AR Business Card

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Abstract: *Augmented Reality technology has emerged as a powerful tool for bringing the gap between physical and digital experiences. This Project presents the development of an AR business Card utilizing Unity, aimed at revolutionizing traditional networking practise. The AR business card incorporates a physical trigger for seamless activation through a dedicated AR app. Upon scanning, users are presented with a dynamic multimedia interface showcasing product video, social media links, and direct e-commerce pathways, thereby offering an immersive and interactive networking experience.*

This report outlines the current implementation of AR business card project and proposes future enhancements to further elevate its functionality and user engagement. Future implementations include enhanced user interactivity, customizable content features, integration with CRM system for lead capture , and optimization for emerging AR hardware such as AR glasses. Moreover, considerations for security, privacy, and localization are addressed to ensure a globally accessible and user-centric experience.

Key-words: Image Processing, Augmented Reality, Feature Extraction, Virtual world

INRODUCTION

Business cards with augmented reality (AR) are a cutting-edge development of conventional business cards. They provide an engaging and dynamic networking experience by fusing the real and virtual world. When seen through the device's camera, augmented reality business cards employ smartphone or tablet apps to superimpose digital content—such as animations, films, or 3D models—onto the actual card. Using this technology, professionals can leave a lasting impression on prospective clients or contacts by dynamically and engagingly showcasing their creativity, portfolio, or are a monument to the marriage of technology and personal branding. Unlike conventional paper business cards, augmented reality business cards are contemporary and interactive. The seamless integration of digital content and interactive experiences in augmented reality business cards allows them to surpass the limitations of traditional paper cards.

When these cards are viewed on a smartphone or tablet with an AR app installed, digital elements like animations, movies, 3D models, and clickable links are superimposed onto the actual card using augmented reality technology. When you give out your business card, picture yourself instantly grabbing the attention of the person on the other end with an engaging presentation that includes product demos, your portfolio, or a personalized message.

Static interactions become unforgettable experiences thanks to augmented reality, which also helps people connect more deeply and creates memories that last long after the initial contact. But the power of AR business cards extends beyond mere novelty. They offer unparalleled versatility and customization, allowing businesses to tailor content to specific audiences, track engagement metrics, and adapt messaging in real-time.

LITERATURE REVIEW

Paper Name: Augmented Reality Business Card Handbook
Authors Name: Christine Perey
The handbook written by Christine Perey would be a thorough manual for making, designing, and using business cards with augmented reality. The following

components would be present: Overview of AR: an explanation of augmented reality and its use to business cards. Design and Production: guidelines for designing and producing augmented reality business cards, with advice on content, layout, and using AR markers. AR Tools and Software: Business cards with details about the tools and software required to create augmented reality experiences. Scanning and Interaction: Details on how the recipients can scan the business card to view the augmented content using their smartphones or AR glasses. Case Studies: Illustrations and case studies demonstrating effective AR business card applications

Paper Name: Augmented Human
Authors Name: Dr. Helen Papagiannis
Dr. Helen Papagiannis' book "Augmented Human: How Technology is Shaping the New Reality" examines how technology, in particular augmented reality (AR), is changing our lives. Here are a few possible advantages of the book: Perspective on Augmented Reality The book probably offers insightful explanations of augmented reality, including its functions, uses, and ability to influence the course of history. Future Technology Trends: As a subject-matter expert, Dr. Helen Papagiannis's book may provide readers with an early look into forthcoming advances and trends in technology, enabling them to keep up to date on the most recent advancements. Real-World Examples: To help readers better grasp the practical applications of augmented reality, it may include real-world examples of how the technology is now being used in a variety of fields, such as healthcare and education.

EXISTING SYSTEM

Smartphone Applications AR business cards might be created and viewed using a variety of smartphone apps. With these apps, users could activate augmented reality content by using their smartphone's camera to scan real business cards. Platforms for AR Development To create AR experiences for business cards, developers frequently used AR development tools such as Unity3D, Vuforia, ARKit (for iOS), ARCore (for Android), and AR.js. These systems offered resources for creating and incorporating augmented content.

AR business cards with digital content could have links to websites or social media profiles, interactive buttons, films, and 3D animations, among other kinds of digital information. When a mobile device scanned certain photos, logos, or QR codes on the actual business card, the augmented reality experience would start.

Interfaces that are easy to use A lot of systems included easy-to-use interfaces for making and personalizing augmented reality business cards. Users may simply develop and configure their digital material thanks to these interfaces.

Harmony AR business cards might be made to function on a range of mobile platforms, such as tablets and smartphones. They frequently worked with both the iOS and Android operating systems.

Limitation

Accessibility: Not all user may have complete devices or access to AR-enabled platform, limiting the reach and effectiveness of AR business card.

Technical Requirement: AR business cards may rely on stable internet connections to function properly, which could pose challenges in areas with poor connectivity or limited access to the internet.

