SOCIAL NAVIMATION: ENGAGING INTERFACES IN SOCIAL MEDIA

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Social media are now an integrated part of culture and digitally mediated social activities. Screen-based devices now employ sophisticated graphics including visual movement on a variety of platforms. This paper explores how visually dynamic interfaces can enhance social media applications. A socio-cultural view on communication and interaction design is combined with a practice-based research approach incorporating design production with textual analysis. The term *social navimation* is introduced and applied in the analysis of multimodal interfaces. A set of semiotic resources are identified that should be of interest for the practice and theory of dynamic interfaces and interaction design.

INTRODUCTION

In recent years, a diversity of social media and social software applications such as Facebook, LinkedIn, LastFM, and Flickr have become an integral part of people's professional lives and leisure activities. These services are integrated in our mediated use of digital technology, through a diversity of devices, such as laptops and mobile phones. They are highly dynamic in regards to content and structure, as information continuously flow between multiple actors in complex social networks.

Visual interfaces themselves are also becoming more dynamic in terms of interaction and visual movement. From experimental CD-ROM interfaces in the 1990s, technologies such as Flash and AJAX now allow interfaces for web-based services, including those of social media, to include kinetic features. However, few of the popular digital social services have included such dynamic features in their interfaces. Seen from a design point of view, there is unexplored potential in joining these.

This paper explores how dynamic screen-based interfaces can enhance engagement with social media. I attempt to describe and theorize an emerging phenomenon that is in need of a specific analytical vocabulary, which also should be highly helpful in design education and design practitioners' discourses. Design experimentation has been applied so as to explore possibilities for developing visually dynamic interfaces for social media applications. The results of this experimental design production are presented and analyzed.

In contrast to much of the research literature, the paper presents a designer's view on interfaces, building on existing theory as well as experience from use and

design. The focus is on the interface as a mediating artefact rather than taking a cognitivist or functionalistic approach. Theoretically, the paper adopts a socio-cultural view on interfaces, interaction design, and visual communication. In this view, meaning is seen as socially and culturally constructed and situated. The interface is conceptualised as a mediating artefact, building on theories and concepts from social semiotics and multimodal communication. A central goal is to explore the meaning potential of employing motion in interfaces for social media applications. This is not only relevant for the theoretical analysis of such interfaces; it is also relevant to conceptualise and bring forward resources for meaning making that are available for interaction designers and communication designers in their everyday practice of inventing and developing engaging artefacts. Activities of research and design are therefore interconnected and informing each other.

TOWARDS SOCIAL NAVIMATION

Social media are increasingly affecting our lives, though they are still emerging and changing in character. This is also related to how media consumption is increasingly taking place online (Jenkins 2006, Shirky 2008), through a variety of interfaces. At the same time, as a result of technological and cultural developments, such interfaces are constantly becoming more dynamic and complex. Now the focus will be on the mediating role of the interface, followed by a section on visually dynamic interfaces and their features, and then move on to the design of social media and some of its features before looking at combinations of these features.

INTERFACE AS A SOCIAL, MEDIATING ARTEFACT

The importance of the interface and its design has been widely acknowledged in terms of functionality and usability in the field of Human Computer Interaction (HCI). The interface is here seen as a layer between the user and a computer, which the user can see and interact with to achieve certain goals (Bødker 1991). The emerging field of interaction design (Löwgren & Stolterman 2004, Bagnara & Smith 2006) often adopts such views from HCI. However, design research has also successfully studied artefacts and products as signs (e.g. Vihma 1995). Similarly, interfaces have been investigated in terms of their communicative and mediating role, for examples in the study of computer games (Wood 2007) and web portfolios of graphic designers (Skjulstad 2007). The interface is not conceived merely as a flat layer between a user and a computer, but rather as an artefact that communicates meaning in itself.

