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# HasAnswers: Development of a Digital Tool to Support Young People to Manage Independent Living

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**ABSTRACT**

Many young people experience difficulty finding and keeping their first independent home, which can lead to homelessness or risk of homelessness. To help address this challenge, a young people's service in Scotland (Calman Trust) is developing a digital tool called HasAnswers. This paper provides a brief description of HasAnswers, the results of iterative testing with 69 young people (40 male, 29 female) using paper and digital prototypes, and feedback from other services with a responsibility for supporting young people to achieve an independent adulthood, as a potential customer base for the future scaling up of HasAnswers to new geographical locations and organizations. While preliminary, the results/feedback has been consistently to confirm the potential usefulness and acceptability of HasAnswers. Next steps include applying the results of the latest user testing followed by pilot testing. The research contributes to the body of work within

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## KEYWORDS

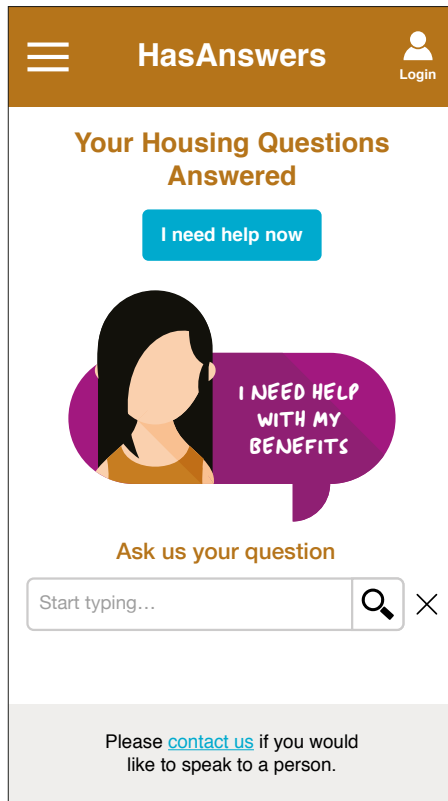
Digital tool; homelessness; independent living; prototyping; young people

HCI on design for homelessness by providing a new digital tool with a greater emphasis on prevention and early intervention, informed by an iterative user-centred design process.

## 1 INTRODUCTION

Calman Trust is a charity based in the city of Inverness in the Highlands of Scotland, UK. The Charity provides independent living advice and support, and learning opportunities, to young people experiencing difficulty in the transition to independent adulthood. The majority of clients experience specific challenges, e.g., poor mental health, learning disabilities, care experience or family breakdown. Many are faced with finding and keeping their first independent home with little or no family support or positive adult role model to call upon. The circumstances that cause youth homelessness are much broader however, and for any young person can escalate quickly from, e.g., failure to pay rent or a broken relationship. Across Scotland and elsewhere, addressing youth homelessness is a priority, as the personal and social cost is extreme. In response, Calman Trust is developing HasAnswers. The proposition is to develop a digital tool that will deliver practical advice and support on housing to young people transitioning to adulthood across a wide area, an equitable and affordable alternative to face-to-face support. Whereas access to practical support is typically triggered only after breakdown, this is potentially a means to equip young people leaving home with early access to the information that will enable them to sustain independent living, managing this transition for themselves, knowing where to go for help if they need it, and knowing what to ask. Recognizing that the digital format alone may not suffice, the tool will include access to an experienced professional able to respond remotely, or to connect the individual to local support networks. The main user groups for HasAnswers are: young people using Calman Trust services and possibly other services; young people who may need but do not currently have access to independent living support; and young people leaving school and/or home for the first time.

