

Next generation Smart Mirror using IOT for Human Interaction

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Abstract: *The next generation smart mirror is an intelligent display system that works just like a normal mirror, but it can also show useful real-time information using Artificial Intelligence (AI) and Internet of Things (IoT) technologies. This mirror can connect with sensors and smart devices around the home, and can automatically collect data such as weather, body health parameters, room environment, or user activity. Using AI, it can understand the user's face, mood, gestures and personal routines. It can also give personalized suggestions, for example – skin care tips, fitness reminders, daily schedule, news, or health tracking results. IoT connectivity helps the mirror control other smart devices like lights, fans, door sensors, or smart speakers.*

This system makes daily tasks faster and more interactive. It reduces the need to use mobile phones for small information checks. It can be used in homes, gyms, hospitals, fashion stores or smart bathrooms. Overall, the AI-IoT based smart mirror provides a more connected, personalized and future-ready user experience, making normal mirrors into an intelligent assistant.

This smart mirror also supports voice commands and hand gesture control, so the user does not need to touch the screen. The mirror can automatically learn user habits over time, so after some days it becomes more accurate and personalized. For example, if the user checks the weather every morning, the mirror will show weather automatically during that time. If the user is interested in fitness, the mirror can track body measurements and display exercise suggestions. If used in retail shops, it can show virtual try-on outfits using computer vision. Because the devices are connected over IoT, all data can be monitored remotely, and notifications can be sent to the user's mobile phone. This makes the smart mirror not only a display tool, but a smart assistant that supports daily lifestyle, safety, health monitoring and comfort..

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