Drawing on the work of Vygotsky (1978) on cultural mediation, the interface may be described as a *cultural artefact*, which mediates social interaction. Further, an interface may also be described as a *tertiary artefact* (Wartofsky 1979), one that goes beyond the practical and creates an autonomous 'world' of play, which colours the way we see the 'actual' world. As a mediating artefact, the interface enables social and cultural activities. In addition, interfaces now take part in marketing and advertising rhetoric (Beer 2008), as cultural objects increasingly used for branding purposes in commercial markets. As a mediating and engaging artefact, the interface communicates *multimodally* (Kress and van Leeuwen 2001) through a range of modes such as text, colour, images, video, sound and animation. Multimodal communication is framed within a social semiotic perspective (Kress and van Leeuwen 1996). This approach helps us understand that signs do not have a fixed meaning, but are continuously changing semiotic resources (e.g. van Leeuwen 2005) that designers and consumers use and adapt for making meaning in a social context. In this context, a 'text' can be all types of objects that communicate meaning, such as a video, a physical artefact, or an interface (Bal 2002: 26). To study an interface at a textual level is to investigate its semiotic contents as resources for potential meaning making. These resources become important in social media where the interface has a socially mediating role.

NAVIMATION

We live in a globalised and media-saturated culture, where design techniques and visual 'languages' of movement have developed over time through media forms such as film, TV, and public advertising. However, not much attention has been given to animation and movement as a mode of communication in the interface (Chang and Ungar 1993). Visual movement may be involved when Löwgren (2007) describes experiential qualities such as *pliability* and *fluency,* but here the movement is not his object of analysis. Skjulstad and Morrison (2005) look more specifically at the interface in terms of communication

design, and identify how movement can occur at three different levels. Building on this, Eikenes and Morrison (In progress) use the term *navimation* to denote the intertwining of visual motion with the activity of navigation in screen-based interfaces. Navigation is here understood as users' enacted movement in digital information space, through human-computer interfaces, while motion is understood as gradual change in the screened graphics over time. Eikenes and Morrison analyse a set of websites and mobile interfaces to better understand how they provide specific features relating to time, space and motion. A set of concepts are developed and used for analysing interfaces: *Spatial manipulation* denotes how motion in navigation can not only create, but also manipulate and distort the sensation of space in the interface. *Motional transformation* refers to how some inherent nature of a visual element can be changed over time, a phenomenon most commonly seen in animation and motion graphics. *Temporal navimation* refers to how navigation at a micro level can be seen as a durable, continuous and topological activity, in contrast to the typological and discrete 'click and wait' navigation of regular HTML-sites. These features derived from designing and textual analysis can be seen as some of the semiotic resources of navimation that designers can draw on in composing and developing screen-based multimodal interfaces.

DESIGNING SOCIAL MEDIA

The design of social media (SM) has emerged along the development of computer networks, especially the Internet and mobile communication technologies (Shirky 2008). SM is also referred to as social software, social computing or Web2.0 (Beer 2008), and is a broad term used to describe media systems or computer applications that support social activities. SM has been described as a group of online media that share all or most of the characteristics of participation, openness, conversation, community, and connectedness (Mayfield 2006). SM include Social Network Sites (SNS, see boyd & Ellison 2007, Beer 2008), blogs, wikis, podcast, forums, content communities and microblogging (Mayfield 2006). These environments may include the circulation of user generated content (UGC) like music, videos, images, or even events and discussions (see Morrison et al. in press). The aim of this paper is to focus on interfaces for web-based services that include social activities and multimodal media types, where users separately and individually are engaging through digital mediating interfaces.

Research into social media is often carried out from the fields of sociology, social psychology and anthropology. These are more concerned with the social processes taking place, than design and the role of the interface. For example, when boyd and Ellison (2007) map the field of SNS, they organise the research into categories related to identity and friendship, network structures, online versus offline social activities, and privacy. Not much attention is given to the mediating role of the interface in these services, and even less the design of such interfaces. One exception is an account of the design of a Norwegian web-based social calendering service *Underskog*[1] with special attention to the collaborative designing for processes of mediated discourse and performativity (Morrison et al. in press).

