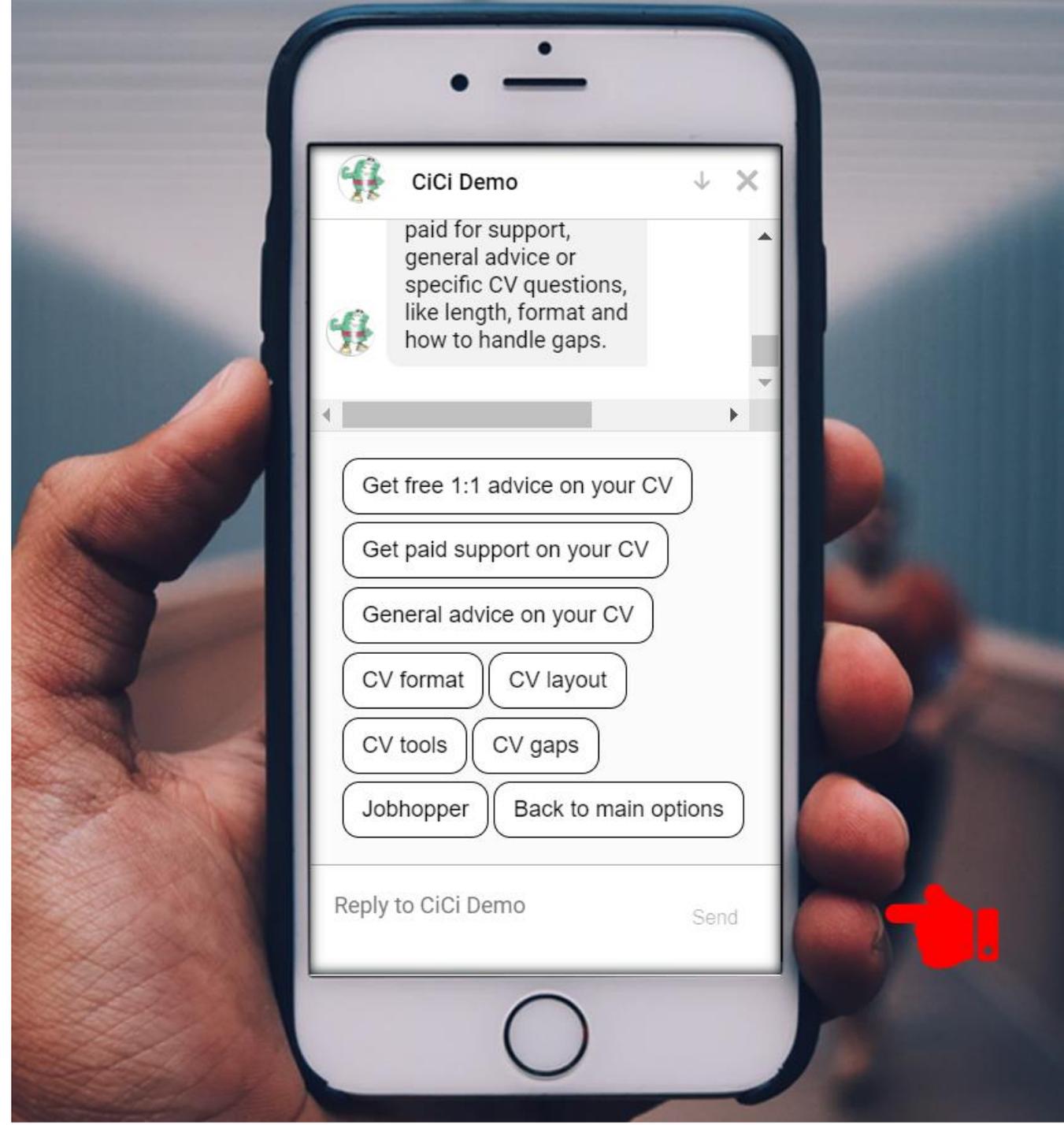




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8. Use cases / humans & bots working together

9. Group activity



Recap: Different use cases for group activity discussion

Public-facing

- Chatbot-style interface for searching publicly-available data
- Convenient integration of multiple databases in one place
- Nudge tactics to promote users to engage and be proactive in their job search / course search
- Main focus: help unemployed adults find work

e.g. bob-emploi-.fr



Practitioner-facing

Level 1: Repository of curated, QA-ed info for guidance practitioners
e.g. LMI, trends, courses, vacancies, skills etc.

Level 2: Professional supports access for client/class
e.g. introduces tool, empowers for independent use
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Level 3: Integrated public/professional usage,
e.g. public front-end for simple queries
+ localised referrals + profile for action tracking

e.g. careerchat.uk



Group Exercise: Use cases / humans & bots working together

Scenario

- Student user using a bot directly
(e.g. aged 16-21, in school, college or HE)
- Adult user using a bot directly
(e.g. thinking about getting a (new) job)
- Career adviser facilitating a student to use a bot
- Career adviser facilitating an adult to use a bot
- An adult user referred to an adviser by a bot
- A local service manager/commissioner

Example questions to discuss

What would a successful user journey / use case look like in your scenario?

