
VIRK: Virtual work environment to facilitate interaction between the unemployed

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Abstract

Social isolation is defined as the lack of meaningful relationships with other people and society. Unemployed people have been identified as vulnerable to social isolation. We present VIRK – a virtual work environment to facilitate interaction between unemployed people. VIRK is designed to tackle problems identified as contributing to social isolation. Foremost, factors such as providing safe environments to discuss frustrations and job application queries point to the practicality of using virtual interaction. The emphasis of VIRK is to promote social interaction in both formal and informal social settings.

Author Keywords

Unemployment; social interaction; virtual reality;

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

The Problem

Social isolation is defined as the lack of meaningful relationships with other people and society [3]. While the causes of social isolation are complex and varied, there are well-established links between unemployment



Persona 1: Carol

Carol, 34, is a mother of two young children who has been out of the workforce for nearly a decade as a full time carer. Now that her children are at primary school during business hours, she has decided to seek full time work to 'get out of the house' and provide her family with more disposable income.

Carol has professional nursing experience and a nursing qualification, so she is looking for nursing or hospital administration work. However, many of the positions demand recent experience with new nursing practices, and she is frustrated with the process of competing against recent university graduates.

Additionally, she perceives a social stigma around getting a job, and many of her peers who have remained employed while raising a family find it difficult to relate to her struggles. Carol uses VIRK to connect with others in the same position to discuss the process and vent.

Figure 1. This persona reflects the interview data noting that the ability to "vent" frustrations to others about the problems that they faced in applying for jobs, and gain reassurance, was beneficial.

and "diminishing social networks and social support" [4]. Unemployment affects a broad range of people and can occur for a number of reasons, as explored through our personas. This diversity translates into distinctive types of social support networks utilized by unemployed people, which range in needs and preferences [4]. In Australia, unemployment rates are currently 6.3% [1], indicating that this is a prevalent issue.

Effects of unemployment extend beyond the loss of financial income, into loss of other dimensions including: time structure, social contacts, collective purpose, status, and activity [6]. Loss of these elements can lead to social isolation, and the problem perpetuates itself; the more secluded the individual becomes, the harder they may find it to establish or maintain social networks. However, the ability to effectively address these issues is limited in current approaches to dealing with social isolation amongst the unemployed, namely the use of social networking platforms [2].

We propose the use of virtual environments in order to address this need. Our main research goal is to socially connect unemployed people through virtual environments in order to work towards resolving some of the issues surrounding unemployment. We present VIRK, a virtual work environment that is designed to simulate the time constraints of a normal work day, and promote and facilitate social interaction not only between unemployed people, but with mentors to support their journey to a new job. The social interaction and the time structure are designed to provide unemployed people with a sense of purpose, social contact, and enhanced employability.

Method

The Double Diamond design methodology was the approach taken for conceptualizing a design solution [7]. This methodology was chosen since an understanding of the needs and experiences of our target group (the unemployed) guided our design decisions, and the diverge-converge process allowed us to creatively explore the problem from different angles.

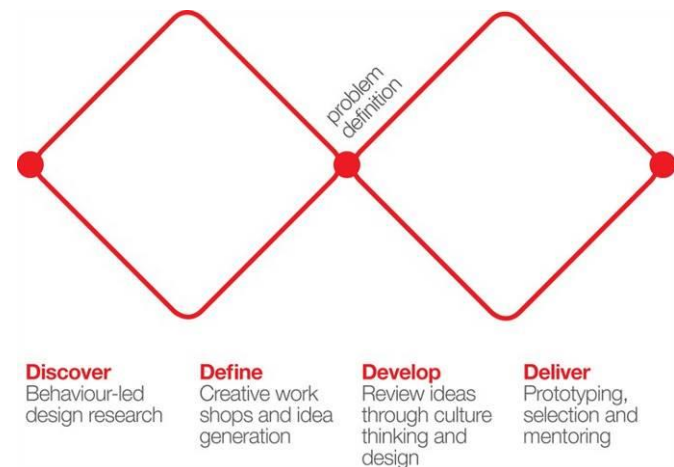


Figure 2. Double Diamond methodology [5]

Phase 1: Discovery

The initial problem space was explored in both individual and team-orientated tasks. The review of existing literature allowed for the identification of the main definitions, themes, and issues, with our individual research discussed in more depth during group brainstorming sessions. A fishbone diagram was useful for identifying the root causes of social isolation (Figure 4).