FEATURES OF SOCIAL MEDIA

Some general features of social media are worth mentioning here, as they will be related to navimation below. Many social media applications, such as SNS, provide a virtual environment as a space in which social activities can take place. These environments allow for activities to take place across real and virtual space, as these spaces can be fictional as well as represent and relate to real places in the world (for example, images in Flickr can be placed on a world map). In virtual environments, social activities take place on multiple timescales (Lemke 2000), meaning that activities that take place on shorter timescales, such as watching a video or chatting, also make meaning on longer timescales cumulatively through users' traversals across multiple activities. Relations between people and mediating artefacts are established across these timescales. Here, mediating artefacts may for example be events, fan groups, images and videos. Mediational content is increasingly produced by consumers, or 'prosumers', leading to a huge production of user-generated content, resulting in a mix of professional and user-generated content available online (Jenkins 2006).

INTERFACE DESIGN AND SOCIAL MEDIA

In social media the interface mediates the communication and interaction between people, as well as being an artefact itself with communicative features.

[1] http://www.underskog.no

Consequently, the role of the interface is important in understanding social media. For example, boyd has argued that the possibility of personalising the profile interface was one of the key factors in the success of MySpace compared to the more rigid interfaces of Friendster. Consequently, the interface plays an important role in design for performativity and social engagement. It can also play a role in setting standards of behaviour and norms, what Shirky (2008:260) calls the 'bargain' of social media.

The design of social media interfaces has much in common with traditional interface and web design. The graphical user interfaces (GUI) of social media are often built on technological platforms that largely control the interface through templates and presets. These are flexible and powerful tools that allow people to easily participate online. However, the templates do not encourage large-scale visual interface experimentation and navimation. Most social media interfaces are visually flat and static, and do not utilize the multiple modes that are available for interface design. Dynamical interfaces have been developed in software projects such as the Dynamic Social Network visualiser 'DySoN' (Hanstein & Groh 2008), which set out to visualise relations in online social networks by showing how social proximities between people change over time. Unfortunately, these experiments are commonly not designed for the actual users of these social services.

SOCIAL NAVIMATION

Navimation can assist in the mediation of social activities via the interface. For example, features of social media such as activities taking place on multiple timescales can be facilitated and mediated by applying features of navimation, such as *temporal navigation*. By joining these, we create a new means to understand interfaces as mediating artefacts. The concept of social navimation is introduced by joining features of social media specifically to features of navimation. Social navimation is the phenomenon of engaging with social media through a navimational interface, or more specifically, to intertwine navigation with motion in social media applications. Social navimation is a high-level concept that allows us to investigate the relations between multimodal interfaces and social media applications, and the implications for design.

INVESTIGATING SOCIAL NAVIMATION

The technological and methodological challenges for designing social navimation interfaces are still substantial. Further, there are only a limited number of existing examples to consult.[2]

A DESIGNERLY APPROACH

To investigate a phenomenon that is emerging and related to future realisations, a practice based approach has been chosen, where the process of making contributes to the global experiment of reframing the design problem (Schön 1983). In this view, design production is conceptualised as an experimental activity aimed at informing and expanding the theoretical inquiry, rather than as a response to a specific problem or a set of user needs. The study reported here is situated in humanistic inquiry that extends from the study of established texts to their experimental, multimodal production. Combining the synthetic mode of practical design production and the analytical mode of writing allows us to explore potentials that not yet have been realised (Liestøl 1999). More specifically, the semiotic resources of social navimation are developed and investigated through explorative design production, situated in the design researchers own interaction design practice and as part of an interdisciplinary research project team. The resulting artefacts may then be investigated and interrogated at a textual level as cases or *theoretical objects* (Bal 2002) that oblige us to theorize.

Situated within the research project RECORD,[3] several design experiments have been carried out with the two Norwegian business partners Telenor and The Norwegian Broadcasting Corporation (NRK). Telenor is the leading telecom company in Norway, and the project focused on developing a new social media service connected to football. Several designers were involved, though the author was the main designer responsible for the interfaces presented here. For the NRK project, the aim was to extend social functionality in providing new ways of music exploration for an existing service, Urørt.[5] This service allows unsigned bands and artists to

[2] See for example http://www.taggraph.com and http://marumushi.com/apps/flickrgraph

[3] http://www.recordproject.org

[5] For project reports, see http://www.recordproject.org

upload and share their music, and possibly be promoted by NRK in media such as the Internet, TV and radio. The artefacts presented and analysed are not fully functioning interfaces, but prototypes where the use of video (Vertelney 1989) plays an important role as a dynamic medium in demonstrating ideas and future possibilities.

