National Institute of Technology, Raipur

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BIO MEDICAL ENGINEERING
ASSIGNMENT

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1 EMERGING TECHNOLOGY IN HEALTHCARE

Health technologies range from devices, systems, and procedures to vaccines and medications that help deliver high-quality care, reduce costs for hospitals and patients, and streamline operations. It can be any software or IT tool that improves administrative productivity, eases workflow, and enhances the quality of life.

New technology in healthcare includes supportive, educational, information, organizational, rehabilitative, therapeutic, preventive, and diagnostic solutions that improve patient access and healthcare provider capabilities. Virtual concierge, artificial intelligence, voice search, and virtual and augmented reality are promising emerging technologies for 2021.

1. Virtual Concierge:-
A virtual concierge can perform many of the tasks in-person, from answering emails and phone calls and scheduling appointments and events to responding to complaints and requests and even handling payments. Our front door solution is an excellent example of the many applications that virtual concierge has. Their flagship software is an AI care navigation assistant that helps patients find a clinic or physician, answers questions, schedules appointments, and even screens for COVID-19 symptoms. Healthcare facilities benefit from enhanced remote access capabilities, improved patient satisfaction, and better healthcare utilization.

Advanced analytics, real-time communication, and task management capabilities like these offer flexibility and transparency, improve the patient experience, and reduce the complexity of operations. Virtual concierge software allows healthcare facilities to upgrade their digital infrastructure and provide personalized solutions to patients.

2. Artificial Intelligence:-
With the potential to radically transform healthcare, artificial intelligence can help professionals make better judgments and reduce human error and the risk of preventable scenarios. From radiology tools and immunotherapy for cancer patients to identifying infectious disease patterns, advanced technology helps develop more efficient and precise interventions. As learning algorithms evolve and become more accurate, they are likely to significantly impact healthcare services, including diagnostic approaches, treatments, and care processes.

3. Voice search:-
Voice search technology is becoming increasingly popular globally, with a survey by Edison Search and NRP showing that nearly 17 percent of Americans now use a voice-activated speaker. Smart technology assistants are also changing the way patients search for care, including locating a hospital and asking about illness symptoms.

other uses include:
1. buying medications
2. finding a physical therapist or physician
3. scheduling an appointment
4. inquiring about insurance coverage
5. using a tracker or health device

4. Virtual Reality:-
Also an emerging technology in healthcare, virtual reality (VR) is an innovative tool with many applications, from teaching autistic children communication and social skills to engaging patients in activities and games for rehabilitation purposes.

VR solutions can manage hot flashes through cognitive behavioral therapy and relieve pain through meditation training. Some applications use Google Glass and augmented reality for clinical and medical documentation support, including reminder, order, and referral assistance.

Based on HIPAA compliant cloud infrastructure, VR solutions help healthcare providers to create patient summaries and notes, answer physician requests, pend orders and create referral letters. Virtual reality can be used across various settings such as surgery centers, hospitals, emergency rooms, home visits, medical offices, urgent care clinics, pop-up clinics, and telemedicine.

5. Mobile Apps:-
Relatively new technology in healthcare, mobile applications can upload patients' medical records, check in, schedule appointments, and provide expert advice. A host of different mobile apps now helps physicians with patient monitoring and management, information gathering, consulting, and health record access and maintenance.

Applications also assist healthcare professionals with medical training and education, clinical decision-making, and time and data management. They come in handy in providing physicians with communication tools such as email, text, video conferencing, and voice calling. Physicians also need access to laboratory information systems, picture archiving and communication systems, and electronic medical and health records. Healthcare professionals use clinical software applications such as medical calculators and disease diagnoses tools.

Mobile applications designed for patient use feature a host of handy functionalities, from pill and care reminders and appointment management to selecting a physician and remote medical assistance. When selecting a healthcare provider, patients can check their hospital location, consultation fees, visiting hours, and specialty.