

**UNIVERSITY DEPARTMENT, RAJASTHAN TECHNICAL UNIVERSITY, KOTA**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



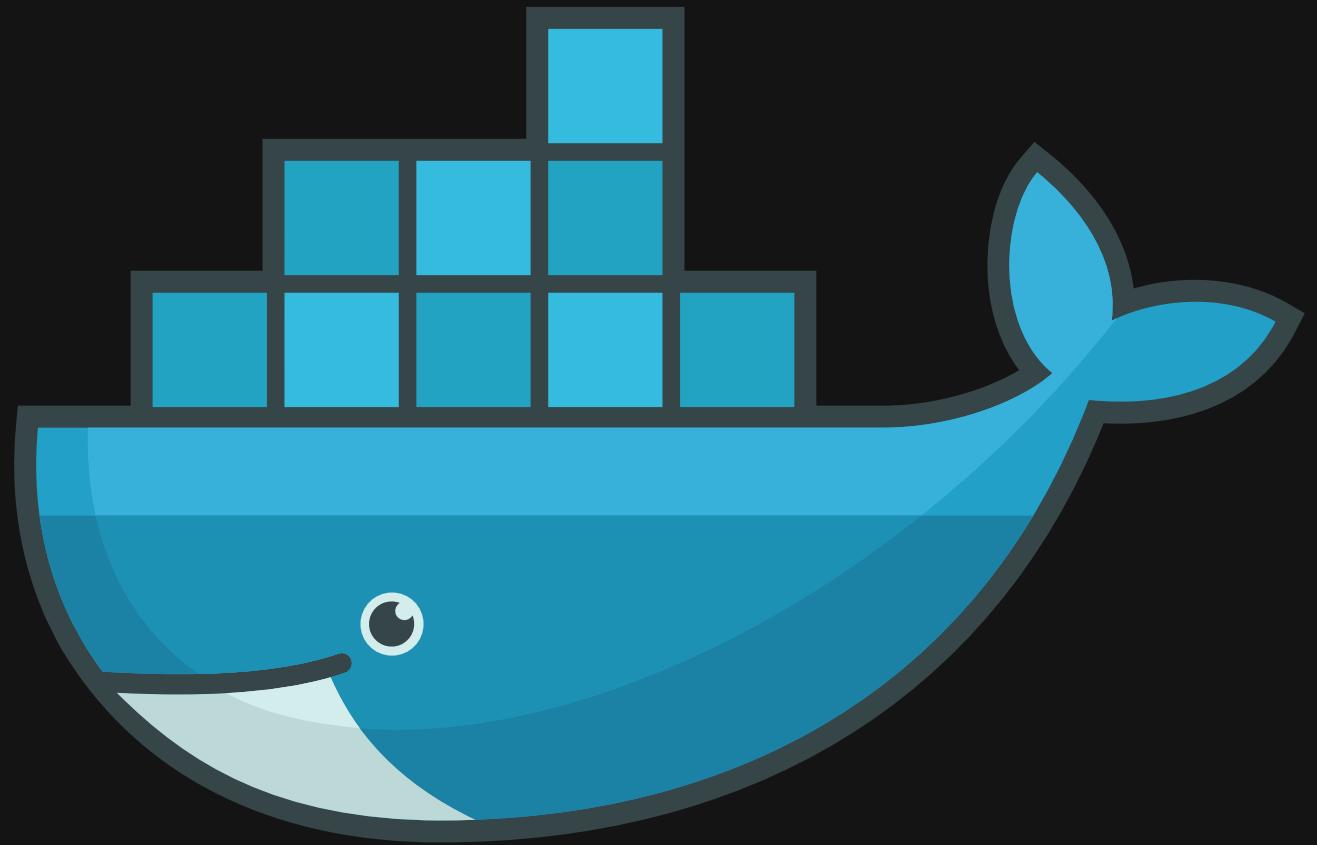
**PRESENTATION ON SEMINAR  
DEVOPS AND DOCKER**

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**SUBMITTED TO**  
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Information Guide

# DevOps & Docker



What is it and why is it important?

# DevOps

Things you need to know



What is DevOps?

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What can we expect from Docker?

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Difference between DockerHub & Github

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What are the benefits of Docker?

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Docker vs Kubernetes

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Trends in Devops

# What is DevOps?

DevOps is a methodology in the software development and IT industry. Used as a set of practices and tools, DevOps integrates and automates the work of software development and IT operations as a means for improving and shortening the systems development life cycle.



