The secret life of VoDs: Mapping patterns of 20 European Public Service Video on Demand services

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Video on Demand services are increasingly important for public service broadcasters. Yet, little is known about the 'secret life' of PSB VoDs: How do they develop over time? How static or dynamic are they? In which ways do the 'tiles' and programs, rows and 'decks' move around? Answering such questions could help elucidate questions on how the PSB VoDs interpret high-level PSB values and norms, such as universality (Van den Bulck & Moe, 2018) and diversity (Bengesser & Sørensen, 2024). The paper explores the novel territory of longitudinal studies of VoD interfaces by identifying key parameters of the VoD services that can characterise the services. We apply a comparative approach for 20 different PSB-VoD services from five countries based on datasets we have collected since 2019 / 2022; subsequently cleaned, processed and visualised via custom-built python scripts. The paper extends previous research (Kelly & Sørensen, 2021), not only by scale but also by scope. The paper develops and presents a methodology that not only reflects the visible and tangible aspects of the VoDs such as the number of videos available, but also less visible aspects; identifying the means used for publishing strategies and -tactics.

The PSB approaches to presenting the video content in a VoD interface vary considerably among public service broadcasters in Europe: Some PSB VoDs offer lengthy web pages with many rows whereas other PSB VoDs offer short pages with few rows and few programs. What does this difference means for a program's chance to be watched? This question cannot be answered without longitudinal data on exposures of programs in the VoD interface. Similar questions, such as: To which extent the composition of the VoD page changes from day-to-day, to which extent new programs are introduced, programs from yesterday are moved to new places, old programs are being re-introduced (equivalent to a broadcast 're-run'), the growth in number of unique program titles over also require longitudinal datasets.

The simple question of a program's chances to be seen, which is relevant to the high-level discussion of public service obligations in programming, has inspired us to a more detailed analysis of the patterns with which programs and decks (labeled collections / rows of programs) appear, disappear, re-appear and move around at the VoD frontpage over time. The analysis has resulted in the creation of approximately 30 different parameters addressing three different aspect of VoDs: 1) the amount of programs offered, 2) movements of programs in time and space, 3) exposure of the programs over time and space.

The development of our methodology triggers important research design questions: How often and how 'deep' (in the number of sub-pages) should the content at a VoD interface be documented? Should different presentation modes (e.g. web-browser, tablet-app, smart-TV) be captured? Should a login be made with a user-profile? And if so: what viewing behaviour should this user have to be 'representative', or should several users VoD interfaces be considered? Similarly for the analysis: Which hypotheses should be examined, or should research be conducted in an exploratory manner? As an answer for the latter question, the paper uses working assumptions to apply a correlation analysis identifying the parameters that best elucidate different aspects of the VoDs, given the actual dataset. The correlation analysis is structured around three groups of parameters presented above. After removing parameters from the same group with a high correlation, the remaining parameters are used to calculate the similarity and differences among the VoDs.

Finally, the paper reflects critically on the possible implications of quantitative analyses of VoD interfaces: Could detailed analyses lead to a more detailed regulation? The paper also critically reflects on the selection of data, parameters and visualisation techniques that will produce different narratives about PSB-VoDs. Being situated in a political context, public service broadcasting / media organisations have during almost 100 years of existence repeatedly been subject to fierce discussions about purposes, obligations and public service values. The paper reflects on the relation between quantitative values - as measured in data analyses of the VoD interfaces, and normative values about public service as expressed in policy documents and public service contracts, cf.: (Lassen & Sørensen, 2021; Lassen & Sørensen, 2023).

List of PSB VoD frontpages included in the analysis:

Name of VoD service	URL	Country	Collected from
DRTV	https://www.dr.dk/drtv/	Denmark	2019-11-12
iPlayer	https://www.bbc.co.uk/iplayer	UK	2022-07-10
NPOstart	https://www.npostart.nl/	The Netherlands	2022-02-19
iVysilani	https://www.ceskatelevize.cz/ivysilani/	Czech Republic	2020-06-02
ARD Mediathek	https://www.ardmediathek.de/	Germany	2022-02-23
Das Erste	https://www.ardmediathek.de/daserste/	Germany	2022-02-23
SWR	https://www.ardmediathek.de/swr	Germany	2022-02-23
One	https://www.ardmediathek.de/one/	Germany	2022-02-23
Alpha	https://www.ardmediathek.de/alpha/	Germany	2022-02-23
Tagesschau 24	https://www.ardmediathek.de/tagesschau24/	Germany	2022-02-23
Phoenix	https://www.ardmediathek.de/phoenix/	Germany	2022-02-23
SR	https://www.ardmediathek.de/sr	Germany	2022-02-23
Funk	https://www.ardmediathek.de/funk/	Germany	2022-02-23
Radio Bremen	https://www.ardmediathek.de/radiobremen/	Germany	2022-02-23
MDR	https://www.ardmediathek.de/mdr/	Germany	2022-02-23

WDR	https://www.ardmediathek.de/wdr/	Germany	2022-02-23
BR	https://www.ardmediathek.de/br/	Germany	2022-02-23
NDR	https://www.ardmediathek.de/ndr/	Germany	2022-02-23
HR	https://www.ardmediathek.de/hr/	Germany	2022-02-23
RBB	https://www.ardmediathek.de/rbb/	Germany	2022-02-23

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Bio:

Jannick Kirk Sørensen is an Associate Professor in Digital Media at Dept. of Electronic Systems, Aalborg University, Denmark. Member of the "Digital Transformations" research group. Member of the ACM RecSys programme committee. Since 2007 Jannick Kirk Sørensen has researched the implications and potentials in public service broadcasting's shift to 'public service media'. These studies have been informed by detailed studies of the technologies being mobilised in this shift, i.e. personalisation technologies such as algorithmic recommender systems. To establish a baseline for evaluating personalised video-on-demand services, a method of evaluating non-personalised VoDs was developed, as presented in this paper. Besides this line of research, Jannick Kirk Sørensen is a work-package leader in EU-Horizon Europe project "Fair MusE" (2023-26), analysing recommender systems of music streaming services powered by user data donations (portal.fairmuse.eu). Jannick Kirk Sørensen teaches computer ethics and other professional dilemmas to cyber security students at Aalborg University, Copenhagen.