Persona 2: Heinz

Heinz, 43, was a factory worker made redundant when operations downsized, and is experiencing financial hardship despite receiving welfare payments. He feels isolated from his former colleagues and family due to embarrassment about his circumstances.

He does not have the disposable income to attend social gatherings such as eating out at restaurants, and is nervous that others will pass judgment on his situation. Heinz has decided to try and re-enter the workforce with the assistance of a job seeking agency.

He is preparing for an interview and would like to practice with a VIRK mentor in order to build his confidence. Since Heinz would prefer to remain anonymous, he can create a virtual reality avatar in order to participate in VIRK without revealing his identity.

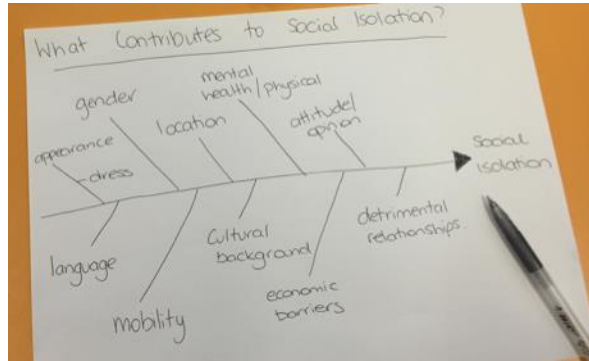


Figure 3 The fishbone diagram identified factors contributing to social isolation, presenting concepts to explore in Phase 2.

Phase 2: Define

Interviews with five people recruited from our personal networks were conducted to identify key problem areas, with questions centred upon their use of resources during job seeking periods. Interview data informed the development of three personas [8] reflecting common themes and issues. We decided to narrow our target group to unemployed people engaged in job seeking activities.

Phase 3: Develop

We used the *BadIdeas 3.0* workshop [10] as an ideation exercise to generate innovative design solutions. Four initial paper prototypes of potential solutions were produced, and a SWOT analysis [11] was used to identify the most effective design concept.

Phase 4: Delivery

The chosen design concept is Virtual Work (VIRK), an interactive virtual environment system promoting and facilitating social interaction amongst unemployed people. We developed both paper and digital

prototypes, and created a film to demonstrate their use.

Description of Design Concept

VIRK was identified as the most suitable solution for overcoming the majority of challenges identified in the interviews. Our data indicated that social isolation was caused in part by perceived social pressures and loss of purpose. Another considerable factor was the financial strain in meeting with employed friends. Coupled with the results from the literature that highlight the loss of time structure, this led to the conceptualization of a low-cost virtual work environment. VIRK not only facilitates social interaction, but reestablishes a sense of purpose and time structure through job application skills development activities. The four aspects of the VIRK platform are the 'Work', 'Plan', 'Learn' and 'Play' modules.

The core social interaction components of VIRK facilitated by the virtual reality functionality are the 'Learn' and 'Play' tools (Figure 7.a), which enable the configuration and launch of virtual reality features. The differentiation between the components is that 'Learn' involves one-to-one job application mentoring sessions, or one-to-many mentoring with other users. These mentors are skilled in job seeking and can provide assistance with application-related skills such as responding to selection criteria. The 'Play' feature is a less formal social interaction component where users can meet up with each other in a virtual "Coffee Break Room" at designated times. Both features highlight the social interaction components of VIRK, demonstrating the different types of social engagement that VIRK can accommodate.

Figure 4. This persona highlights the use of mentoring to upskill in employment-related tasks, identified as an opportunity for design interventions based on the interview data.



Persona 3: James

James, 22, is a recent graduate with a degree in information technology. His friends have successfully obtained employment in graduate programs, however he was not able to secure a graduate position and is still seeking work in the technology sector.

His friends are not available to socialize during business hours, and when he catches up with them during evenings and weekends, he feels he has little to contribute to conversations about work.

James started using VIRK to enhance his written and oral communication skills through individual and group mentoring, and connect with others young jobseekers. He has been recruited by VIRK as a “buddy” to help familiarize new users with the platform and introduce them to others.