ANALYSIS

The analysis centres on the end result of the design experiments. Each example concentrates on how social navimation can be realised by joining a specific feature of social media with one from navimation via designed interfaces. Based on a socio-cultural approach to interface design, the intention is not to develop a fixed grammar or hierarchy of possibilities, but rather to generate concepts for analysis and show via design some of the resources for meaning making that are available for designers and users.

CASE 1: TELENOR

BACKGROUND

The Norwegian company Telenor is one of the fastest growing providers of mobile communications services worldwide, and is the largest provider of TV services in the Nordic region. In 2005, the company and affiliated partners bought the rights to broadcast Norwegian football league matches on TV, Internet and mobile media for a period of 3 years. This provided the company with new possibilities but also challenges in terms of engaging users across media and contexts. The RECORD design project presented here was carried out in 2007-08, taking this situation as its starting point.

Football is not only a sporting activity; it has become a major global social and cultural phenomenon especially in Europe, involving a range of events, places, people, artefacts, symbols and mediated communication. Football represents an important marker of personal identity and group affiliation through supporter cultures.

The game of football is centred on the movement of the ball and players, and the designers selected this to be reflected in the interfaces and navigational features. In the creative process we drew on a diversity of interaction design methods, such as cultural probes, user scenarios, and sketching on paper. The final result was presented through a semi-interactive Flash prototype, combining the features of 'service evidencing' with an interactive prototype. Parts of these prototypes were animated in Adobe After Effects, which provided the possibility of introducing sophisticated animation and rendering.

The result was a scenario for an online service we named *Kick-It*. This service allows users to get access to football media content as well as create and share content with friends. It can be accessed through a range of independent network applications from a diversity of devices such as PCs, mobile phones and TVs. The applications are categorized into 4 groups according to the core activities: *create*, *watch*, *explore* and *share* media content. These activities constitute a social environment that allows users to interact and engage around their common interest, football.

INDEXICAL COMPOSITING SETTING THE SCENE

The pitch, or the playing field, is the physical location where football takes place. Acting as a giant scene, the audience gather around it, in a spectacular social event that includes cultural artefacts such as supporter clothing, banners, and now mobile phones.

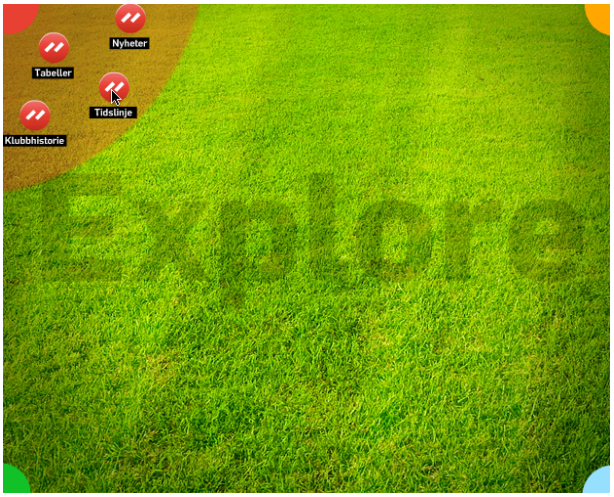

Figure 1: In the Pitch interface, four application containers are located in the four corners of the screen. By pointing to one of the corners, relevant applications pop out. Here, the 'explore' applications are presented in the upper left corner.

