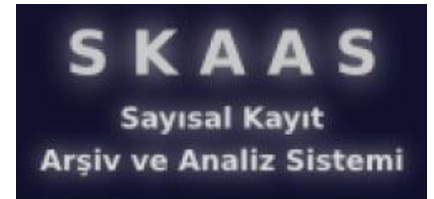


Digital Recording, Archiving and Analysing System

SKAAS



Published On: 05 August 2014

Organisation: Turkish Radio & Television Supreme Council (RTÜK)

Country: Turkey

Level of government: Central government

Sector: General public services, Recreation, culture and religion

Type: Digital

Launched in: 2008

Overall development time: 3 years

Link to the innovation's website

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Description

Before the innovation, archiving the content of the television and radio broadcasts and analysing them in analog recording systems was ineffective and it was a time consuming process. The Digital Storage Archive and Analysis System (SKAAS) Project was achieved by using today's high developed communication and software technologies in order to record the content of television and radio broadcasts. It provides an effective content inspection method for the Radio and Television Supreme Council's (RTUK) experts whose duty is to monitor and evaluate the content of the television and radio broadcasts in Turkey according to provisions of the Turkish Broadcasting Law No:6112.

SKAAS can store, archive and analyse audio and video files. Video and audio analysis software was developed by The Scientific and Technological Research Council of Turkey- Space Technologies Research Institute (TÜBİTAK-UZAY) in order to simplify the duty of the RTUK's Experts. This software includes key frame extraction according to scene change and time, video clip search on the TV records, static or floating text extraction from video records, TV and Radio advertisement analysis on the records and key word capture.

Experts can watch live and archived broadcast very quickly on their computer and evaluate them effectively according to content and (if it is necessary) report them to the Council in accordance with the provisions of the Turkish Broadcasting Law No. 6112. All processes can be done over SKAAS multicasting network in the computer medium. In this context, the duty of inspection of the broadcasting content is successfully and effectively accomplished by using SKAAS.

Why the innovation was developed

(1) To monitor and supervise the broadcasts of media service providers in the territories of the Republic of Turkey in accordance with the provisions of this Law and the international treaties to which Turkey is party to. (2) To take essential precautions, in the field of media services for securing freedom of expression and information, diversity of opinion, media pluralism and for protecting public interests. With the help of SKAAS, Turkish Radio and Television Supreme Council (RTUK) fulfills its duty in accordance with the Turkish Broadcasting Law No. 6112 more quickly and effectively.

Objectives

Develop staff capacity, Improve effectiveness, Improve efficiency

- To archive television and radio broadcasts on satellite, cable, terrestrial and internet medium, and analyse audio and video files more quickly and effectively.
 - To help RTUK's experts whose duty is to monitor and evaluate the content of the television and radio broadcasts in Turkey.
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Main beneficiaries

Government bodies, Government staff

RTUK experts.

Results

Effectiveness

- The broadcasts of the television and radio channels can be received and archived from satellite, cable, terrestrial and Internet medium continuously and hierarchically. In this regard, audio and video files can be analysed more quickly and effectively.
- SKAAS analyses commercials in all broadcasts and determines automatically the length and content of the advertisement which is contrary to broadcasting law in commercials.
- SKAAS searches for activities contrary to law in all broadcasts. Experts do not spend too much time to watch all of the content of the channels so that it decreases analysing time.
- Media files can be stored unlimitedly.
- Scene boundaries, channel logos can be detected, video clips can be searched on video files, texts can be extracted from video and keyword scan be captured from audio files.
- High availability: Observation of signal level and state of broadcast, and automatic switching to redundant device.
- Hundreds of users can watch/listen streaming content and archive it. They can place analysing orders at the same time without any bottleneck.
- The system checks archived records against damage and distortion.

Development

Design

SKAAS Project is realised by TUBITAK (The Scientific and Technological Research Council of Turkey), UEKAE (National Research Institute of Electronics) and UZAY (Space Technologies Research Institute) as a national project. All software in the system is coded by Turkish engineers. The system is based on an open-sourced Linux environment which does not require any license fee.

Design time: 6 months

Testing

- The SKAAS Project was tested together by RTUK and TUBITAK BILGEM's experts according to the technical specifications of the SKAAS project.

Testing time: 6 months

Implementation

Tools used:

- In the system television records are coded and compressed with MPEG4 part10 h.264 format, and radio records are coded and compressed with MP3 format.
- Specialised open source tools are used for system and network management. PostgreSQL, an open source database is working on redundant database servers.
- On the servers open-source CentOS operating software based on linux, is used.
- On the users' computers Pardus software which is an operation system developed by the National Research Institute of Electronics and Cryptology (TÜBİTAK-UEKAE) is used.

Implementation time: 1 year

Partnerships

The Scientific and Technological Research Council of Turkey (TÜBİTAK)

Academics and Research Bodies

RTUK has cooperated with The Scientific and Technological Research Council of Turkey - Informatics and Information Security Research Center (TUBITAK BILGEM), which aims to improve the welfare and security of the public through the realisation of innovation projects. RTUK defined the technical specifications of the SKAAS and TUBITAK BILGEM carried it out as a research and development project.

Lessons Learned

Lessons Learned

- Gained great experience in project designing, realisation, operating and managing of such a big system.
 - We also got experience in improving open source coded software and application software which is needed by RTUK.
 - RTUK uses a system which has been designed with the latest ICT technology and this provides a notable contribution for their work by creating effectiveness and transparency to fulfil its duty in accordance with the provisions of the Turkish Broadcasting Law No:6112.
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Other information

- SKAAS is an ICT project which can be an example for equivalent and similar regulatory authorities of other countries. It is an innovation project which creates transparency and effectiveness in monitoring and evaluating process of the audiovisual media services. The regulatory authorities of other countries can take the advantage of this project and they can easily adapt SKAAS to their institutions.
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