



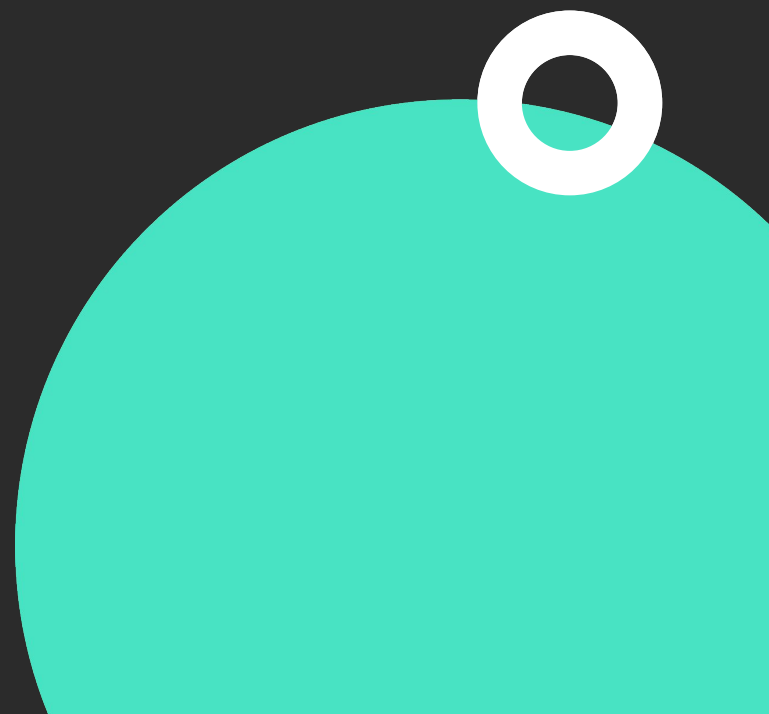


# Securing Android apps against Reverse Engineering



John Brawner

 @PreEmptive  
 in/john-brawner



# Agenda



Fundamentals of Mobile App Security



Securing Android Apps Against Reverse Engineering (Demo)



Understanding Reverse Engineering of Android Apps (Demo)



