Enabling nomadic work: developing the concept of 'Mobilisation Work'

Mark Perry
DISC, Brunel University, UK
mark.perry@brunel.ac.uk

Abstract. This paper examines a form of enablement activity that is necessary for much nomadic work, drawing from the sociology of Anselm Strauss, and developing his idea of articulation work to specifically address mobility. We call this form of enablement 'mobilisation work'. Mobilisation work can be best understood in the light of seeing many of the problems faced in nomadic activity as deriving from the resource deprivation that we have when we are mobile, as contrasted against when we are at a static location and surrounded by rich media, connectivity and a high degree of control over the temporal and spatial resources around us. Put simply, mobilisation work is the additional work on top of the (mobile) task required to make that person's (or more than one person's) work possible to do whilst they are mobile. Contrary to much of the current research literature, we do not ask what is the work of the nomadic worker, but what is the work that is required to make nomadic work possible. We offer mobilisation work as an analytic technique to better understand the difficulties and problems faced in nomadic activity, and as a design tool to offer insights into the purposes to which technology might be enrolled into nomadic work practices.

Mo•bil•ize | məʊbilʌiz | verb [trans.]

- 1 (of a country or its government) prepare and organize (troops) for active service: the government mobilized regular forces, reservists, and militia / [intrans.] Russia is in no position to mobilize any time soon.
 - organize and encourage (people) to act in a concerted way in order to bring about a particular political objective: *he used the press to mobilize support for his party*.
 - bring (resources) into use in order to achieve a particular goal: at sea we will mobilize any amount of resources to undertake a rescue.

2 make (something) movable or capable of movement: doing yoga stretches to mobilize compacted joints.

Excerpt taken from the from the New Oxford American Dictionary (2nd Edition)

Nomadicity as an achievement

Work does not become mobile effortlessly, and mobility needs to be seen as a practical achievement by those involved – how work is *made* mobile, or mobilised, is not a trivial matter. All too often, it is this part of the activity of the nomadic worker that is glossed over as researchers attempt to show the benefits of mobility, the mechanisms by which mobile workers co-ordinate their information resources, and with their offices and mobile others, or how technology can offer new or networked information resources to the nomad. Yet such research, whilst often interesting, neglects two of the main features of nomadic work: people actively plan their work and other activities around their mobility and do a form of work that makes their activities possible to undertake when they are mobile. It is this preparatory planning and ongoing organisational activity which means that nomadic workers are not left high and dry, stranded without the resources that they require in order to perform their work tasks. We address these issues through examining what we have called mobilisation work.

One of the central issues in developing an understanding of mobile work and the use and design of mobile technology is that we have a poor understanding about the way that mobility itself is used to support the performance of work. Perhaps there is no simple differentiation between the work of mobilising resources and the primary mobile work objective (as people are often mobile because the

work itself requires this), but there are clearly areas where some form of alignment is required to marshal and co-ordinate the resources and work around the constraints posed by the mobile settings with the mobile individual's ongoing work activities.

Extending articulation work

Schmidt and Bannon (1992) have made the case that CSCW should be "concerned with the support requirements of cooperative work arrangements" – and so perhaps 'mobile technology' researchers should be concerned with the support requirements of mobile work arrangements. There is an interesting parallel to be made between nomadic and broader collaborative work arrangements, in particular, regarding the work needed in order to make collaboration happen. This is the additional work on top of the primary work task that is required to manage and control the way that collaboration is achieved. Work that involves the co-ordination and meshing of task activities (above and beyond the core work itself) is known as 'articulation work' (Strauss 1995). Articulation work allows people to manage contingencies that arise out of the performance of work, and is contrasted with predefined work processes. Articulation work goes beyond the everyday conception of mere 'co-ordination work' by explicitly delimiting the boundaries of co-ordination activity from the underlying work task. Schmidt and Bannon describe that when workers are interdependent on one another in their collective work, this co-operation:

