

TECH ZONE

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COMMERCIALIZATION OF ROBOTS



BY SCHOOL OF TECHNOLOGY

WHAT ARE BOTS? HOW ARE THESE BOTS CHANGING THE WORLD?
HOW ARE THEY PART OF OUR LIFE?

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COMMERCIALIZATION OF ROBOTS

-Anushka.P

When it comes to commercial bots' robot was built by Unimation, the world's first robot manufacturing company, founded in 1956 by Devol and Joseph Engelberger Offsite Link in Danbury, Connecticut.

The first Unimate prototypes were controlled by vacuum tubes used as digital switches though later versions used transistors.



WHAT ARE COMMERCIAL ROBOTS?

Advancements in technology have led to the increasing utilization of commercial robots in various sectors. As many of us know that robots are used in industrial purpose, but people don't know that there are many other commercial uses of robots that are being made or even already made.

Robots will eventually become a part of our daily lives knowing the major role they have right now in present times. These are going to be used not only in domestic tasks but also in various fields of work performing different tasks. If the matter is about the applications of these robots, they have a very basic to difficult tasks especially being practical for repetitive works. The possibility of these robots becoming our domestic service at home or small business is nearer than ever and the command for commercial robots is expected to be in more number in the upcoming days.

WHEN IT COMES TO COMMERCIAL ROBOTS THERE CAN BE :

- Spider bots
- Scraper bots
- Spam bots
- Social media bots
- Download bots
- Ticketing bots
- Field bots
- Medical bots
- Drones
- Service robots and etc.,

USES OF COMMERCIAL BOTS :

- Transport materials within a factory
- Deliver retail products to customers
- Access areas that would be difficult or dangerous for humans to access
- Collect accurate data and transmit the same
- Mapping activities
- Inspection, recording videos, monitor construction
- Perform medical procedures such as operations
- Deliver supplies, medication, and meals within a hospital
- Farm applications such as harvesting and picking

CONCLUSION :

Commercial robots will play a major role in every ordinary task of our daily lives. They will affect our lives at both domestic and work purpose with their easy tasking to make life easier and more crucial.

These robots are going to increase in further years nonetheless of performing human tasks, they will authorize the value of work as well as boosting safety or production in the workplace at a higher rate. Probably they will become the bar setters and have more importance in the following new decade.

AI BOTS

-G Tanishq Reddy



The bots are known to be used in online app stores and websites such as the apple store and Google Play, to rank or promote positive ratings / updates. The fastest growing, efficient way of bot internet is called Chatbot. Chatbots help buyers move from one website to another easily. Otherwise, it directs consumers to find their way into and out of website information.

We can say that the chat bot is a website helper. The reason why companies use these chatbots is because they can answer any questions on a particular website 3 times faster. In addition, chatbots have helped them increase customer service satisfaction by 24%.

