ISO/IEC 23093-1:2025-11 (E)

Information technology - Internet of media things - Part 1: Architecture

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

3.1 Internet of media things terms 1

3.2 Internet of things terms 2

4 Architecture **4**

5 Use cases **5**

5.1 General 5

5.2 Smart spaces: Monitoring and control with network of audio-video cameras 8

5.2.1 General 8

5.2.2 Human tracking with multiple network cameras 8

5.2.3 Dangerous region surveillance system 8

5.2.4 Intelligent firefighting with IP surveillance cameras 9

5.2.5 Automatic security alert and title generation system using, time, GPS and visual information 9

5.2.6 Pedestrian-car accident detection in video using prediction result description 10

5.2.7 Networked digital signs for customized advertisement 10

5.2.8 Digital signage and second screen use 10

5.2.9 Self-adaptive quality of experience for multimedia applications 11

5.2.10 Ultra-wide viewing video composition 11

5.2.11 Face recognition to evoke sensorial actuations 12

5.2.12 Automatic video clip generation by detecting event information 12

5.2.13 Temporal synchronization of multiple videos for creating 360° or multiple view video 12

5.2.14 Intelligent similar content recommendations using information from IoMT devices 13

5.2.15 Understand and explain events in video by instance segmentation 13

5.2.16 Indoor/outdoor acoustic event detection 13

5.2.17 Safety equipment detection on construction sites 13

5.3 Smart spaces: Multi-modal guided navigation 14

5.3.1 General 14

5.3.2 Blind person assistant system 14

5.3.3 Elderly people assistance with consecutive vibration haptic devices 14

5.3.4 Personalized navigation by visual communication 15

5.3.5 Personalized tourist navigation with natural language functionalities 15

5.3.6 Smart identifier: Face recognition on smart glasses 16

5.3.7 Smart advertisement: QR code recognition on smart glasses 17

5.4 Smart audio/video environments in smart cities 17

5.4.1 General 17

5.4.2 Smart factory: Car maintenance assistance A/V system using smart glasses 17

5.4.3 Smart museum: Augmented visit using smart glasses 18

5.4.4 Smart house: enhanced perception modes 19

5.4.5 Smart house: control of home appliance devices 20

5.4.6 Smart car: Head-light adjustment and speed monitoring to provide automatic volume control 20

5.5 Smart audio/video environments in smart rural areas 21
5.5.1 General 21
5.5.2 Crop smart farming 21
5.5.3 Smart crop growth monitoring 21
5.5.4 Livestock smart farming 22
5.6 Smart multi-modal collaborative health 23
5.6.1 General 23
5.6.2 Increasing patient autonomy by remote control of left-ventricular assisted devices 23
5.6.3 Diabetic coma prevention 23
5.6.4 Enhanced physical activity with smart fabrics networks 24
5.6.5 Medical assistance with smart glasses 24
5.6.6 Managing healthcare information for smart glasses 25
5.6.7 Emergency health event detection with infrared camera 26
5.6.8 Personalized detection of health danger by multimodal data sensing and processing 26
5.6.9 Multimodal question answer with blood pressure data 27
5.6.10 Indoor air quality prediction 28
5.7 Blockchain usage for IoMT transactions authentication and monetizing 28
5.7.1 General 28
5.7.2 Reward function in IoMT people counting by using blockchains 28
5.7.3 Content authentication with blockchains 29
5.8 Metaverse usage of IoMT technologies 29
5.8.1 General 29
5.8.2 Human pose estimation for avatar animation 29
5.8.3 Facial landmark detection for human avatar animation 30

Bibliography **31**