...involves a number of secondary activities of mediating and controlling these cooperative relationships[....] Thus, by entering into cooperative work relations, the participants must engage in activities that are, in a sense, extraneous to the activities that contribute directly to fashioning the product or service and meeting requirements. That is, compared with individual work, cooperative work implies an overhead cost in terms of labour, resources, time, etc. (1992:14)

As noted, the majority of research on articulation work has been in the analysis of multi-person activity, and not so much in the arrangement of individual tasks. Yet articulation work is not limited to collective activity performed by ensembles of people. Strauss is clear about this: the division of labour (which involves articulation work) may be carried out over a unit of any size.

There is a clear connection between articulation work and mobilisation work (indeed, try replacing the word cooperative with nomadic in the quote above). It is a form of work in itself, and whilst connected to the primary work objective, is a necessary enabler for the performance of undertaking the primary work objective. We do of course recognise that disconnecting mobilisation work from its primary work objectives is to miss an important part of the larger picture: work and the co-ordination of that work are intimately bound together, the one meaningless without the other.

Conceptualising 'the problem' of nomadic work as mobilisation work

Nomadic work, as with other forms of work, requires resources (most visibly in CSCW, information, technologies and social networks) to be brought to bear on the tasks being undertaken. As we have shown, there is a considerable co-ordination overhead to becoming mobile, and nomadic workers need to perform additional work be able to achieve their goals when they are mobile. This is a form of articulation work, but is sufficiently unique to warrant a unique term, one that we call 'mobilisation work', from the work required to mobilise resources that are not in themselves necessarily suitable for use or particularly efficient or effective outside of a resource-rich, static and unique work location. Thus, mobilisation work underlies many of the challenges and opportunities for mobile technology design, in supporting the co-ordination efforts that users have to perform in order to complete their primary work objectives and goals.

At first glance, some of these issues appear to have been addressed in some detail by Bardram and Bossen (2005), who discuss what they refer to as 'mobility work', drawing, as we have done here, from the work of the sociologist Anselm Strauss. However, on examination, whilst they originate from a similar vein, the ideas of mobilisation work and mobility work are somewhat different in their intentions and approach to understanding mobile work. Bardram and Bossen use their analysis of the techniques from articulation work theory to examine the *reasons* for mobility: mobility work 'designates the work needed to achieve the *right configuration of people, resources, knowledge and place* in order to carry out tasks.' (p. 136) Bardram and Bossen also place a particular emphasis in their work on how actors minimise mobility work by constructing standard operating configurations (similar to the standard operating procedures described by Strauss). What we attempt to do here is to point towards the *strategies* that are used to enable mobility, that is, not so much in the 'right' way to do this, but in the ongoing ordering activities that enable (rather than allow people to reduce) their mobile/nomadic work.

The focus on mobilisation work in nomadic activity brings to the fore issues such as preparatory planning around work tasks (including the selection and conversion of information into media forms appropriate for use in the expected settings, planning tasks to fit around time available, and planning for the unexpected), reorganising the local environment, maintaining colleague awareness, and the use of device proxies to access remote services (see Perry *et al.* 2001 for examples of these). Getting to the root of the problems and difficulties faced in nomadic work returns us to our earlier problem of addressing the support requirements of mobile work arrangements.

With regards to CSCW, mobilisation work is not exclusively (as with the original conception of articulation work) about co-operative work, but it is heavily intertwined with the division of labour, be this with multiple, co-operating individuals, individuals and cognitive artefacts (cf. Hutchins, 1995a), or work that is carried out by an individual or individuals over a period of time. We may perform mobilisation work at a range of granularities, from side-by-side collaborations between co-located coworkers, on site mobility between offices, or over larger spaces with different forms of resource deprivation. This does not just involve collaboration, and people may perform mobilisation work simply for their own personal purposes. Indeed, it is not just about work (as a form of paid endeavour), and can equally be seen in domestic labour, and in leisure and social activities. mobilise

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