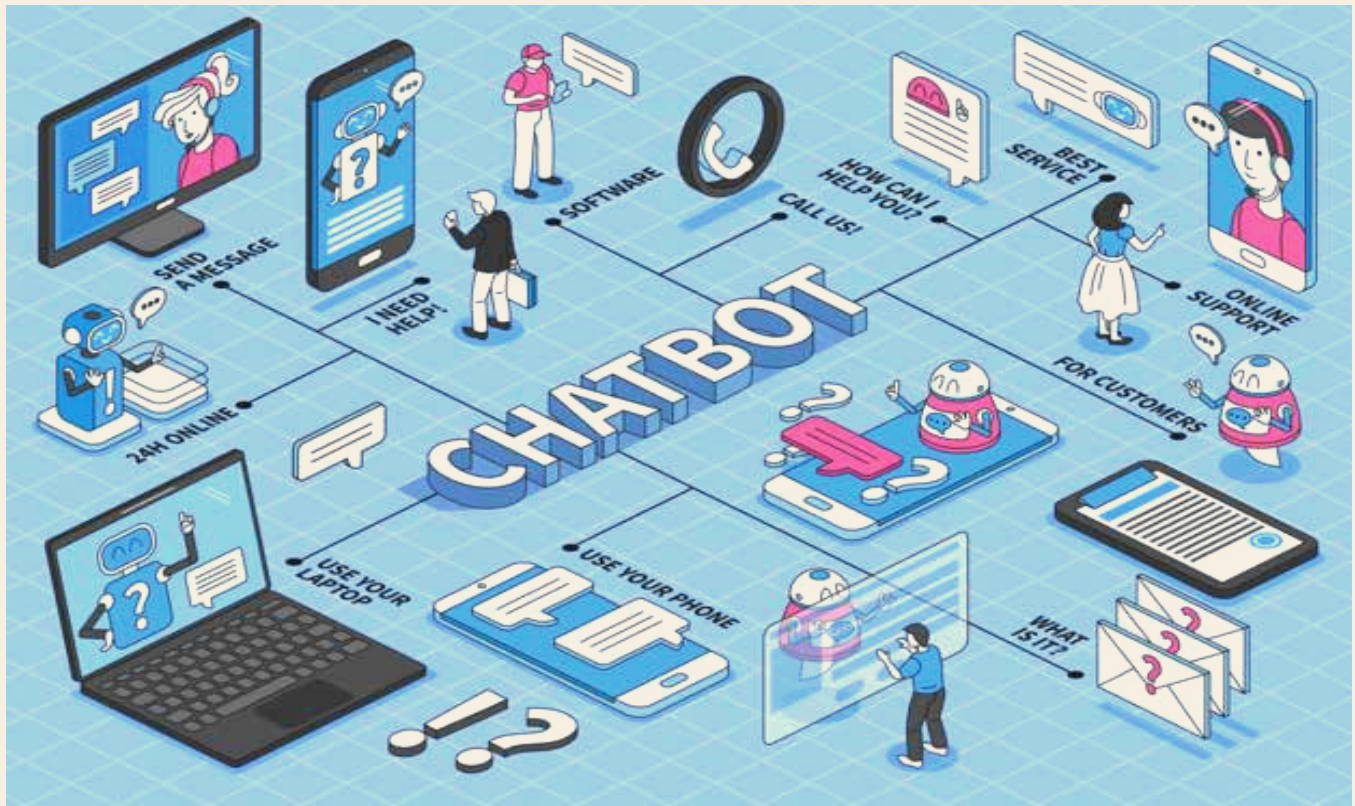
Chatbots can help businesses by taking consumer engagement to the next level. With the help of converted AI chatbots, transactions can be conducted based on user data and made more interactive. These bots can also deliver continuous and consistent responses that help consumers avoid information that is not relevant to consumers. There are two types of bots, which may be good and bad bots, both of which are trying to access the website information displayed on a particular website, which distinguishes them



as good and bad that normal web user functions as they are separate objectives. The core AI chatbot domain is categorized according to Systematic, Mundane and Professional functions. These tasks are performed according to the website compliance. Technologies like chatbots are the future as chatbots open the door to customer service solutions quickly. They are useful in many aspects of customer features. Provides customer service, product recommendation etc. This chatbot also engages consumers with targeted marketing campaigns.

CHATBOTS NEEDED?

Yes, they are also because of the growing demand from consumers who wish to experience a 24/7 digital experience. Major technology companies are pushing themselves forward in the retail and healthcare sectors through the development of advanced chatbots and machine learning technology.



DRONE THE AERIAL BOT

-Aditi Baggu



A bot is a software programmed to do certain responsibilities. Bots are automatic, which means they run in keeping with their instructions without a human consumer desiring to manually start them up every time. Bots often imitate or replace a human person's conduct. Modern bots also use complicated code and synthetic intelligence that can every so often lead them too hard to distinguish

from human users in a social network. These days, even your average Joe can application a bot. There are numerous gear and interfaces available on-line that enable customers to software each simple and complicated bot. There are many exceptional applications for industrial robots, they all outside commercial programs. At the same time as they are utilized in a ramification of industries, industrial robots can also be used for domestic functions. Commercial robots are used to move materials inside a manufacturing facility, get right of entry to regions that might be hard or dangerous for human beings to get entry to, mapping sports, inspection, recording movies, screen production, carry out scientific strategies together with operations, farm packages such as harvesting and choosing, and many others. Technological improvements have brought about the growing utilization of industrial robots in diverse



sectors. This advancement has resulted inside the elevated adoption of Drones. Not like business robots, service robots perform tasks past the production ground. They assist to improve not only your regular existence however also your paintings lifestyles. Drone is an unmanned aerial car (UAV) or flying item like a flight that can operate at various stages with freedom to manipulate the usage of remote manipulate.