The ‘Work’ and ‘Plan’ features allow the ability to manage a user profile and VIRK engagements. ‘Work’ enables users to manage CVs and past and current job applications, which they can share with their VIRK mentor and other users to gain feedback. ‘Plan’ enhances a sense of purpose by allowing users to set job seeking goals, and manage their calendar of VIRK appointments. The benefit of this component is in assisting real-world management skills and maintenance of job prospects, which if successful could ultimately assist in reducing social isolation through the gaining of employment.

The virtual reality aspects of VIRK are enabled through existing virtual reality technologies, such as Google Cardboard¹, which enables users to transform their existing smartphone into virtual reality goggles. An accompanying application available as both desktop and mobile deployments controls the interaction between the user and the virtual environment (Figure 10). Cross platform support for web-browsers will be enabled. We anticipate that the VIRK platform could be provided free to users through funding or sponsorship from government or job seeking agencies, who would also recruit and manage skilled VIRK mentors. To address further financial or social barriers to use, smartphones and internet facilities for VIRK could be loaned through public institutions such as libraries, which could also provide in-person training for new users of all ages.

Discussion

VIRK contributes to reducing social isolation amongst the unemployed through five key ways:

1. A virtual reality ‘work’ environment distinctive from home;
2. Increased employability through constructive interactions with a skilled mentor;
3. Meaningful two-way conversations with mentors and users;
4. Development of circles of contacts in building social capital and skills; and,
5. A sense of community among like-minded people, reinforcing the notion that they are not alone in their situation.

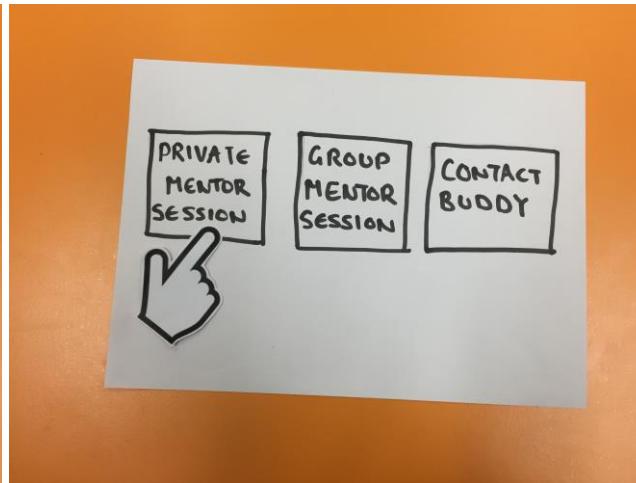
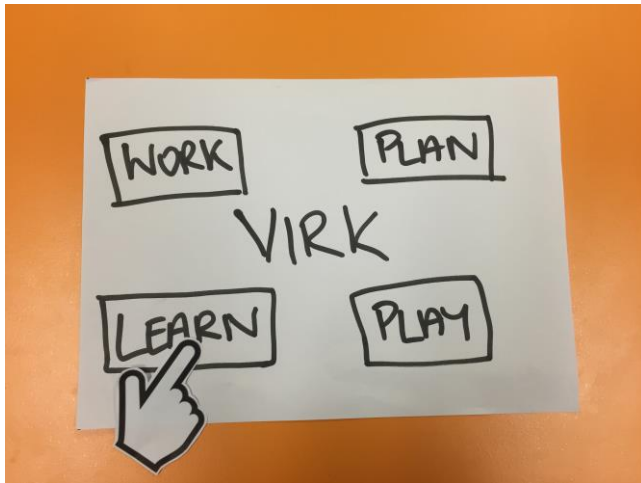
To elaborate, virtual reality has the benefits of being accessible from the home, thereby removing any associated travel costs. A level of anonymity can also be enabled by allowing users to design their own ‘Sim’²-like digital avatar for the virtual reality activities, combining the user’s regular voice with a computerized appearance. This would diminish feelings of embarrassment, which was highlighted in our interviews as a key point that resulted in social isolation and pressure.

VIRK couples social interaction with a means of improving employability by retraining users in job application skills, especially those who have not engaged in job seeking for some time. VIRK caters for this need by providing mentoring in a safe environment to practice skills such as answering interview questions with other real people. The VIRK platform automatically matches users with mentors and mentoring groups based on their work domain, needs, and interests.

Figure 5. This deals with the interview responses articulating feelings of “not contributing to society” by providing a sense of purpose through joint social interactions.