# Before DevOps

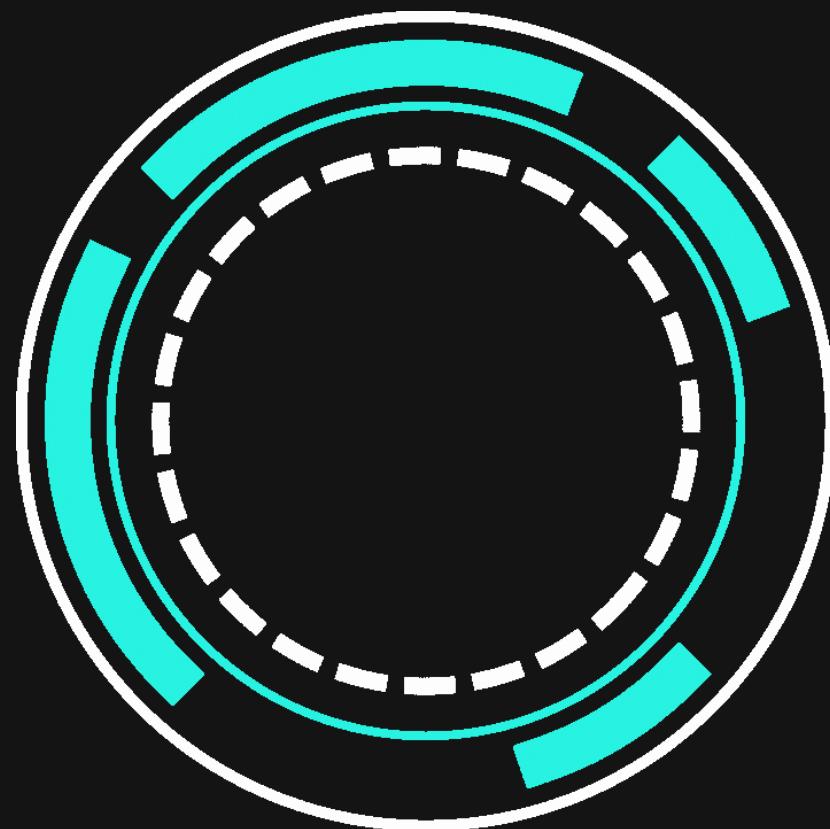
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- Silos and Fragmentation
- Slow Release Cycles
- Manual Processes
- Limited Collaboration



# With DevOps

- Cross-Functional Teams
- Continuous Integration and Continuous Deployment (CI/CD)
- Infrastructure as Code (IaC)
- Monitoring and Feedback Loops
- Automation
- Improved Security



# DevOps & Docker

## DevOps Intro

2000s

Patrick Debois organized the "DevOpsDays" conference in Belgium starting DevOps movement.

## DevOps Cookbook

2010

It provided practical guidance on applying DevOps principles in software development.

## Tools Proliferation

2015

A wide range of tools as well as 'Docker' was introduced.

## Microservices & Containers

2016-20

Containerization technologies like Docker and container orchestration platforms like Kubernetes became central.