The drone plane can be remotely managed from everywhere. It is able to autonomously fly through software-managed plans of fly of their embedded structures that works alongside GPS. As consistent with a recent new update, Google and Amazon are growing their very own drones so that parcels can be introduced through air quite simply. One more interesting idea is offered by way of fb as they're questioning to broaden a few giant drones which can convey sign to remote places for direct net get admission to. The operating method of a drone may seem simple to maximum of you however the tool is truly carrying a complicated era interior. Earlier than we talk the idea of drones' operating you have to realize the



reality that differentiate between drones and its ancestors- helicopters. The previous it is easy to fly independently while later needs pilot for instructions. It is a especially designed multi propeller device inside a drone that makes this tool fairly impartial and also assists in discount of failures. One crucial thing to observe about this multi propeller device is that even if any motor interior this tool stops operating; it's going to keep on flying as it receives help from propellers which might be operating in institution. Drones that own massive wide variety of cars inner are able to gain greater manipulate over their elevation and subsequently can bring extra loads in the course of flight. Those propellers get their strength from a committed supply and most of those devices contain removable batteries so that it is able to live in air for long term. The flight time may be prolonged with use of powerful batteries in design. Drone carrying camera units internal them are greater beneficial for commercial in addition to military packages and they are being developed by way of nearly all top companies within the international. It is an aggregate of all superior technologies like micro controllers, GPS, wireless and sensor gadgets - all of them work in perfect coherence to supply first rate performance for unique applications. Maximum of the countries these days have decided their particular rule set for drone flights and few restrictions are poses on their weight sporting ability. In case you need to use drones for industrial packages then it is crucial to take permission from CAA.

MARKET SNAPSHOT

-Nathan Varma

Market overview | Key business | Trends

COMMERCIAL ROBOTS

In the field, commercial robots are commonly utilized as autonomous guided drones and in medical applications. Commercial robots' superior service over traditional methods is projected to increase investment and usage. Many core activities are managed by robots in commercial applications; hence robotics plays an important role. In the last decade, the commercial robot's sector has seen a boom in demand. This is due to the increasing convergence of robotics and artificial intelligence, which includes planning and search, probabilistic inference, localization, tracking, and control, among other things. Furthermore, there are a variety of commercial robots available that may be employed in a variety of applications. As a result, the need for commercial robots is likely to increase even more in the coming decade.

Key Business

The possibility of having a domestic robot in your house or small business is closer than you would think. Commercial robots have a wide range of uses, all of which are not related to industry. Commercial robots are employed in a variety of businesses, but they can also be used in the home. Commercial robots are used to transport materials within a factory, deliver retail products to customers, access areas that would be difficult or dangerous for humans to access, collect accurate data and transmit it, map activities, inspect, record videos, monitor construction, and perform medical procedures such as operations.

Conclusion

Commercial robots are equipped with safety features that allow manual workers to work alongside them without danger of injury. With little or no supervision, robots can perform more efficiently and effectively than humans. The areas in which commercial robots can be used in industries will be examined in this review.

Robots in the workplace and at home will continue to have an impact on human lives. They will, in fact, play a critical part in every area of our everyday life. They're made to make life easier and more fulfilling. Furthermore, they contribute to raising the value of employment as well as improving workplace safety and productivity. Commercial robots will only become more essential in the next years.

PROJECT REVIEW

-Sathi Vaigarai

Project Description: The project is a model of a core segment of an obstacle detector with the help of red laser and its reflection time. Developed by Woxsen School of Technology.

Working: With the help of components such as TF-Luna which help in sending and receiving the laser rays, the time taken by the ray to strike an object and travel back is noted and with the help of prior knowledge of the speed of red laser, the distance of the object can be known, which makes interaction with the environment easier. The robot can make multiple such calculations per second, making it highly efficient.

Necessity: In the advancing age where driverless cars are increasing in use and autopilot is not just the thing of science fiction movies. Obstacle detection proves to be one of the, if not, the most important aspect of achieving high efficiency in this newer mode of travel. The ability of machines to detect objects, with variety of methods such as sonar, proximity sensors and IR sensors implies that we have a lot of options, but in the end, we also have to choose which of these is the most practicable and efficient method to use for commercial purposes. Multiple technologies have been developed to counter these issues and we are getting closer to the model that would best suit our requirements.