What would be the risks/barriers in place that might stop user journeys being successful?

What can be done / what circumstances need to be in place for user journeys to work well?

How might the use of a bot in your each scenario add/fail to add value to overall careers provision that is available?

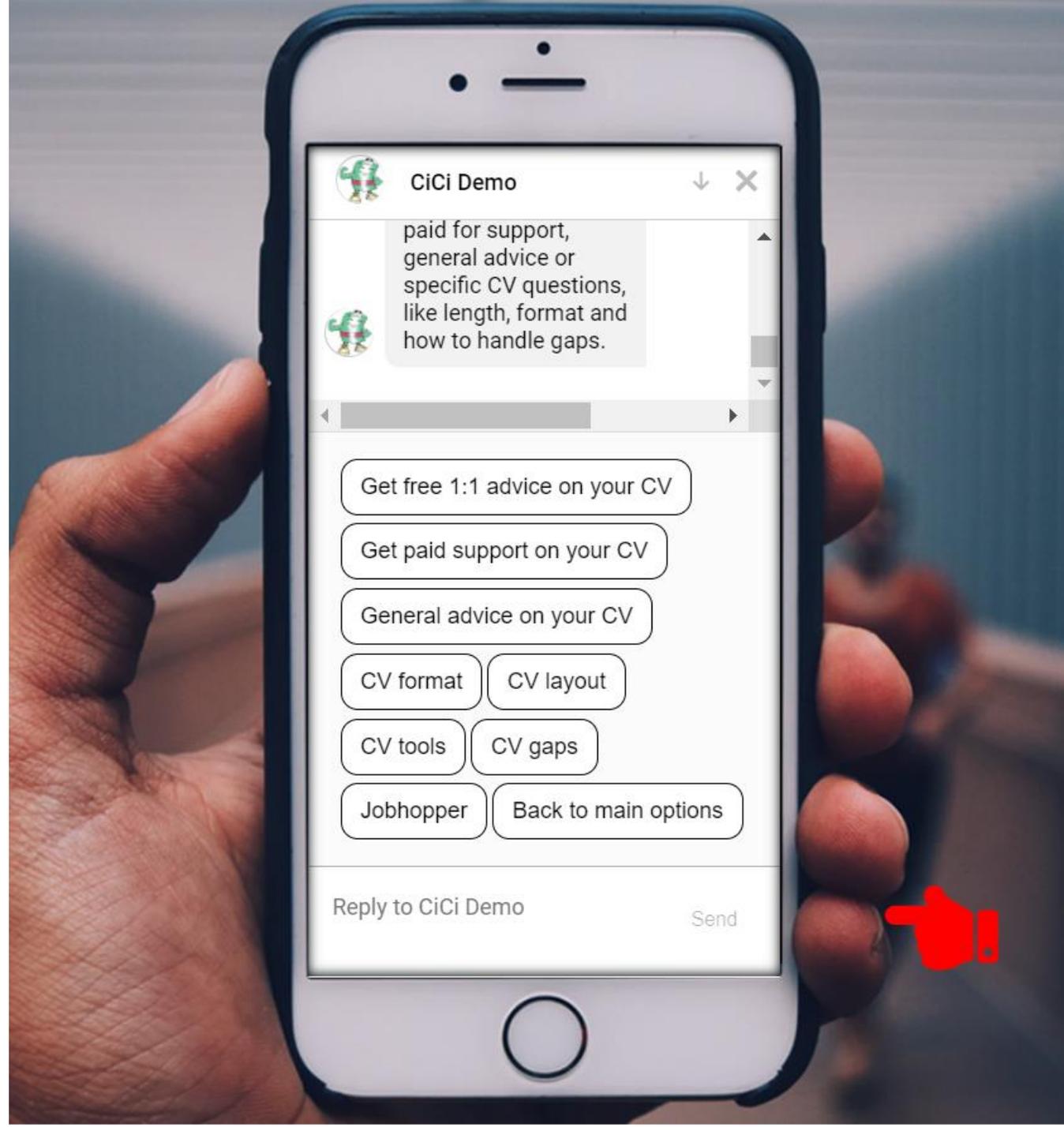
(please consider any jurisdiction you know best)

c. 10 mins to chat in groups → 1 min per group to report back any key points/queries/challenges...