Summary





# The Fundamentals of Mobile App Security



# The Fundamentals of Mobile App Security

## Planning



Discussion/Organize



Establish Goals

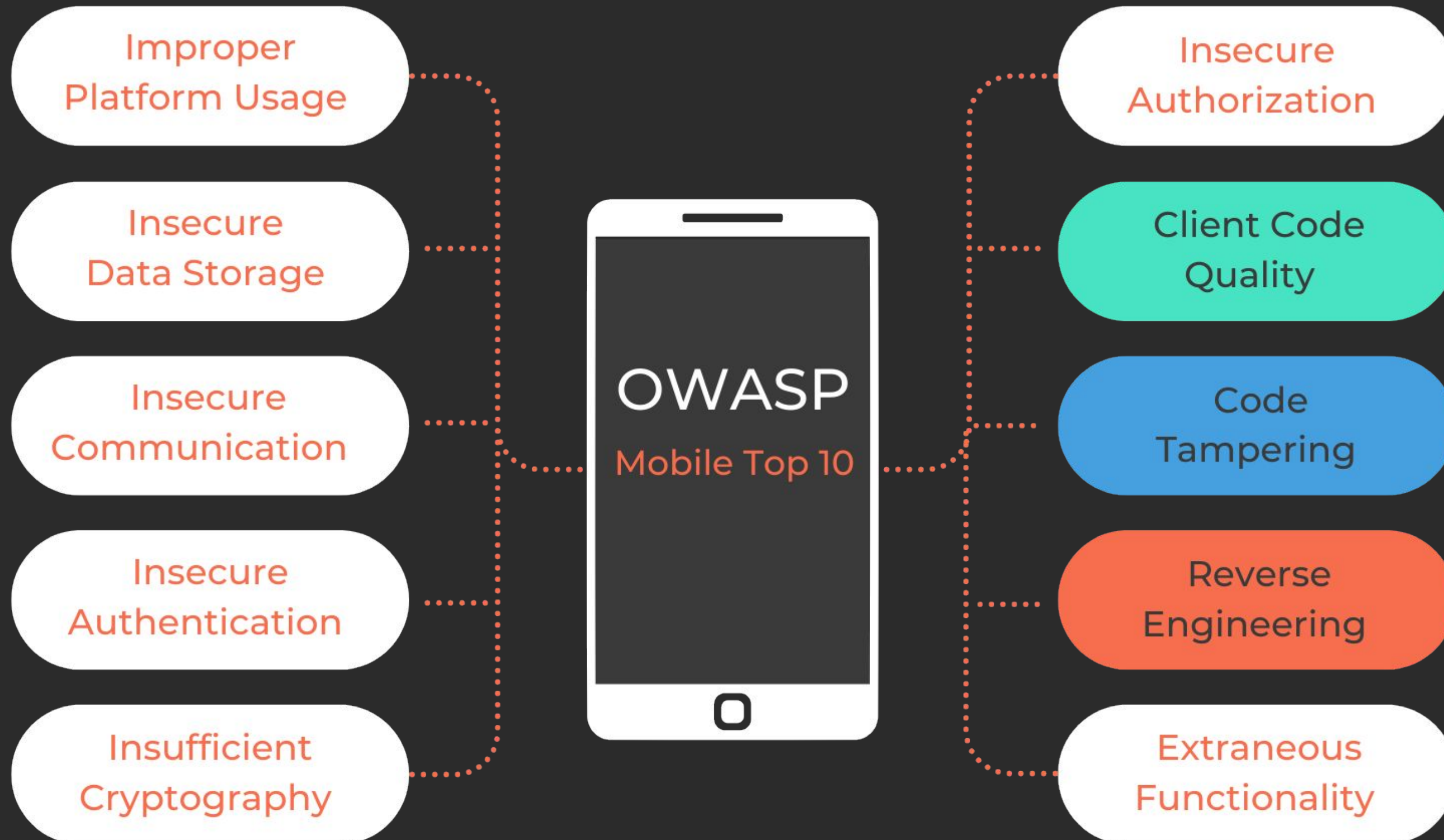


Execute





# The Fundamentals of Mobile App Security



# The Fundamentals of Mobile App Security

## Compliance



# The Fundamentals of Mobile App Security

## Risk Assessment/Threat Modeling



Identify and quantify potential risks



Identify and document servers, databases, data flows.



# The Fundamentals of Mobile App Security

## Secure Code Practices

- Authentication
- Authorization
- Data Transmission
- Data Storage
- User Input Validation
- Session Management
- Error Messages and Logs