Commercial Viability: As the ability to detect obstacles in its path is a necessity for most commercial bots, this technology, when well-developed may provide a huge boost for the robotics industry, which is always looking for newer and more efficient methods to achieve better performance of robots of all kinds.

Project Scope: All commercial bots are required to have an idea about their surroundings to make appropriate decisions. Detecting obstacles in their path to interact well with their surroundings is a quality most bots already possess, although there is room for improvement, in the quantity of resources that is being used to make them be aware of their surroundings. This project aims to find one such way to implement obstacle detection using simple embedded programming, a model which can be integrated into any commercial bot as a core module in their environment interaction areas.

Many industrial fields are now hoping to make all their processes fully automated, and the presence of intelligent commercial bots will make this goal easier to achieve. As the robot already has a good response rate, with more research this technology can be developed to facilitate its working in much more difficult environments which would make it a core module of any commercial bot.

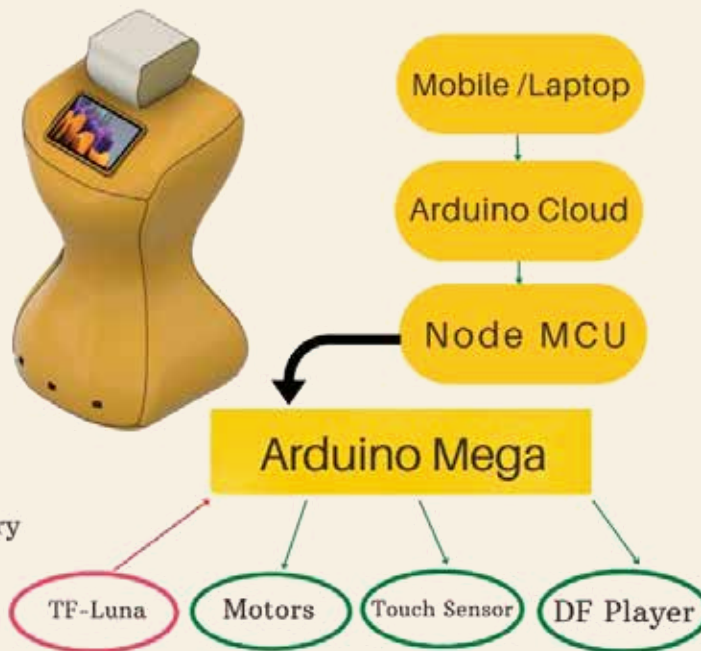


Acolyte



Components

- Arduino mega
- Teensy 3.1
- TF-Luna
- Stepper motors
- Motor drivers
- DF Player
- Memory Card
- Speaker
- OLED Screen
- Buck Converter
- Node MCU
- Camera
- Touch Sensor
- Lithium ion battery
- Mecanum Wheels



Applications



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ALICE THE BOT THAT LAUNCHED THOUSAND OTHER BOTS

-Manasa P (CSE)

No list of innovative chatbots would be complete without mentioning ALICE, one among the very first bots to go online and one that's held up really well despite being developed and launched more than two decades ago.

ALICE :

Artificial Linguistic Internet Computer Entity, an acronym that could have been picked directly out of an episode of The X-Files – was developed and launched by creator Dr. Richard Wallace way back in the dark days of the first Internet in 1995. Although, ALICE relies on such an old codebase, the bot gives users a remarkably accurate conversational experience. ALICE, like many modern bots, struggles with the nuances of some questions and returns a mix of inadvertently post-modern answers and statements that indicates ALICE has greater self-awareness that we can give credit to the agent for. For all its drawbacks, no modern chatbots would have been possible without the exceptional work of Dr Wallace. Also, Wallace's bot has served as an inspiration for Spike Jonze's sci-fi romance movie, Her.

- This natural language processing chatterbot works based on a program that engages in a conversation with a human by applying some heuristical pattern matching rules to the human's input. Inspired by Joseph Weizenbaum's former program ELIZA. It is one of the strongest programs of its kind and has won the Loebner Prize. The program is unable to pass the Turing test, because even an average user will often expose its mechanistic aspects in short conversations.

