

Project Report: Smart Mirror a Personal Assistant for daily Life.

1.Introduction

The Smart Mirror is an innovative, interactive device that transforms a traditional mirror into a multifunctional personal assistant. By integrating advanced technologies, this smart mirror provides users with real-time information, enhancing daily routines and promoting convenience.

2.Objective

The purpose of this project is the creation of an interactive smart mirror that not only serves as a reflective device but also provides users with real-time information relating to time, weather, news, health detail and personal notifications.

3.System Requirement

Hardware:

- o Display monitor (HD)
- o Two-way mirror
- o equivalent PC
- o Optional: Webcam, microphone and speakers for further interactions

Software:

- o C++
- o C++ for graphics and some use of html.
- o Integrations of API for live data: weather, news, calendars

Methodology

Literature Review: Research on available technologies and design concepts of smart mirrors.

User-Centered Design: Engage users at the early stage of design to know what users exactly require and like.

Agile Development: Tackle the software development process with iterative development to improve continuously based on the results of testing and user feedback.

Technologies

Programming Languages: Mostly C++ but in few web-based units, HTML/CSS might be used.

Frameworks: Use Qt framework for the development of strong GUIs.

APIs: Use REST APIs for weather, news, and calendar live feeds.

Challenges faced

- **Interfacing**
- **AI development**
- **Privacy and security**

Conclusion:

The project on the smart mirror is so touching when it comes to touching the point where technology meets convenience in daily life. The objective of this project is to convert a simple item into a powerful personal assistant. This project is expected to change many daily routines and will also gain highly worthwhile experience with the application of IoT and smart technology if hardware and software components are well-integrated.

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