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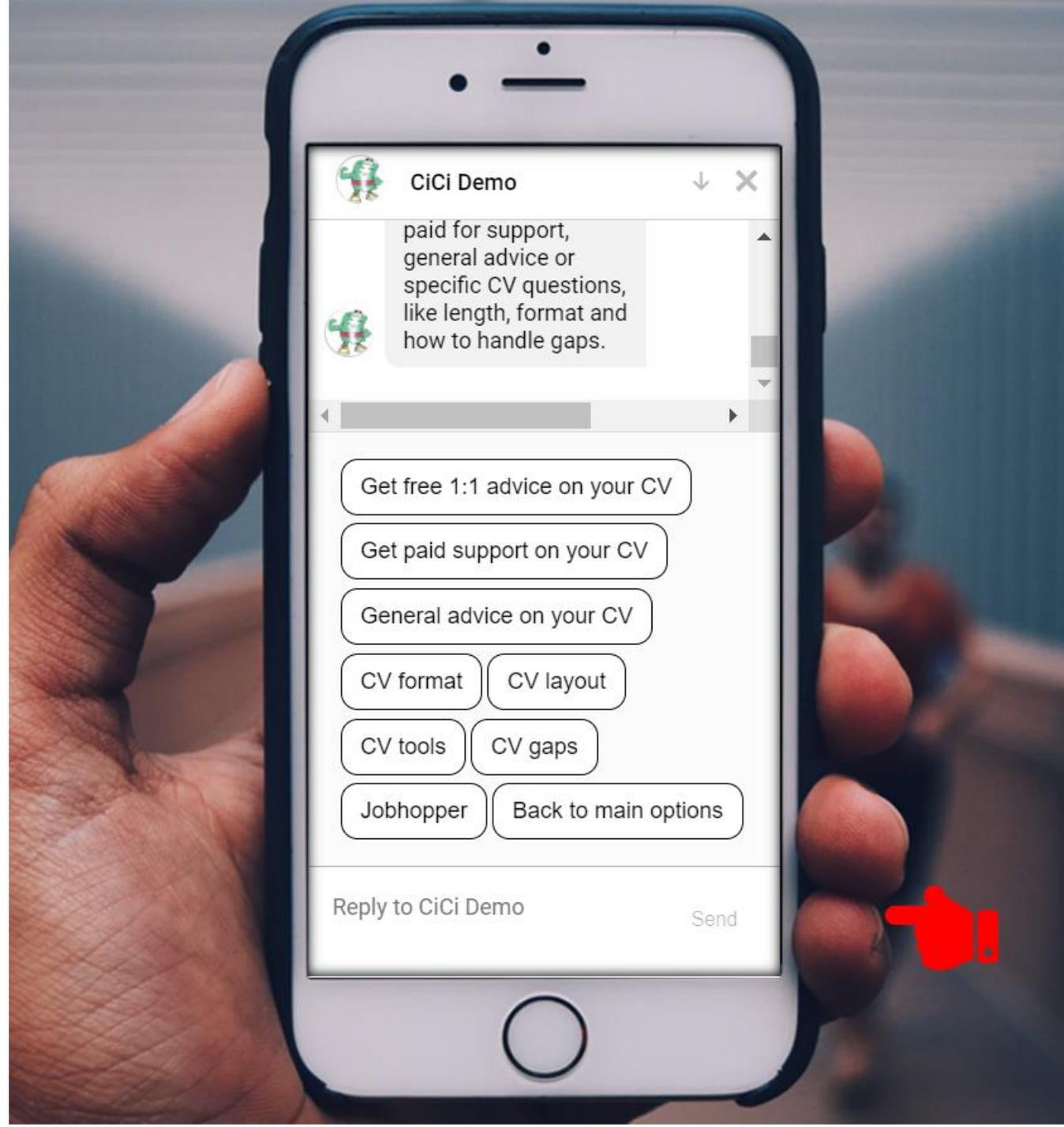
10. Evaluation / Wrap-up





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Appendix slides



Tech development plan (under continuous review)

| Functionality live in current beta version | Development in progress (2021) | Route to 2022 open-market commercial MVP | Longer-term development |
|---|---|---|---|
| Job/skills idea engine (Skillsometer) | Apprenticeship API data (added Jun; testing in summer) | Action plan – development, tracking & export | More accessibility (options for simple English / fonts) |
| Priority-ordered skills by occupation (O*NET) | Tool signposting, e.g. NCS self-assessment tools | Crowd sourcing local LMI via local partners | Additional languages for local priority groups |
| Job information (local salary/ LMI projections) | Local FE course-occupational mapping | Integration of encouraging/ motivational information | Motivational coaching flow |
| Job vacancy search | Guided skills self-assessment & occupation matches | Auto-suggestion of standard job titles | Audio interface |
| Volunteering opportunities | About Me module & transcript export for advisers | Improved UI (staggered text, pauses/'thinking' icons) | Ongoing tailoring to local data/services (per instance) |
| CV support / self-employment advice | New dialogues, incl. sign-posting for legal / rights advice | Qualitative forecast insights on role risks/opportunities | |
| Training search (ESFA) | | Tools for careers advisors | |
| Human referrals | | | |
| Role videos (iCould) | | | |