

ORIGIN AUTHENTICATION ON QR CODES

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AGENDA

- QR Code
 - Structure
 - Usages
- Problem
- Solution
 - Key Generation
 - Encoding
 - Decoding
- Conclusion
- Q&A

QR CODE (QUICK RESPONSE CODE)

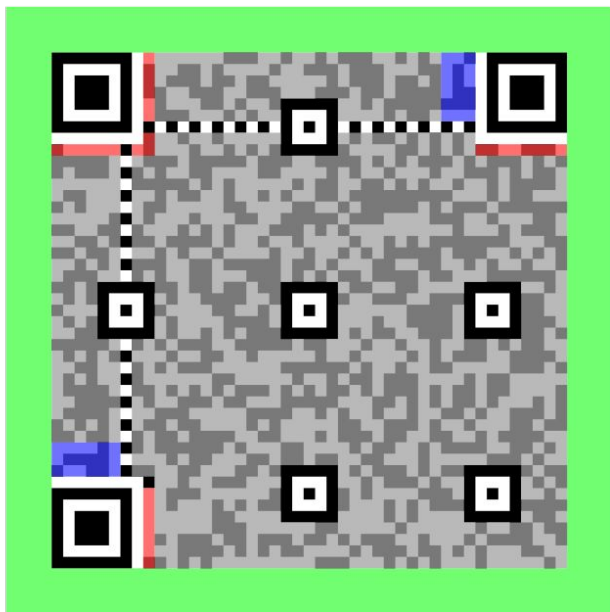
- “Hello, World!” QR Code:





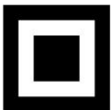





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STRUCTURE



-  1. Version information
-  2. Format information
-  3. Data and error correction keys
-  4. Required patterns
 -  4.1. Position
 -  4.2. Alignment
 -  4.3. Timing
-  5. Quiet zone

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USAGES

- Website login



WhatsApp Web

Scan code with your phone to log in

☒ Keep me signed in

To reduce data usage, connect your phone to Wi-Fi



Open WhatsApp — Menu — WhatsApp Web



Open WhatsApp — Menu — WhatsApp Web



Open WhatsApp — Chats — Menu key —
WhatsApp Web



Open WhatsApp — Swipe down from top of
screen — WhatsApp Web

Requires the latest version of WhatsApp

USAGES

- Website login
- URLS



USAGES

- Website login
- URLS
- Payment



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PROBLEM

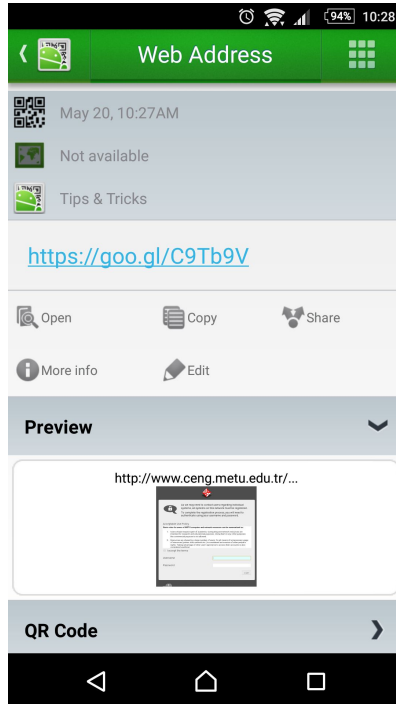
ARE YOU READY
TO BE THE ONE
WHO
WINS ?

Wireless Systems, Networks and Cyber Security Lab

Wins lab is hiring. Get more
information on:

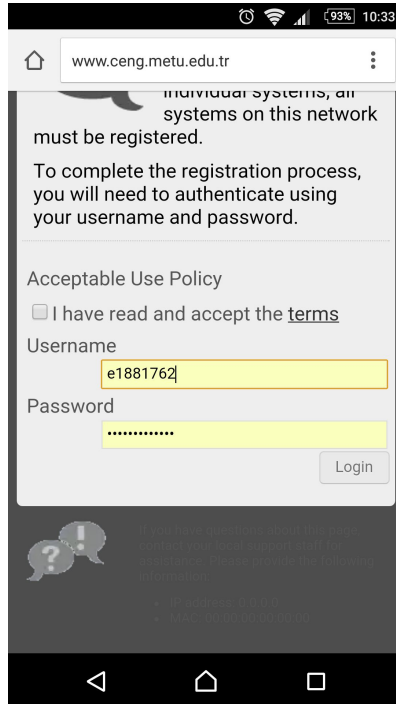


PROBLEM



PROBLEM

- <https://goo.gl/C9Tb9V>



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SOLUTION

Data Origin Authentication on QR Codes.

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KEY GENERATION



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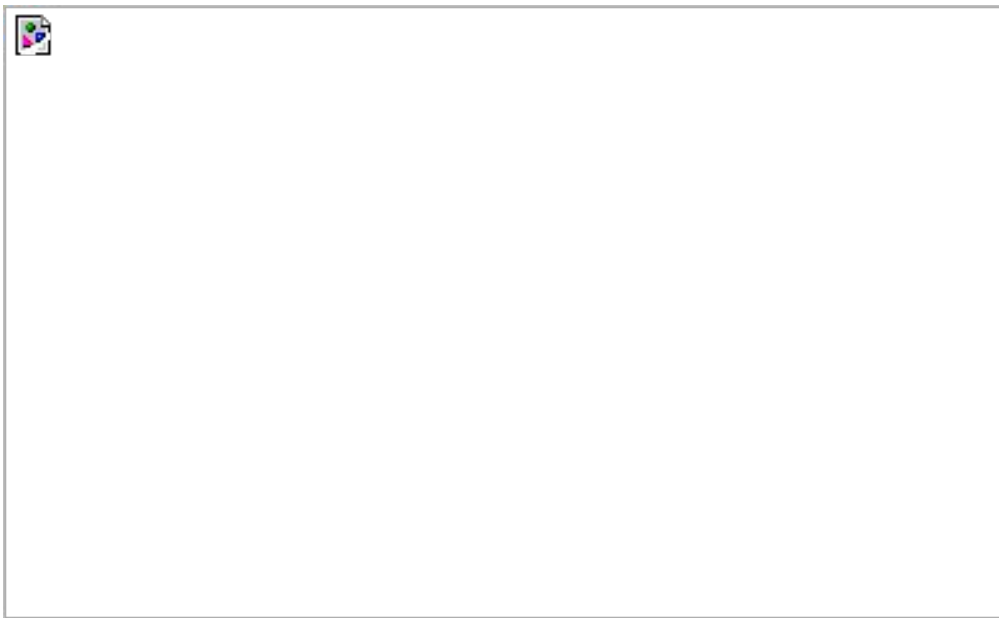
ENCODING



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DECODING



CONCLUSION

- QR Code can be used to do evil
- You cannot really be sure if a QR Code is really generated by Google
- Origin Authentication can be used to validate QR Code.
 - Downside: Actual message length will be smaller
 - Downside: New apps will be needed

Q&A