## Serverless Computing

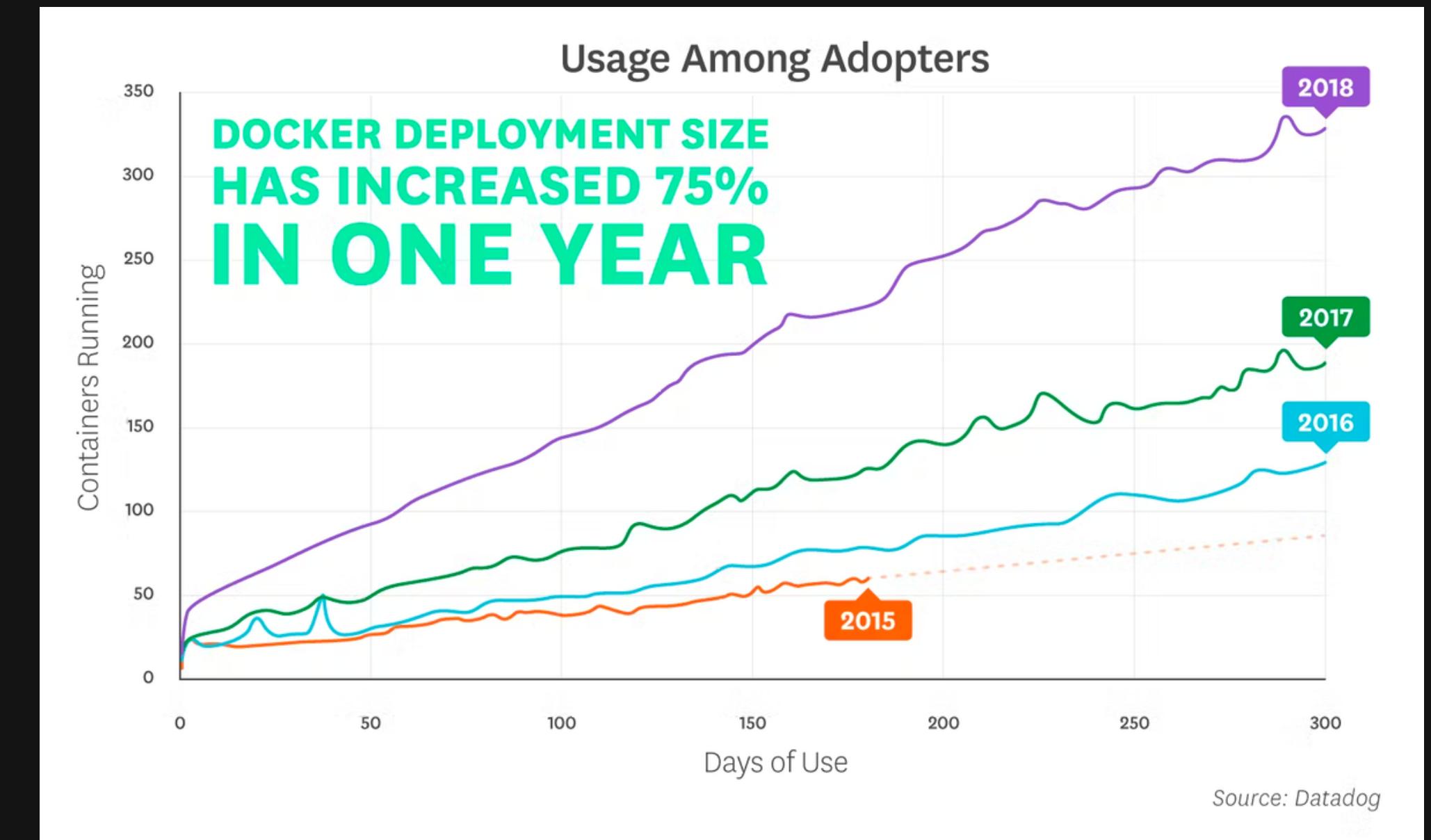
Current

Serverless and (FaaS) models are expected to continue growing, allowing developers to focus more on code and less on infrastructure.

# Docker's Adoption in the World

As of January 2023

More than 53% of developers reported using Docker in their development workflows.