This paper briefly describes the development of HasAnswers. The main contribution to HCI is a new digital tool to support young people to manage independent living. In particular, this paper extends research presented at CHI/other HCI venues on design for homelessness. E.g., the student design competition at CHI 2008 focused on the problem of supporting the state of living without a house [e.g. 1, 3, 4]. Entries included a web-based application ('HealthShare') targeted at health and care professionals (HCPs) who work with homeless people, comprising an address book of clients, a health profile for each client, and a calendar for scheduling appointments with clients [1]. However, unlike HasAnswers the information is only accessible by HCPs and not by the clients themselves. A paper session at CHI 2011 focused on 'homeless users'. That session included the research of Woelfer et al., which highlighted a design opportunity for location-based services to provide specific kinds of information that homeless people might seek [5]—an opportunity that HasAnswers contributes to. However, HasAnswers differs from and goes beyond previous work in this area in its emphasis on prevention and early intervention—HasAnswers is envisioned as a means to resolving matters early and experiential learning in what's required to manage independent living and as a point of contact leading to individualized access to more complex support.



**Figure 1: the homepage of HasAnswers—a digital tool optimized for use on a smartphone.**

## 2 DESCRIPTION OF HASANSWERS

HasAnswers is a digital tool that provides advice and support on the major challenges encountered by young people in the transition to an independent home—what are their housing options, the financial implications, the legalities, connecting and paying for utilities, welfare benefit arrangements and what to do if homeless or at risk of homelessness. It is designed to be age and location specific: users are offered the local solution, what to do personally, or directed to the specific office and person who can answer their question. An audio version of each information topic is available to listen to, as Calman Trust anticipates that some of the target audience will have low literacy skills, difficulties with language or simply find it easier to use this medium.

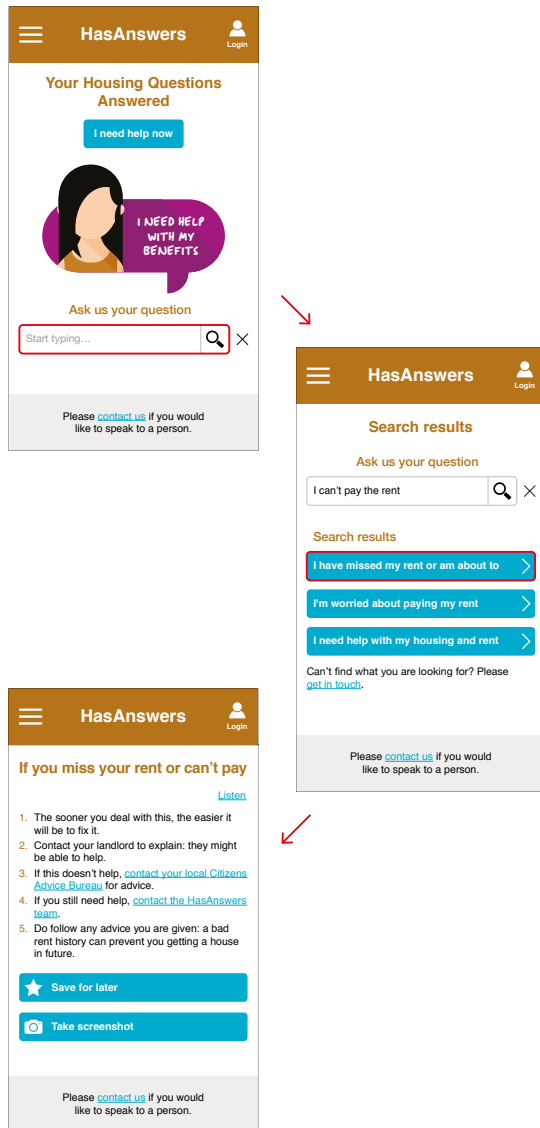
Search has been designed to support users to quickly find the answer to their questions: a standard search box is provided on the homepage of HasAnswers (Fig. 1), above which a rotating sample of search queries is positioned to support users to understand what the site has to offer and to formulate a search query. HasAnswers deviates from the standard method of generating a search results page from all those topics that contain a keyword match, as Calman Trust anticipates that a potentially long list of results could be overwhelming for some of the target audience. Instead, a search index (a pre-defined, static pool of possible results) has been manually created, whereby keywords are linked to specific topics and topics are ranked by relevancy. In this way, the search results page is expected to be more succinct and on-target for what the user is looking for.

