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# A Documentary Ecology: Interaction - Contribution - Iteration.

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**Abstract**

In this paper, I describe how the concept of the 'documentary ecology' has been employed as a useful way of framing an inquiry into the ways affordable video capture technologies and social media are revolutionizing documentary filmmaking. I illustrate this with an example of an ongoing film / research project - a '*participatory, interactive* documentary' entitled *Red Tales*, about red squirrel conservation in the UK. The structure of this film project can best be described in terms of a "documentary ecosystem". Furthermore, I suggest that the rapid pace of technological development in this area has led to the ecological metaphor being most useful when employed on a *local* scale, rather than as a high-level metaphor for the broad, socio-political systems typical of many previous studies of 'media ecologies'. Might the benefits of this shift in focus inform other areas of HCI research?

**Author Keywords**

Documentary; Ecology; Participation; Interactivity; Film; User-Generated Content

**ACM Classification Keywords**

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

## Introduction

Documentary filmmaking is currently undergoing a revolution as high-quality video-making equipment becomes more affordable and widely available. Previously confined to stable, structured, well-defined industrial contexts and accessible primarily to funded organized groups, documentary filmmaking is now an everyday activity, accessible to many. From high-quality independent productions and collaborative 'participatory' productions to grassroots or personal documentary projects, innovative new forms of documentary are starting to thrive, particularly in online environments. New production methods and distribution systems are also beginning to emerge and the typical formal qualities of 'the documentary' are blurring into myriad different forms [4].

## Media Ecologies & Information Ecologies

Studies of 'media ecologies' have tended to focus on socio-political systems that contextualize the production and reception of media artifacts [2]. Historically, documentary texts were seen as static artifacts in a system dominated by industrial preoccupations of authorship, ownership and spectatorship. However, as documentary authorship becomes more distributed, their content more dynamic and their audiences less categorized, does the 'media ecology' perspective provide the most relevant way of understanding documentaries? Nardi et al, in their characterization of 'information ecologies' describe a system-in-flux, comprised of diverse constituent parts, constantly-evolving yet reliant upon specific crucial elements [5]. Their example of a library 'information ecology' describes relations between "people and

technology... guided by the values of the library". The key characteristic of the information ecology, however, is its *locality*: its context and the specific role it plays for those interacting with it. Common understanding of 'a library' (its name, function and social context) suggests that one library's 'information ecology' might accurately reflect the information ecology of *another library*. However, as the concept of 'the documentary' shifts, can our understanding of 'the documentary' translate into new instances of *new documentaries*?

## Documentary Ecologies

Recently, the concept of the 'documentary ecology' has emerged within media studies, providing a potential framework for understanding the complex documentary systems emerging from the recent period of rapid technological change. Nash *et al* [6] define the documentary ecology as a "dynamic system", where various parts are "multiply connected and interdependent" and "the media object can be thought of as a pattern of interaction as much as an apparently tangible object" [6]. Thus, 'the documentary' has the potential to no longer be the static artifact of the 'media ecology'. Rather, each new documentary could contain a *local* ecology of its own. Like in an information ecology, any documentary can now incorporate a variety of users, materials, technologies, processes, roles and relationships. At present, manifestations of 'documentary ecologies' are relatively rare, but examples such as [8] clearly demonstrate their potential. To illustrate the concept of the 'documentary ecology' further, we present an ongoing case study, *Red Tales*, which has been designed around a specific *local* documentary ecosystem.

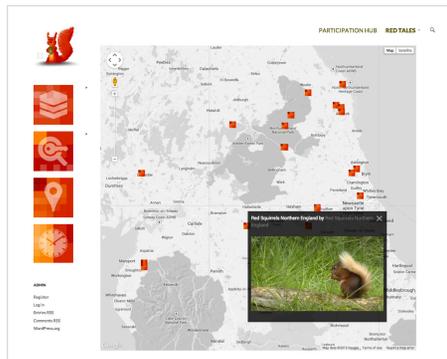


Figure 1 – Red Tales Map Interface

### Red Tales (2015)

*Red Tales* is a *participatory, interactive* documentary (“PiDoc”) about red squirrel conservation in the UK. It is dynamically composed of user-generated content by registered contributors. Non-contributing users can also build and share their own collections from media on the site. Like other interactive documentaries [8], it does not have a fixed, linear narrative. Rather, audiences experience the content through a web browser. A ‘montage’ aesthetic and a clickable interface reflect the connections between the media via the various authors, themes and associated metadata. It is designed to facilitate free exploration of the topic, rather than structure a single, linear viewing experience.

As a *film project*, *Red Tales* was designed to be as ‘user-generated’ as possible, with minimum authorial input from outside the community. As a *research project*, the intention was to understand how we might design systems to support grassroots documentaries. Thus, we produced the film using a variety of *participatory* methods, including a film competition, design workshops and through online participation. Consultation with key stakeholders throughout allowed us to reflect critically upon our own involvement at each stage. These reflective research processes revealed a complex system, comprising various roles, relationships, media and processes.