ALICE is one of those bots that everyone has sort of heard about. It is a natural language processing (NLP) chatbot designed to engage in a conversation by responding to human input and responding as naturally as possible. The ALICE program uses an XML schema known as artificial intelligence markup language (AIML), which helps to clarify conversation rules. In 1998, the program was rewritten in Java and in 2001 Wallace published an AIML specification. Since then, other developers wrote free and open sources of ALICE in several programming languages and in a variety of foreign languages.

ALICE is extremely impressive. It was the first of its kind and, in several aspects, is still a leading chatbot. It fascinated many computer scientists for years and is a stepping stone in the chatbot industry as we know it today.

• **GREAT LINGUISTIC DEFLECTION:**

A linguistic deflection is a way for the chatbot to avoid responding to an input it does not understand by giving a predetermined response. For example, the Monkey chatbot that was built for PG tips would respond 'keep it tea!' (and variants) at any time it would not understand what one would say to it. A linguistic deflection is generally the first barrier of defence before the chatbot has to use a fall-back system. ALICE makes an exceptional use of linguistic deflections by using vague but not monotonous sentences. It does an incredible job at answering the questions all the while not really answering (it does not know the answer to the question), and without losing the user completely. It is a tricky thing to achieve. Great linguistic deflections have to be vague enough that they apply to many circumstances, varied enough that the user doesn't associate with the same one every single time, and clear enough that the user does not believe they made a mistake in their phrasing. Unlike thousands of dollars' worth of commercial chat robot software, the Alicebot and AIML engines are available free of charge under the terms of the GNU General Public License. Unfortunately, this has to be said - ALICE lives on a pretty crappy website. The interface a chatbot lives on makes a significant difference. While some chatbot building companies concentrate on developing bots for specific platforms like Facebook Messenger or WeChat, they are across 29 channels - including websites.

• **META PURPOSE :**

A definition of 'purpose' for a chatbot relates to the usefulness of the chatbot during a human-to-bot interaction. Undoubtedly, ALICE is amazing and helps thousands of developers. But from a chatbot user perspective, there is not much to take from interacting with ALICE. ALICE is a brilliant and unique concept. To that effect, it's contribution to the world of chatbot development can be considered as a meta-purpose. It works in the background while making our world a better place.

• **Integrated photonics** is one technology that has a lot of potential for the food business and the earth. Photonic integrated circuits are pushing advancements in extremely precise, yet cost-effective sensors by harnessing the power of light rather than electricity. Farmers may use this technology to provide plants the right amount of water, nutrients, and sunshine while conserving resources and increasing productivity. This also refers to further simplifying automation by leveraging massive volumes of data.

• **Microsoft Makes a Big Move Into AI-Driven Healthcare**, Closing Deal to Acquire Nuance Communications Inc. Nuance's technology, which includes electronic health records, virtual assistance, and a slew of other health care-simplifying tools, is expected to increase Microsoft's share of the total addressable market to \$500 billion.

• **Microsoft President and Vice Chair Brad Smith** declared in a blog post today that the company will ban "any new sales of Microsoft goods and services in Russia" in response to the country's "unjustified, unprovoked, and unlawful" invasion of Ukraine. Although the business did not specify specific goods, a blanket ban would cover Windows and Office software, Surface and Xbox hardware, Azure cloud computing services, and consumer services such as OneDrive and Xbox Game Pass.

• Around 4:25 a.m. PT, an old rocket booster presumed to be the upper stage of a **SpaceX Falcon 9**, but now believed to be from the Chinese Chang'e 5-T1 mission, smashed with the moon's far side at over 5,000 miles per hour. The hit occurred on the far side of the moon, out of sight of any telescopes or spacecraft, but NASA's Lunar Reconnaissance Orbiter will be able to begin photographing the impact site in mid-March.

• **Researchers at the University of New Hampshire** have mapped magnetic fields in three dimensions, which is a significant step toward resolving what they call the "grand issue" of disclosing 3D magnetic configuration in magnetic materials. The findings have implications for diagnostic imaging and storage device capacity.

• **Panasonic**, a long-time Tesla supplier, has stated that it intends to begin mass-producing the new type of lithium-ion battery for Tesla by the end of March 2024 with two new production lines at its western Japanese factory in Wakayama.