Social media provide a virtual environment as a space in which social activities can take place. The *Kick-It* service needed an overarching interface that would give access to a range of applications grouped in the 4 activity categories. A central aim was to make it possible for activities to take place across and between the different applications. The designers created an abstracted version of the football field, with visual allusion to the pitch and the turf. We called this the

Pitch interface (Figure 1). In terms composition and framing, groups of applications are placed in the four corners of the screen, contained inside circles. Navigation is realised when one selects a corner, causing the corner circle to dynamically expand, and advance the applications' icons. This dynamic composition not only facilitates flexible and easy access to all the social features of the service, and helps the users to build a mental map of the locations of the applications, but it also communicates indices of football culture. I call this *indexical compositing*, referring to the mix of visually dynamic elements that allude to a socio-cultural context. In semiotics an index is typically understood as a sign that indicates or points to something, thereby creating a direct link between the signifier and the signified.

In the Pitch interface, we see that the employment of navimation allows the interface to allude to a socio-cultural sport 'field'. Social navimation is realised by designing a virtual environment as a space in which social activities can take place through the use of *indexical compositing*. This connection between navimation and social media sets the premises for use, and may enhance participation and engagement with the service.

TEMPORAL NAVIMATION ACROSS TIMESCALES

A feature of social media is that activities take place on multiple timescales (Lemke 2000). This especially relates to football, where specific events on shorter timescales in a specific football match add up to the larger of a whole season. Even success is measured in relation to time, as the aim is to win the match, and eventually become the best team of the season. During and across these timescales, much meta content is created that relates to actual football activities: news and reportages, statistics, discussions, images, and videos. A central challenge is to guide and provide people with the interactional means to move dynamically in the mediation of events, and bring them to certain points in this environment within and over time.

One of the features of navimation is *temporal navigation*. This refers to how navigation at a micro level can be seen as a durable and continuous activity achieved by employing visual motion in the screen interface. Temporal navigation is a feature that makes it possible to realize continuous interaction and exploration, and is therefore helpful for communicating relations, for example along a one-directional continuum. In football, the continuum of time is especially important, as events such as a score happen at the micro scale of time, while the resulting consequences and mediated discussions are long-lasting.

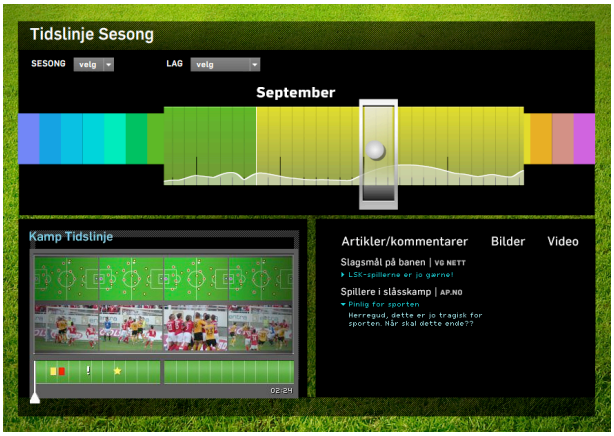

Figure 2: The Timeline application presents a timeline that shows the whole season for a chosen football team, in which football matches as well as the level of meta-activity are indicated visually. An additional panel in the lower left corner presents the timeline of a selected match in detail, with comments, schematic top-view of the field, stills and video. The panel in the lower right corner presents more general news, articles, comments and discussions.

In the Timeline application (Figure 2), social navimation is realised by allowing social activities on multiple timescales to be mediated through the employment of *temporal navigation* in the interface. This connection between navimation and social media may help people navigate, relate to, participate and engage in the huge volume of events and socially generated content across timescales.

FILTERING THROUGH VIRTUAL KINETICS

With the growth of social media services, media consumption has become intertwined with media production, resulting in a mix of professional and user-generated content available online. 'Prosumers' share content through services like YouTube and Flickr, and professionally produced content is made available for users, for free or through paid services. By introducing techniques like annotation and remixing of media content the border between media production and media consumption is blurred. Although football events are mostly mediated by professional media institutions, consumers themselves are increasingly producing, remixing and distributing semiotic content with the help of digital cameras, mobile phones and simple editing tools connected to social media services. A central challenge for interface design is to facilitate navigation

and filtering through the volume of mixed social media content in an engaging way.