# The Fundamentals of Mobile App Security

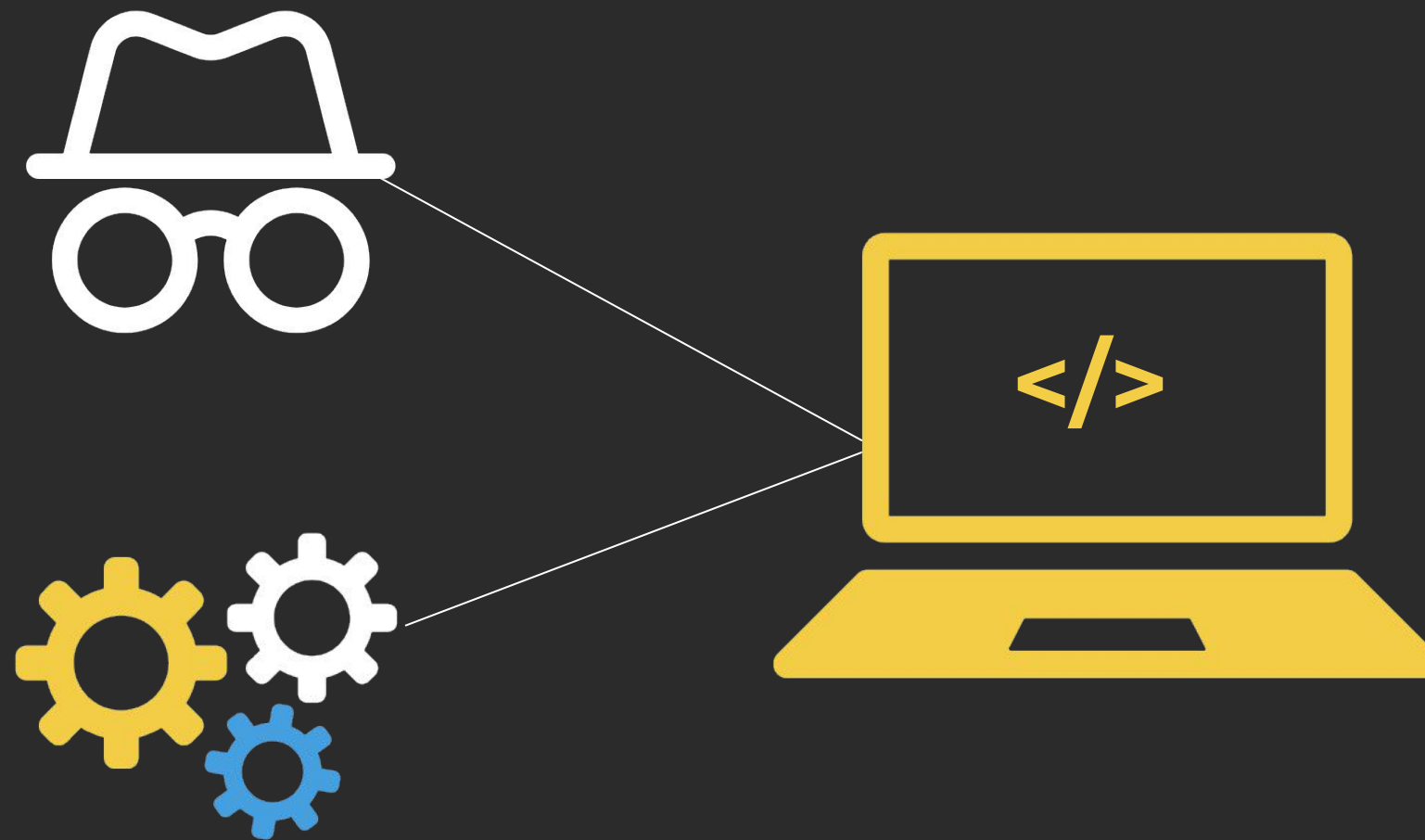
## AppSec Tools

- ⚙ Static Application Security Testing (**SAST**)
- ⚙ Software Composition Analysis (**SCA**)
- ⚙ Obfuscation
- ⚙ Runtime Application Self-Protection (**RASP**)
- ⚙ Web Application Firewall (**WAF**)
- ⚙ Security Information & Event Management (**SIEM**) and Extended Detection & Response (**XDR**)



