Significant Walks

Personal Visualisations of Chronic Low Back Pain - an Art, Health and Science Project

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Video camera and data collection sensors.

Background

Approximately 17 million people in the UK are affected by low back pain. The socio-economic cost is huge, healthcare alone costing £1.5 billion every year. However the personal cost is immeasurable. Back pain remains a hidden problem, with many sufferers finding it difficult to effectively communicate its devastating impact on their lives.

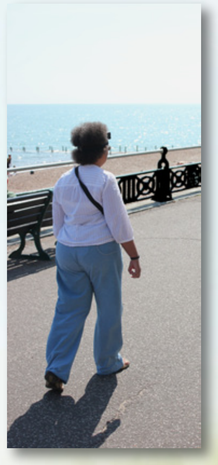
Significant Walks was a collaborative project involving Art, Health and Science. The project explored the reality of walking for individuals with chronic low back pain and their personal visualisation of this experience. The aim was to deepen public perceptions of the meaning of low back pain for those living with the condition.

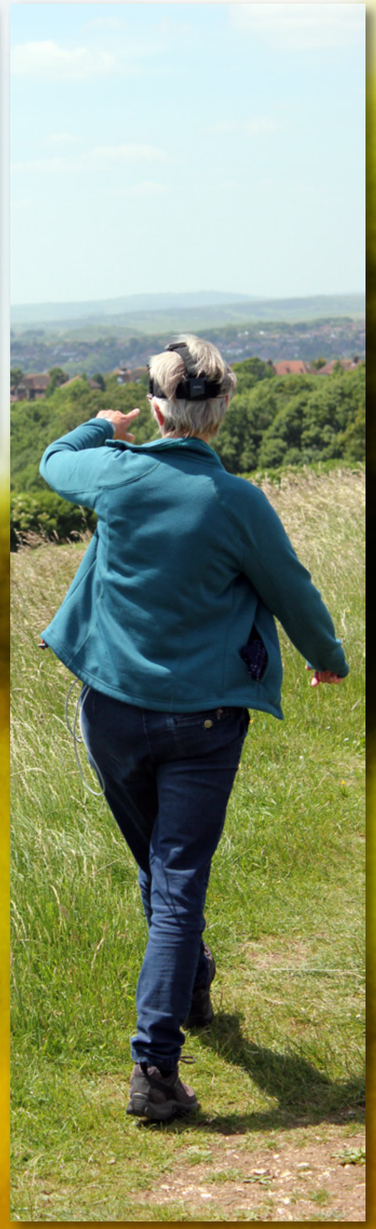
Purpose

To enable participants to express their experience of chronic low back pain by documenting a walk significant to them.

Methods

Twelve participants suffering from chronic low back pain were invited to choose a personally significant walk. A head-mounted camera took “point of view” recordings during the walk. Movement data was simultaneously collected using inertial sensors attached to the lumbar spine. The sensors captured the movement pattern, for example the rhythm of the walk. The participants then used the movement data to manipulate special effects applied to their video. This created a hybrid footage which they felt represented their personal experience. Additionally pain level and qualitative data was recorded.





Participants wore data collection sensors and cameras during their Significant Walks...

...and were followed by the research team.

X, Y and Z rotation data is sychronised with the video, to determine the amplification of the video effects.

Participants select the video effects which represent their experience.

Participants’ interpretive choices transform the source video. Data levels drive the intensity of the video effects.

Results

The significant walks footage has been co-produced by the participants and researchers to form an immersive audio-visual exhibit. The exhibit demonstrates the interaction of the visual walk with spinal movement and pain levels to express the individual’s experience during their significant walk.

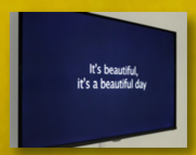
Conclusions

The raw data has been consolidated into very personal expressions of the chronic low back pain experience.

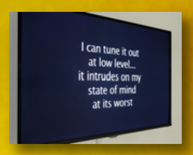
Wider implications

Collaboration between Art, Health and Science disciplines can lead to powerful visualisations of health experiences. This has implications for the expression of a range of health topic areas which are usually invisible to the general public.

An immersive video projection, mounted prints, data streams and interpetive material is exhibited in art and science venues.



The participants' spoken narratives are recorded alongside the scientific data.



Still images from each walk are exhibited alongside the video projection.

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