The VideoMix interface (Figure 3) is a production-platform that provides fans the possibility of freely remixing amateur video and professional video. To find existing videos, users may search for content by typing keywords, and filter the result by selecting a professional producer or a specific prosumer such as a friend. Compositionally, the videos are represented by still images situated in three rows in a three-dimensional environment, as if they were located on a spectator stand on a football match. This allusion to the stand may be seen as an example of *indexical compositing*. While exploring videos, new videos enter the environment by dropping in from above, while other videos exit the stand by dropping down, as if the ground beneath them disappeared. Supported by traditional animation techniques like squash and stretch, ease in/out, and motion blur (Chang & Ungar 1993), this creates the sensation that the graphical elements on the screen have mass and a certain weight, and that the environment provides elemental forces like gravity. This I label *virtual kinetics*.

In the VideoMix interface, *indexical compositing* and *virtual kinetics* are employed to facilitate navigation and re-mixing of professional and user-generated content, thereby constituting social navimation.

RELATIONS AND VIRTUAL KINETICS

In social media and social network sites, relations between people and mediating artefacts develop as people contribute and share media content that is related to a diversity of actors and events. In a football context, such relations may for example include friends that support a specific team and specific players, events such as football matches, and news headlines. These interconnections are often hard to see or be aware of, as the information is often distributed and not aggregated into one coherent communicative environment.

The Magnet application (Figure 4) presented here provides a way of representing, exploring and navigating relations in an online social football community. The interface shows visual representations of friends, football teams, matches and events, and the internal relations between them. These relations are often a

Figure 3: The VideoMix interface allows users to find videos by searching and filtering. The result is presented visually in a three-dimensional environment, where the most popular videos line up in the front. It is possible to see more videos by navigating sideways. As the search is adjusted, some videos drop out, while new ones arrive. It is possible to make and remix video compositions by dragging existing videos down to the lower part of the screen.

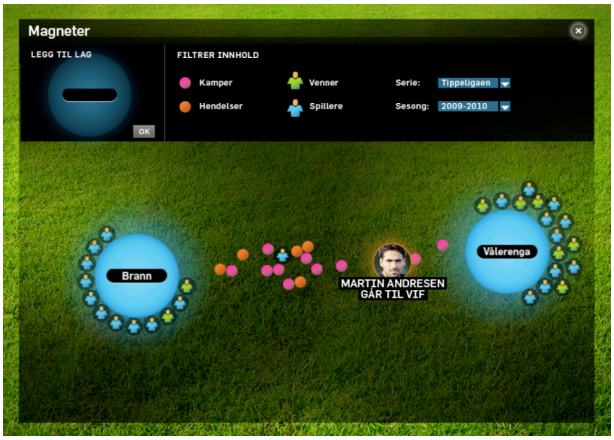

Figure 4: In the Magnet interface, big circles represent football teams, while smaller circles distinguished by colour represent friends, players, matches and other events. These are affected by their surroundings, and behave as magnets in relation to the team symbols. Football players are attracted to the team they are (or have been) playing for, events are attracted to teams and players, and friends are attracted to their favourite team as well as their favourite players. Football matches position themselves relating to the result of the match, closest to the winning team. Each representational element can be selected and thereby reveal more information.

matter of degree, and these degrees of relations are explained visually in the interface. As the user adds or moves elements, other elements move correspondingly depending on their relations to each other, as if possessing kinetic forces resulting in attraction and repulsion. This again is an instance of *virtual kinetics*. The movement functions in a similar way to how vectors can bring attention to actions in images, but represents social relations as dynamic and flexible.

In the magnet interface, social navimation is realised when relations between people and mediating artefacts are explored and communicated through the employment of *virtual kinetics* in the interface. Complex relations

are made visible, and thereby more accessible. In addition, people might understand their own social position better in relation to the wider context of the social media community, which might affect the way they behave further in using the service.