# The Fundamentals of Mobile App Security

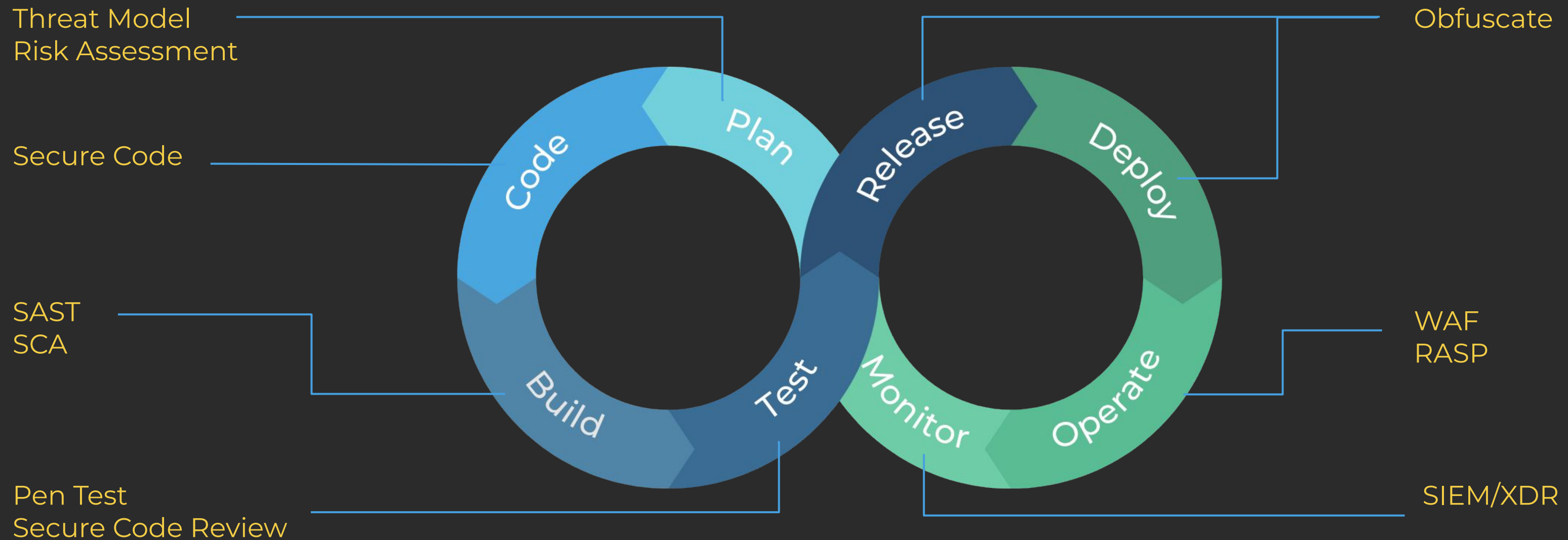
## Pen Testing





# The Fundamentals of Mobile App Security

## DevSecOps



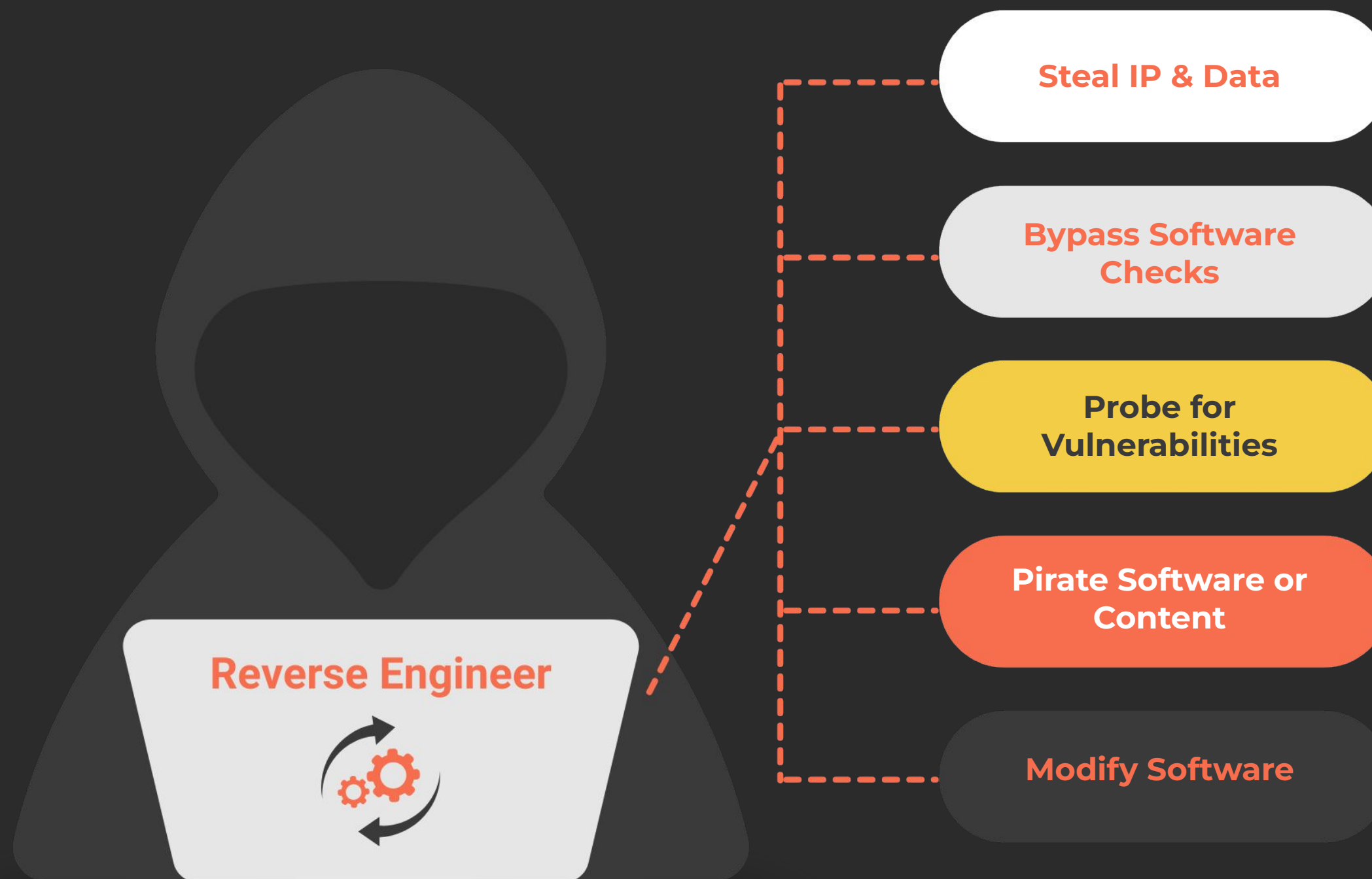


# Understanding Reverse Engineering of Android Apps





# Understanding Reverse Engineering of Android Apps





# Reverse Engineering

Demo





# Securing Android Apps against Reverse Engineering





# Securing Android Apps

## Best Practices

- ✓ Use **NDK** (C/C++) to write code
- ✓ Transfer **critical** algorithms to server
- ✗ **Don't** hardcode passwords
- ✗ **Don't** hardcode API keys
- ✓ Perform third party **API calls** on server
- ✓ Use Obfuscation and RASP







# Securing Android Apps

Demo





# Summary



# Summary



Fundamentals of Mobile  
App Security



Reverse  
Engineering



Securing against  
Reverse  
Engineering





# Thank You!

For more information, visit  
[free-trial.preemptive.com/dasho](https://free-trial.preemptive.com/dasho)



**John Brawner**

 @PreEmptive  
 in/john-brawner