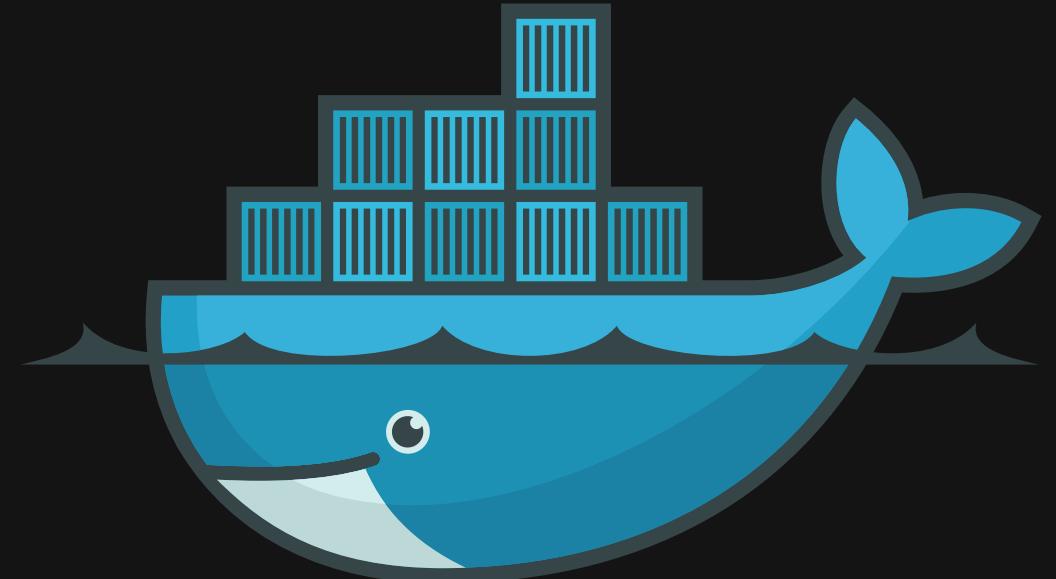
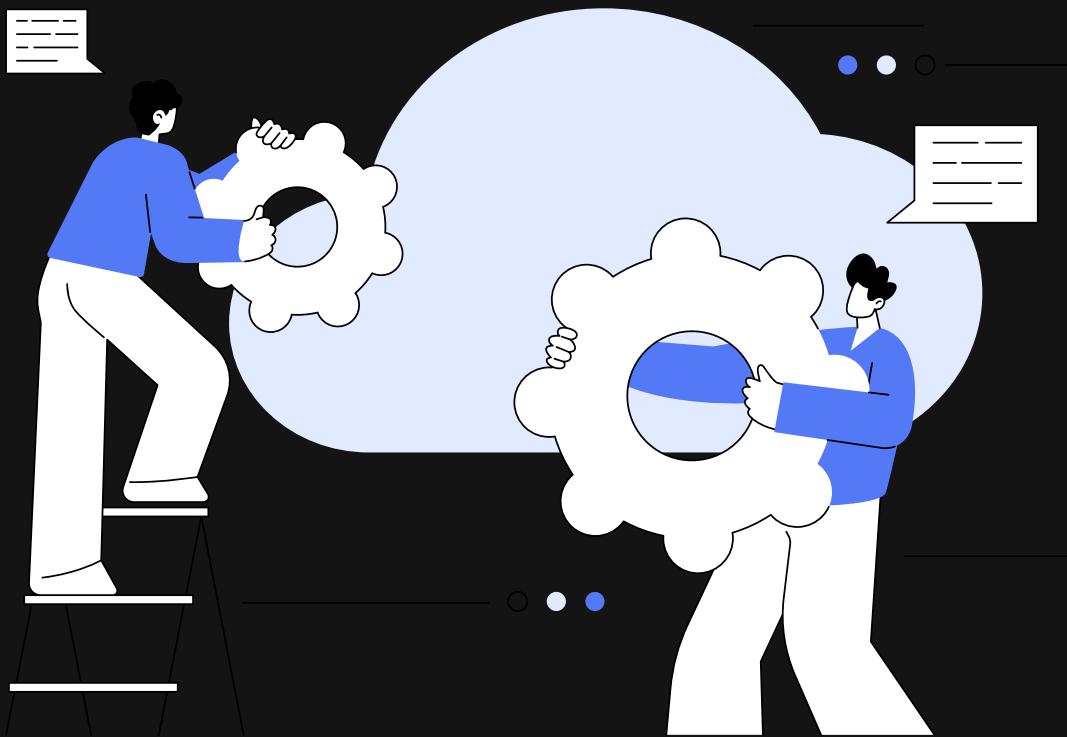


# Is DockerHub better than Github?

## How is DockerHub different from Github

DockerHub is a container registry for storing and sharing container images, while GitHub is a code repository platform for managing and collaborating on source code. DockerHub is focused on containers, while GitHub is broader and includes version control and code collaboration features.

# The Benefits of Docker



docker



# How does Docker Benefits Businesses?

Docker can change how businesses work and flourish

## PORTABILITY

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Docker containers encapsulate applications and their dependencies, making them portable across different environments.

## ISOLATION

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Containers provide application isolation, enhancing security and reducing conflicts between applications running on the same host.

## SCALABILITY

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Containers provide application isolation, enhancing security and reducing conflicts between applications running on the same host.

The future of Docker lies in its ability to continue transforming the way we build, ship, and run applications, adapting to the ever-evolving landscape of modern software development and infrastructure.