Cost: Developing and implementing AR business card solutions can be expensive, especially for small businesses or individuals with limited budgets, potentially making it inaccessible to some.

Privacy concerns: AR business card may collect and transmit user data, raising privacy concerns among recipients who may be wary of sharing personal information or being tracked.

Integration challenges: Integrating AR business cards seamlessly into existing workflows or marketing strategies can be challenging, requiring additional resources and expertise to ensure smooth integration and adoption.

PROPOSED SYSTEM

Several elements go into developing a suggested system for an Augmented Reality (AR) business card: Provide a platform or application that enables users to produce augmented reality content for their business cards. This can include interactive components, movies, animations, and 3D models. Mobile App: Make a specific app for users to scan business cards with augmented reality. Most major platforms should

support this app (iOS and Android).User profiles: Permit users to register for an account on the app, where they can upload and edit AR material, enter contact details, and personalize an AR business card.AR Recognition: Make use of technology that can instantly recognize and load the augmented reality content linked to a scanned business card.

User profiles: Permit users to register for an account on the app, where they can upload and edit AR material, enter contact details, and personalize an AR business card.AR Recognition: Make use of technology that can instantly recognize and load the augmented reality content linked to a scanned business card. Customization Options: Give users the ability to alter the design templates, color, fonts, and animations of their augmented reality business card. Networking Features: Include tools in the app that let users interact and share information with one another. This might be chatting, establishing connections on social media, or setting up appointments.

Analytics and tracking: Give users information on the frequency with which their augmented reality business card is scanned, the most captivating sections of the material. Put strong security measures in place to safeguard user information, privacy, and authorization to share contact details.

Make sure that the augmented reality business cards can be viewed in offline mode so that people may obtain contact details even when they aren't online. Marketing and Promotion: Create a plan to draw users and companies to the AR business card platform through marketing and promotion.

ADVANTAGES OF PROPOSED SYSTEM

Providing tools for users to create diverse AR content, including 3D models, video, animations, and interactive elements, the system enables users to create engaging and customized business cards tailored to their needs. Offering a dedicated mobile app ensures accessibility for users on major platforms (IOS and android), enhancing convenience and usability. Allowing users to create profiles within the app facilitates easy management of contact information and customization of AR business cards, providing a personalized experience. Efficient AR Recognition: Implementing AR recognition technology streamlines the scanning process, ensuring quick identification and loading of associated AR content.

Enabling users to customize the appearance of their AR business cards promotes creativity and brand identity, allowing users to tailor their cards to their preferences. Incorporating networking features facilitates connections between users, enhancing opportunities for collaboration and communication. Providing insights on card effectiveness through analytics enables users to assess the impact of their AR business card and optimize their content accordingly. Implementing robust security measures and privacy controls instils confidence in users regarding the protection of their data and contact information

PROBLEM STATEMENT

In today's digital age, traditional paper business cards often fail to capture attention and leave a lasting impression. Moreover, the static nature of paper cards limits the amount of information that can be conveyed and lacks interactivity. As a result, professionals and business struggle to stand out in a crowded marketplace and effectively communicate their offerings. There is a need for a modern solution that combines the convenience of traditional business cards with the innovation of argument reality technology to create dynamic, interactive, and memorable experiences for networking and branding purposes.

This solution should address the challenges of accessibility, technical complexity, cost, and user adoption while providing tangible benefits such as enhanced engagement, customization options, and analytics insights. By bridging the gap between physical and digital interactions, the proposed AR business connect, network, and showcase their expertise or products in today's increasingly digital-centric world. Power to young and new cocreators. And is even less effective in term of creator and audience engagement. The opportunity for growth and scope for support is very minimal.
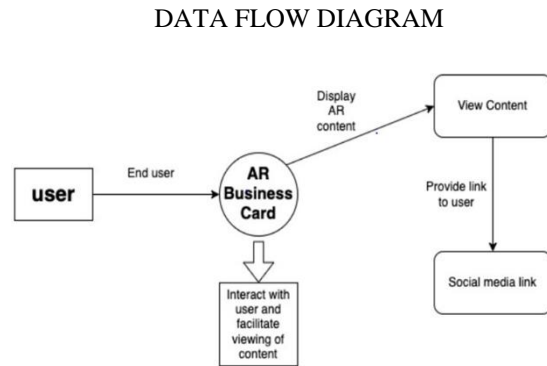
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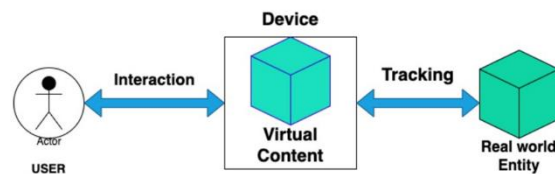
The technology provides the user with information on how frequently their augmented reality business card is scanned, what sections of the material are most interesting, and other metrics to evaluate the efficacy of their cards. Put strong security measures in place to safeguard user information, privacy, and authorization to share contact details. Make sure that the augmented reality business cards can be viewed offline so that people can still obtain their basic contact details without an internet connection. Create a marketing and promotion plan to draw users and companies to the AR business card platform. Although AR business cards have several benefits, the initial expenditures associated with app development and AR technology may be greater. Think about the possible return on investment as well as your budget.