Drawing on Calman Trust’s experience of delivering a housing support service, it is anticipated that some users will be in urgent need of certain types of advice/support. A button labelled ‘I need help now’ is provided on the homepage (Fig. 1), which links to a section with topics that in Calman Trust’s experience are more likely to lead to homelessness if not resolved, e.g., having nowhere safe to stay for the night and not feeling safe at home. Where applicable, topics are tailored to the user’s location. The ‘I need help now’ feature is complemented by the facility to contact a member of the HasAnswers team directly for further support via a standard contact page—a link to the contact page is provided on the footer of every page.

HasAnswers also includes a facility called ‘Me’ that allows registered users to work online with a Calman Trust support worker. The facility supports the establishment of an individualized working relationship and removes the need for face-to-face meetings/phone calls for those who would not engage this way. The facility contains: a calendar—to keep track of appointments, tasks to be completed, and important deadlines/dates; a document sharing area—to aid with the completion of forms/documents and store information that may be required by Calman Trust and other organizations; and a personal profile to expedite future form completion and applications.

## 3 METHOD

The project employed an iterative, user-centred design process, to help ensure HasAnswers is adopted by the target audience. To begin, paper prototypes were created to build consensus and understanding among the project team members and for the early testing of ideas with project participants. Next, a digital prototype was developed. Seven research sessions were conducted with



**Figure 2: fifty-five young people tested the digital prototype of HasAnswers.**

young people on an individual, dyad or group basis. Participants were recruited across the three user groups described earlier. Fourteen young people aged 16–28 years (13 male, one female), living in Inverness, tested the paper prototypes. Fifty-five young people aged 12–18 years (27 male, 28 female), living in Inverness and outlying rural areas tested the digital prototype.

**Session 1: Usefulness** (Prototype 1) used a paper prototype for a high-level review of HasAnswers: a sample of wireflows showed the process of a user working through common tasks on HasAnswers. Wireflows combine wireframes, which convey page layout/content, with flowcharts, which convey workflows/interactions. At each step in the workflow a wireframe showed the screen available to users and the user interface elements, e.g., buttons and dropdown lists, and an arrow pointed to another wireframe of what happens as a result of the interaction. Concepts for the visual design were also presented for review. After Session 1, the remaining wireflows were created for the site.

**Session 2: Menu Design** (Prototype 2) used the updated paper prototype to test how the content had been grouped into categories and subcategories. Each participant was given one or two tasks to perform, which involved a realistic activity situated within a short scenario that provided some explanation and context for the task. In performing each task, the participant indicated what s/he would do on each wireframe, beginning with which category they would select on the homepage, while a project team member swapped wireframes to simulate the interface response. Areas of difficulty and any comments were documented. After Session 2, the design of the prototype was updated to promote search and move to a flat information structure.

**Session 3: Search** (Prototype 3) used the updated paper prototype and focused on search. This time, participants were asked to define their own tasks, as a means to gain insight into the topics that target users might search for and the terms they might use. Participants were presented with a wireframe of the homepage and asked to write down what they would type into the search box. To verify Prototype 3, participants were then presented with the Prototype 2 homepage, and asked to select the category where they thought the information they were searching for resided. After Session 3, participants' search queries were mapped against the search index and the Prototype 2 categories in order to compare the two different designs.

**Sessions 4–8: Search** (Prototype 4) tested the digital prototype with a continued focus on search (Fig. 2). The prototype was not yet fully implemented, therefore a lightweight approach to testing was adopted. Each participant was given a worksheet to complete. The worksheet listed the tasks that were used in Session 2. Participants were asked to perform at least one task using a smartphone (their own or one provided by the project team) and record the following: the task(s) they performed, their search query(s) and the search result(s) they selected. Members of the project team observed participants as they completed the activity and noted any comments or areas of difficulty. General feedback on the prototype including the visual design was also gathered.

## 4 RESULTS AND DISCUSSION

Throughout the research, participants were enthusiastic and positive about HasAnswers (Fig. 3).

**Session 1: Usefulness.** All participants considered HasAnswers to be something that they would use and find useful. All participants considered an audio version of the information topics to



Figure 3: throughout the research, feedback from participants was consistently positive.

be beneficial, although only one participant had experience of using audio to access information from a website. Several participants commented that the topics read well because the information was clear and concise, which they said was important. Participants also gave useful feedback on concepts for the visual design of HasAnswers, including preferring a flat-ish design over 3D effects and an aesthetic that is not *'too light-hearted or childlike'*.