#### Interaction - Contribution - Iteration

The *Red Tales* documentary ecosystem features several stages including *Interaction*(\*), *Contribution*(†) and *Iteration*(°), as illustrated in the figure below.

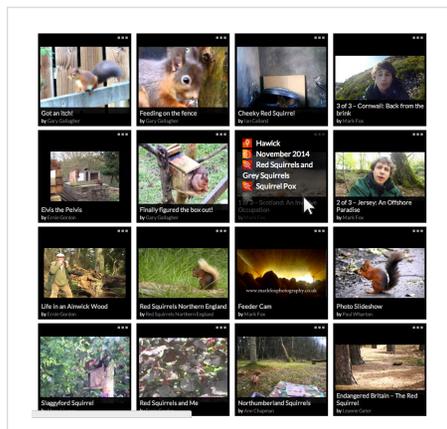
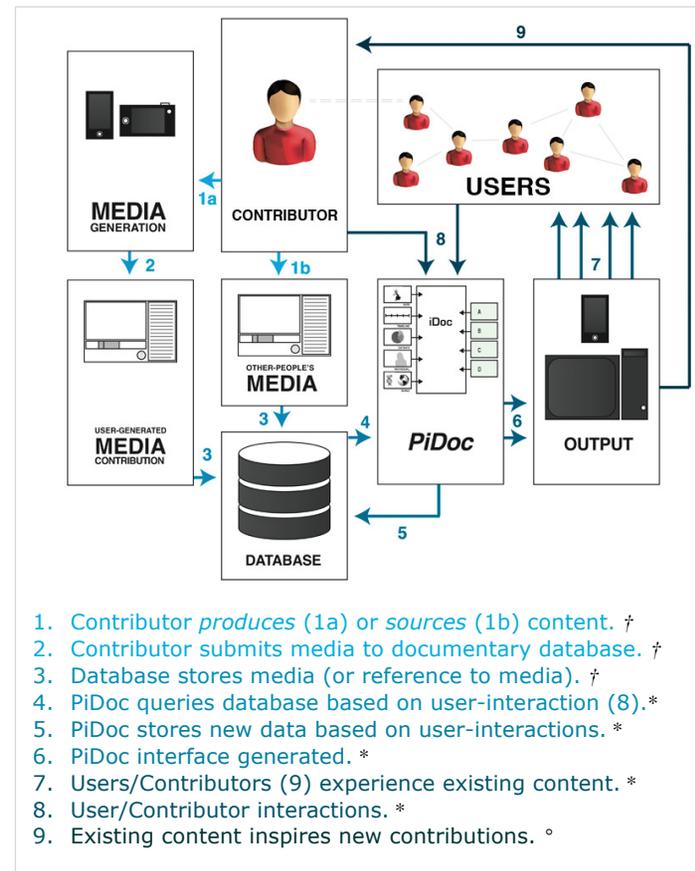


Figure 2 – Red Tales Video Interface



1. Contributor produces (1a) or sources (1b) content. †
2. Contributor submits media to documentary database. †
3. Database stores media (or reference to media). †
4. PiDoc queries database based on user-interaction (8).\*
5. PiDoc stores new data based on user-interactions. \*
6. PiDoc interface generated. \*
7. Users/Contributors (9) experience existing content. \*
8. User/Contributor interactions. \*
9. Existing content inspires new contributions. °

#### Interaction \*

Anyone can browse the documentary anonymously. Alternatively, they can register as a *user* (no verification required) or a *contributor* (peer verification). *Users* can ‘curate’ collections from the database and share these collections online via social networks/blogs etc.

### *Contribution* †

Once verified, *contributors* can upload new materials to the documentary database. *Contributors* attach specific structured metadata to their contributions (time, location, themes), as well as unstructured metadata (keywords, title and description). This provides a semantic structure to the database, populating the various interface screens and making it searchable.

### *Iteration* °

As new contributions are made, they become accessible via one of several interfaces. If an item has location data, for example, it would appear in the map interface shown in *fig 1*. Thus, over time, the film evolves in a chain of *interaction, contribution and iteration*.

*Red Tales* represents one manifestation of a 'documentary ecology'; designed to minimize external authorship. We might design additional "rules" by which to govern it differently but - as with any ecosystem - a small adjustment could fundamentally alter its dynamics. Different user-levels or roles reflecting status or achievements might privilege certain content, leading the iterative story-world in one direction or another. Other restrictions (time limits / paywalls) and biases (algorithms) could also be used to similar effect. Our future work aims to explore the implications of these "rules" further.

### **Summary**

As technologies broaden access to activities such as documentary filmmaking (that were once defined by industrial practices) the macro-scale ecological metaphors that describe stable models of human-computer interaction become potentially less useful. In *Red Tales*, the concept of a 'documentary ecology' provided a useful way of conceptualizing and visualizing

the system design. Perhaps the perspective provided by the micro-scale *local* 'documentary ecology' (as opposed to the macro-scale 'media ecology') could translate to other contexts where technological change has rendered familiar concepts ('the documentary') newly unfamiliar. A broader question we may consider, then, is how this shift towards a *local* ecology might be equally rewarding to designers and developers for (eco)systems in other areas of HCI?

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