¹ <https://www.google.com/get/cardboard/>

² <https://www.thesims.com>



a) Heinz has found out that he will be moving on to the interview stage of a job application. He is feeling apprehensive and unprepared. He logs onto VIRK to join a one-on-one mentor session in order to prepare for the interview, selecting the LEARN menu option.

b) Next he selects the PRIVATE MENTOR SESSION as he is not confident in voicing his concerns in a public arena. VIRK allows for anonymity through the use of avatars.

c) He now needs to select a Date and Time then state the Reason for the mentor session. This allows the correct mentor to be assigned to him. Heinz then presses the Accept button to confirm the appointment.



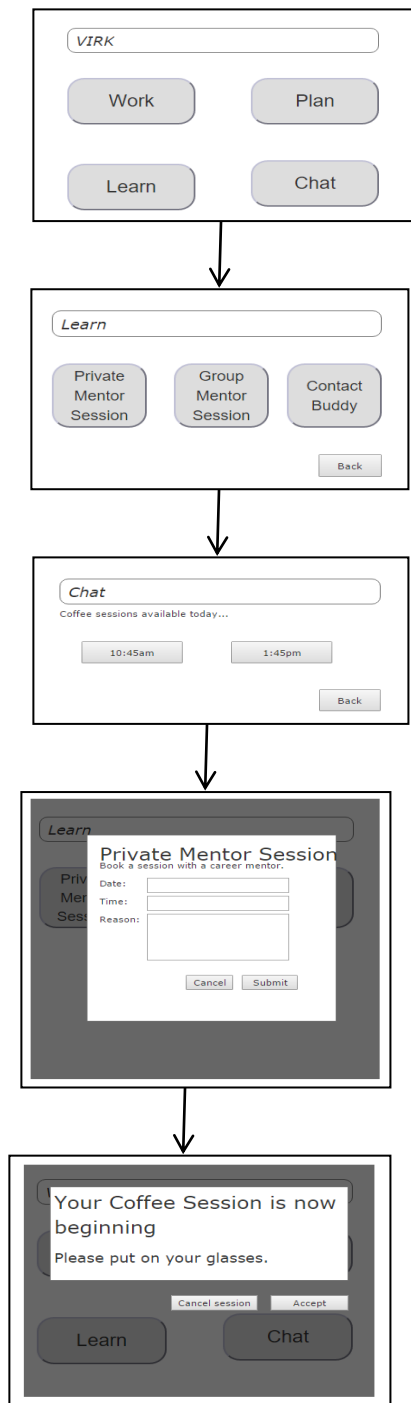
d) When the session is ready to start, Heinz is alerted to join the Virtual Reality Environment. He can either Attend or Decline.

e) When Heinz accepts the session, he is prompted to put on his Virtual Reality Glasses.

f) Heinz then meets his mentor in a virtual office environment. Different virtual office backdrops can be chosen in the application settings.³

Figure 6. Use case of VIRK; Heinz wants to book a mentoring session to discuss his impending interview. This is an example of formal, one-on-one social interaction.

³Office image from <http://www.interiordaily.pics/Natural-Small-Modest-Office-Meeting-Room-VangViet-Interior-Design-92603/>



From the younger demographics interviewed, the need for social interaction in a more informal environment was highlighted. These participants desired a means in which to “vent” their frustrations to their peers. Furthermore, the application process often put doubts in their confidence, where communication about the process resulted in a sense of empathy with others. The informality of VIRK’s “Coffee Break” virtual environment caters for this scenario as it provides a community of like-minded individuals in similar situations with a place to develop social capital, and voice challenges regarding job seeking.

Regardless of the type of social interaction, VIRK provides an interesting and fun environment for meaningful social interactions for a wide range of users. The virtual environments were designed to extend from principles from e-learning and virtual classrooms whereby dialogue is facilitated to increase the sense of community amongst participants [9]. This community building occurs through both formal interactions to develop job application skills with mentors, or informal interactions with other users through “coffee breaks”, and with buddies who are more experienced users that provide guidance and support to new VIRK participants.

Further work could investigate making virtual environments generalizable to socially isolated people more broadly outside the context of unemployment, such as those who are mobility impaired through old age or disability, and their carers. Further investigation of their experiences and needs should be conducted to identify new opportunities for design interventions to effectively address social isolation in these groups.

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Figure 7. Digital Prototype of VIRK

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