**Session 2: Menu Design.** All participants considered HasAnswers to be useful, but a problem was identified: the standard web practice of grouping topics into categories and subcategories is potentially problematic for some of the target audience. Indeed, a challenge of the project has been structuring the content—the topics being so interrelated that it is possibly nonsensical to separate them out into navigation categories. A card sorting method [2] was considered, involving working with young people to group the topics into categories that make sense to them. However, Calman Trust's experience of working with young people is that the results are unlikely to be generalizable, as some young people will always struggle to relate the information they need with a particular heading/category. Hence, the challenge is to present information from the user's perspective, amenable to easy interrogation, not from the perspective of the service provider or assumption that the user should know how to engage with the professional world as structured.

**Session 3: Search.** Participants' responses to search were positive. All participants considered the sample search queries to be helpful, in giving clues about what to look for and how to create their search query. Participants' search queries produced a succinct results list of one to three topics, with mixed success: some topics were on-target and others were not, although it is important to note that the search index used during the session was seen as preliminary. The results support the findings of Session 2: grouping the topics into categories is potentially problematic as participants did not always select the category where the information resides.

**Sessions 4–8: Search.** Participant's responses to search were likewise positive, although their search queries also produced a results list with mixed success, as the search index had not yet been updated. However, testing with a larger cohort provided some useful insights/examples of search queries with which to progress the search index. The results of Sessions 3–8 support the usefulness and acceptability of HasAnswers, but indicate the scale of the task involved in manually creating a search index and the importance of continuing the process of user engagement in honing it.

Throughout the research, no other problems were identified. Participants were familiar with the standard design elements used and several participants commented that the interface worked the way they expected. Some suggestions for future improvements were offered. E.g. one participant suggested a facility for users to share their experiences of HasAnswers *'so people have confidence that they can be helped by the site'*. Another participant suggested adding a rating system for the topics such as a thumbs-up/thumbs-down rating system *'to make young people trust more in it'*.

#### 4.1 Engagement with Other Service Providers in the Field

In parallel with engaging with young people, there was continuous engagement—in the form of discussions—throughout the project with services (n=9) in the Highlands of Scotland that have an interest in/responsibility for supporting young people to achieve an independent adulthood, as a

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potential customer base for the future commercialization of HasAnswers. The feedback has been consistently to confirm the potential benefits of HasAnswers as a response to the duty incumbent on these agencies in terms of service delivery to young people. Specifically, the benefits were described as: capacity to reach young people in all areas; HasAnswers potential as a supportive learning tool for young people preparing for their first independent home; a means to achieving prevention and early intervention of breakdown leading to homelessness; a means to 'triage' young people, potentially to divert them from waiting in a complex system towards speedy resolution or direct engagement with the specific service(s) they need; and affordability and cost savings (for statutory services). The service providers confirmed that HasAnswers is a tool that they would consider using with their client group. In particular, the 'Me' facility was considered a valuable feature, with potential to manage more effectively the relationship between support worker and client, particularly through its individualization. Service providers could also envisage using HasAnswers as an experiential training tool to upskill their support staff.

## 5 CONCLUSION AND FUTURE WORK

Many young people experience difficulty finding and keeping an independent home, which can lead to homelessness or risk of homelessness. Drawing on its experience of delivering a housing support service, Calman Trust has distilled the essential information that a young person will require into a digital tool called HasAnswers. This paper provided a brief description of HasAnswers, the results of iterative testing with young people, and feedback from other service providers in the field. While preliminary, the findings have been consistently positive, particularly in terms of usefulness and acceptability. Next steps include applying the results of the latest user testing to the HasAnswers prototype, followed by pilot testing. Future work will include mainstreaming HasAnswers into the Calman Trust service and scaling up, involving developing the business model so that HasAnswers is replicable for new geographical locations and organizations. The research contributes to the body of work within HCI on design for homelessness by providing a new digital tool with a greater emphasis on prevention and early intervention.

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