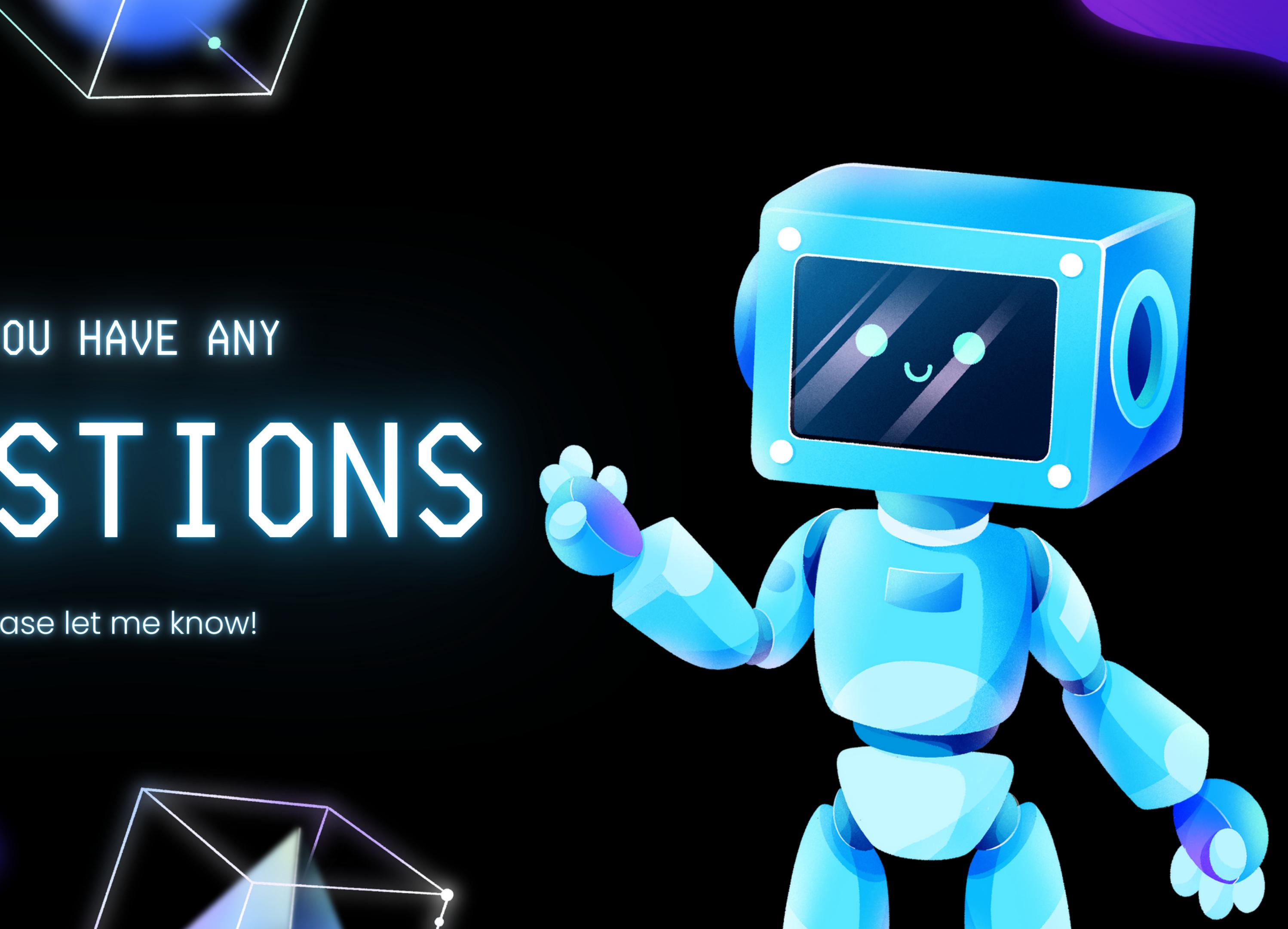
# Trends and the Future of DevOps:

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- AI & Automation: Automation of Routine Tasks
- GitOps and Infrastructure as Code (IaC): It will enable greater consistency, traceability, and version control in infrastructure management.
- Kubernetes and Cloud-Native Technologies: Increasingly embrace microservices architectures, containerization, and serverless computing
- DevOps for Non-Technical Roles: Quality assurance (QA) teams, security professionals, and product managers will take part. This evolution is often referred to as "DevTestOps" and "DevSecOps" and underscores the importance of collaboration across the entire organization.

The advance of technology  
is based on making it fit in so  
that you don't really even notice  
it, so it's part of everyday life.

BILL GATES



IF YOU HAVE ANY  
**QUESTIONS**



Please let me know!