DATA FLOW DIAGRAM

Creating a data flow diagram (DFD) for an augmented reality (AR) business card system can help illustrate how data moves within the system and between external entities.
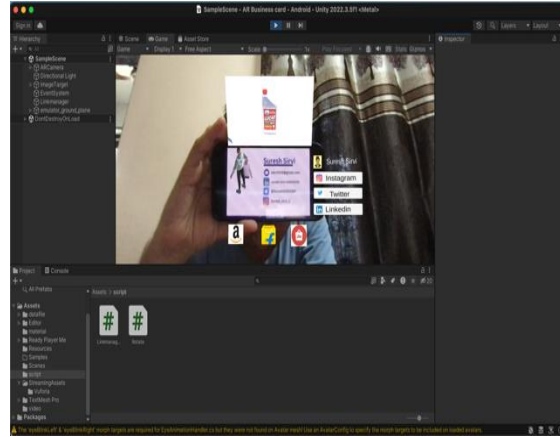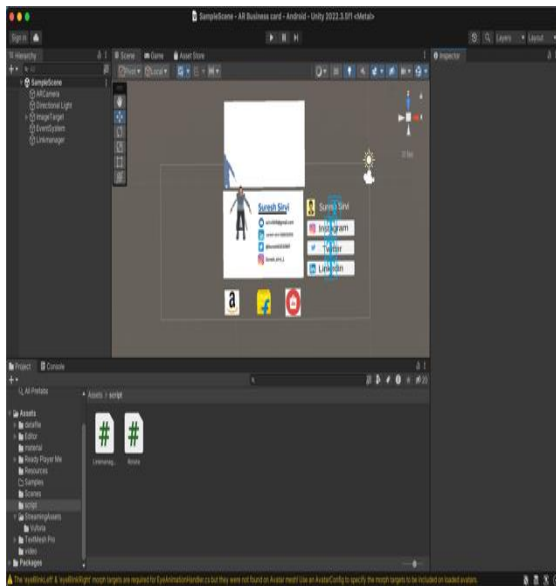
WORKING

An augmented reality (AR) business card combines traditional printed business card elements with interactive digital content that can be accessed through a smartphone or tablet. Here's how it typically works :
The business card is designed like a traditional card with the necessary contact information, logo, and branding elements. However, it also includes a visual marker or trigger, such as a Ar App, or a symbol that can be recognized by AR software. Alongside designing the physical card, digital content is created to augment the user's experience. This content can vary widely depending on the purpose of the business card and the goals of the individual or company. It

might include animations, 3D models, videos, links to social media profiles, product demonstrations, or interactive elements.
To access the augmented reality features of the business card, the recipient needs to download an AR app compatible with the specific marker used on the card. while others leverage existing AR platforms like ARKit (for iOS) or ARCore (for Android). Once the app is installed, the recipient can simply point their device's camera at the business card, focusing on the designated marker or trigger. The AR software recognizes the marker and overlays the digital content onto the physical card in real-time. Depending on how the AR content is designed, the user can interact with it in various ways. For example, they might be able to watch a video introduction, explore 3D models of products, access additional information through hyperlinks. This interactive experience adds depth to the traditional business card interaction.
Overall, augmented reality business cards offer a modern and interactive way to make a memorable impression on potential clients or customers, bridging the gap between physical and digital marketing channels.

DETAILS OF HARDWARE & SOFTWARE

1. Hardware Requirements
System: Intel Corei3 2.00 GHz
Hard Disk: 1 TB
Monitor: 14' Color Monitor
Mouse: Optical Mouse
Ram: 16GB
Keywords: 101 Keyboard keys

2. Software Requirements
OS: MacBook.
Coding Language:
Java: In an augmented reality (AR) business card scenario, Java might be used in several aspects of the development process, especially if the AR experience involves building a mobile app to interact with the business card
Unity : Unity is a cross-platform game engine. The engine has since been gradually extended to support a variety of desktop, mobile, console, argument reality, and virtual reality platforms, it is particularly popular for IOS and android mobile game development, is

considered easy to use for beginner developers, and is popular for indie game development.

CONCLUSION

To sum up, in the current digital environment, the use of an Augmented Reality (AR) business card presents a revolutionary way to overcome the drawbacks of conventional paper cards. Businesses and professionals may create dynamic, interactive, and engaging experiences that leave a lasting impact on receivers by utilizing augmented reality (AR) technology. The suggested AR business card platform offers a number of advantages including improved customisation, networking possibilities, analytics insights, and offline accessibility in addition to addressing important issues like accessibility, technological complexity, and user adoption.

RESULT AND DISCUSSION

ACKNOWLEDGEMENT

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