CASE II: NRK URØRT

BACKGROUND

NRK Urørt is a music-related service, where unsigned artists and bands can upload and share their music for a broad audience. A professional jury picks out the best of newly added tunes which are broadcast on a national radio show four times a week. The service has been a great success, with approximately 22 000 registered Norwegian artists and 57 000 tunes. Today, however, Urørt has limited possibilities for social interaction. The website provides a traditional web interface, presenting music mainly through artists' profiles and playlists.[6] There is a great potential for exploring new ways of navigating dynamically through the huge volume of music this site attracts.

The design process included a variety of techniques, including user workshops, online user evaluation of ideas, storyboard sketching and digital sketching. A voice-over was produced and served as a starting point for composing the final prototype, a video composed in Adobe After Effects.

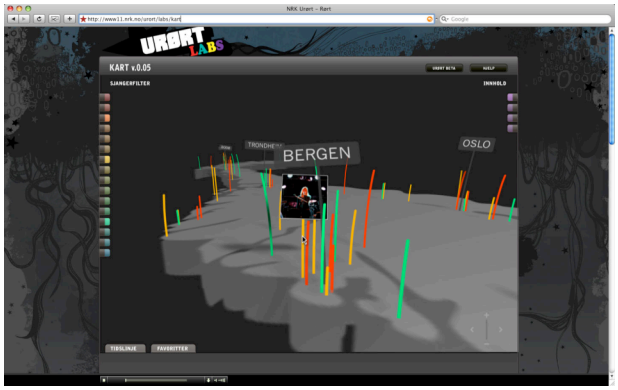

Figure 5: Swaying straws represent tunes in the Urørt map interface. By hovering the mouse over or nearby a straw, a short excerpt from the tune plays, and a small image of the artist appears on the tip of the straw, providing a quick way of browsing music in relation to the geographical context.

SPATIAL MANIPULATION AND LOCATIONS

One of the defining qualities of NRK Urørt is its reference to a geographical context. The service focuses on Norwegian artists and bands, and local communities are important for many of these artists and their audience. At the same time, social media services have the ability to make physical location insignificant by allowing mediating artefacts to travel and activities to take place across the globe regardless of physical location. Media content and related mediated activities may therefore be described as taking place across real and virtual spaces. In Urørt, artists and their music are connected to a real geographical place in Norway, at the same time as their music is available in an online environment independent of the artists' belonging to a physical place.

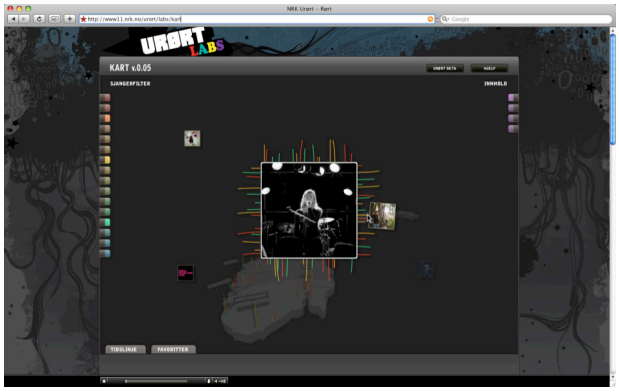

Figure 6: In playback mode, straws grow out from the image of the artist the user is listening to. These are recommended tunes based on the current tune and the social listening patterns of other people.

The Urørt map interface (Figures 5 & 6) is based on a simplified and abstracted geographical representation of Norway. The map is presented as a flat, thick three-dimensional surface (see Figure 5). Major cities are annotated with standing signs, and navigation is carried out automatically (clicking a place takes you there) or manually (zoom and pan). Swaying straws are signifiers of tunes, and the colours of these representations refer to music genres. By hovering the mouse pointer over a straw, an image of the artist is presented, and a snippet of the tune is played. Selecting a tune opens playback mode (Figure 6), causing the map to fade into the background while an image of the artist is brought to the forefront. Here, new straws grow out of the image, representing recommended tunes based on social listening patterns. At the same time, images of bands appear and disappear throughout the screen at regular intervals. These signify songs that other users are listening to, and may be selected for further exploration. The simplified representation and navigation of the map of Norway may be described as an instance of *spatial manipulation*, as the interface is playing with and mixing different spatial representations. This especially

[6] http://www.nrk.no/urort

becomes evident when entering the playback mode, and the three-dimensional environment is substituted with a flat, two-dimensional environment. In this environment, location on the map is no longer relevant; the tunes that grow out of the album artwork are selected in terms of musical and social criteria, independently of their artists' physical belonging. Similarly, the indices of what people are listening to in real time, are not related to physical locations.

PRODUCTION AND MOTIONAL TRANSFORMATION

A key feature of social media is the production of user-generated content, in this case music. From all over Norway, new tunes are uploaded every day. When songs appear on the Urørt map, they "grow" up from the ground, and sway back and forth. The length of each straw shows the popularity of each tune. This growth can be described as *motional transformation*, referring to how some inherent nature of a visual element can be changed over time. The way the straws emerge and sway on the map give them salience, indicating the living culture of Urørt in relation to its geographical context.

In the Urørt map interface, social navimation is first realised by allowing people to navigate in a huge volume of music across real and virtual space through the employment of *spatial manipulation* in the interface. Second, social navimation is realised by communicating the production of user-generated content through the employment of *motional transformation*. Together, these may hopefully strengthen the local belongingness, and facilitate and motivate new activities in the local music communities. In addition, these resources are powerful in relation to the affective and engaging role of the interface.

DISCUSSION

This paper has investigated how visually dynamic interfaces can enhance social media services through explorative design production and textual analysis. Interface examples have been analysed in terms of how resources for meaning making can be used specifically in the design of applications. The work introduced the notion of *social navimation* by joining social media with the concept of navimation. Consequently, the paper connects features of mediated social activities with resources provided by navimation. These add up to new resources for meaning making, available for designers as well as users of social media. In social navimation:

- A virtual environment as a space in which social activities can take place is created through the use of indexical compositing
- Social activities on multiple timescales are mediated by temporal navigation
- A mix of professional and user-generated content is filtered by employing indexical compositing and virtual kinetics
- Relations between people and mediating artefacts are explored through virtual kinetics
- Activities across real and virtual spaces are mediated by spatial manipulation
- Production of user-generated content is communicated through motional transformation.

For designers, it might be possible to combine these features in new ways and with other resources, rather than seeing them as fixed combinations of features. The features may be seen as design resources for meaning making, available in the creative composition and development of social media interfaces. It is therefore important that we are able to name these resources and discuss their mediational potential. In terms of social navimation, we can see that the interface can visualise the action space and help people understand their own role in the social activities taking place though these applications. Social navimation can make evident the underlying dynamics of social media. The semiotic resources may also set standards of behaviour and norms, prompt user participation, and allow for performativity in, through and by the interface.

TOWARDS ENGAGING INTERFACES

The concept of social navimation allows us to investigate the interface as a mediating artefact in which social media are joined with visually dynamic screen-based interfaces. For interaction design, this view opens up a new perspective that goes beyond the often functionalistic approaches of HCI, and brings communication to the foreground of interface design that is becoming increasingly complex. By drawing on social semiotics we may see the interface as a construct made up by resources of dynamic and social production, both which are on the move. The interface mediates social and cultural activities through multimodal semiotic resources, and these need not only to be designed but also to be investigated through design. Interaction and communication design research needs to

get inside dynamic forms of expression and representation. In designing for social media, social navimation provides resources that designers can draw on for creating engaging artefacts.

In addition to the investigations presented here, a further direction for research would be to investigate the physical environments that these interfaces are part of, including mobile screen devices, and how these relate to both physical and digitally mediated social environments. Research might also consider techniques and tools for designing and developing engaging social navimation interfaces. Interaction design can benefit from a humanistic and social semiotic view, as demonstrated in the potential marriage of social media and navimation. This suggests rethinking the way interaction design is taught and practised, with larger emphasis on visual communication and analysis. Similarly, the social semiotics approach needs to be advanced to account for emerging forms of expression, and can benefit from a designerly approach that complements text analysis with text production.

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