



# QR Codes

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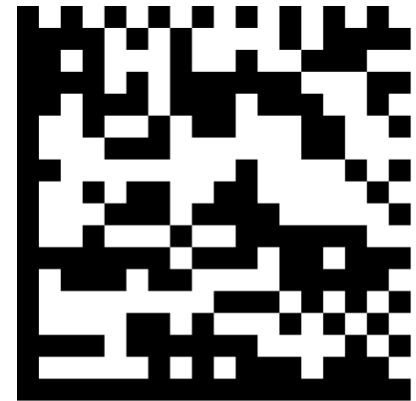
VP Tech Club PC Meeting

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# QR Codes

- Quick **R**esponse code
- Developed by Denso Wave 1994
  - Subsidiary of Toyota Motor Corporation
  - Used to track automotive parts during assembly
- Type of dot matrix code
  - Two dimensional barcode
- Machine readable optical label



- Contains information about the item it is attached to
- Data for a locator, identifier or tracker pointing to a website or application
- Became popular
  - Greater storage capacity compared to UPC barcodes
- Allowed for
  - product tracking
  - item identification
  - Time tracking
  - Document management
  - General market

- Consists of black squares arranged in a square grid
  - White background with trackers (points of interest)
- Can be read by imaging devices
  - Cameras
  - Barcode scanners

# Why are they different?

- Standard barcodes only read in one direction
  - Limited information
  - Alphanumeric
- QR code can include
  - website URLs
  - phone numbers
  - Email addresses
  - 4,000 characters of text (ie resume)

# Useful for:

- Link directly to download apps
- Authenticate online accounts
- Verify login details
- Access WiFi by storing encryption details
- Send and receive payment info
- UK company called QR Memories creates codes to be used on gravestones
- QR code is publicly available
- Anyone can make and use QR codes

# QR creating/using

- May be built in to smartphones, tablets
  - Camera recognition
- Use camera to point at QR code
  - Data displayed on the screen
  - Contact details may be instantly downloaded

# Using a QR code

- Open the QR reader application or the camera on your smartphone.
- Point it at the QR code – you should be able to point your camera from any angle and still receive the necessary information.
- The data will be instantly shown on screen – for instance, if the QR code contains contact details, your phone should instantly download these.



Scan the code!



# Are QR codes safe?

- Could be used for malicious intent
- Humans can't read them, easier for attackers to alter QR codes
  - Used to add contacts or compose emails
- Mobile devices may be less secure
- QR generating software doesn't collect personally identifiable info
- Data collected may include
  - Location
  - Number of times code has been scanned
  - Time of scan
  - Operating system used (iPhone or Android)
- QR Code itself cannot be hacked
  - Security risk associated with derived from destination of QR codes not the QR code itself
- Hackers create malicious code to send users to fake websites

# Being safe with QR codes

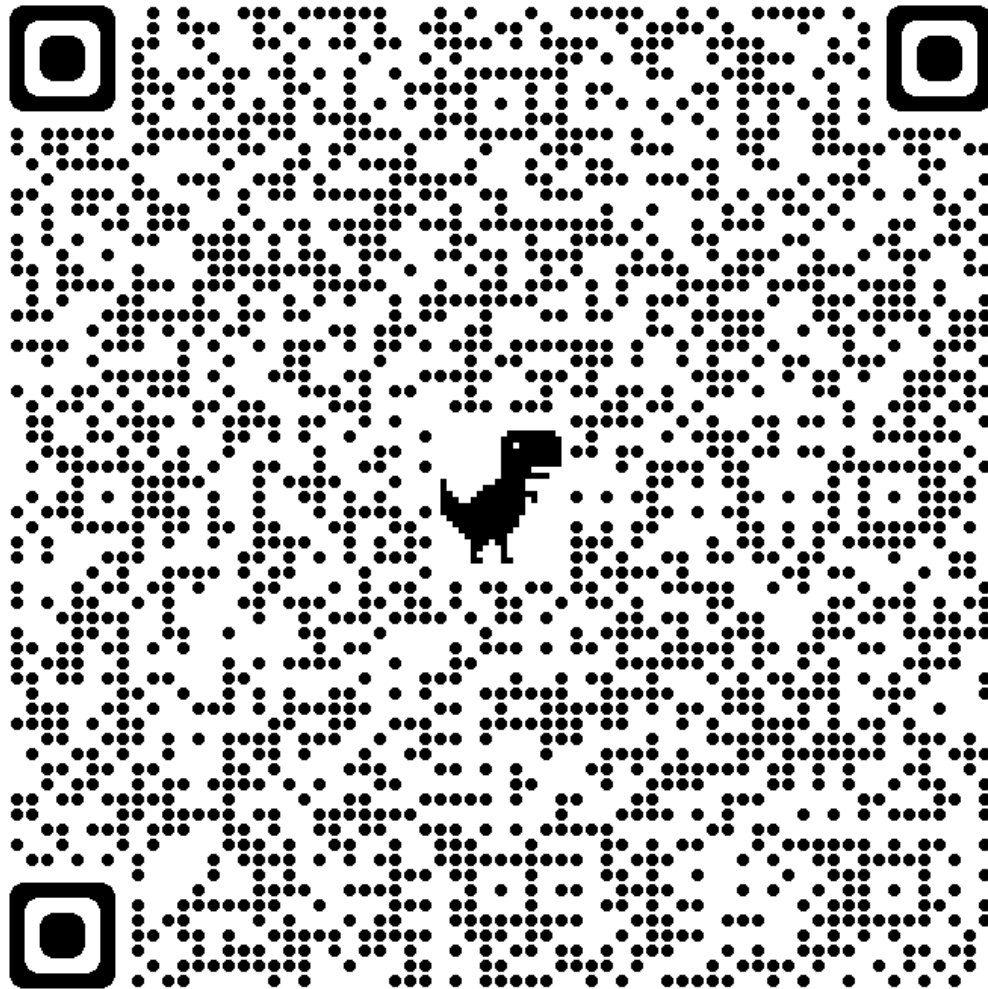
- ONLY scan QR codes from a trusted source/sender
- Learn MORE here:



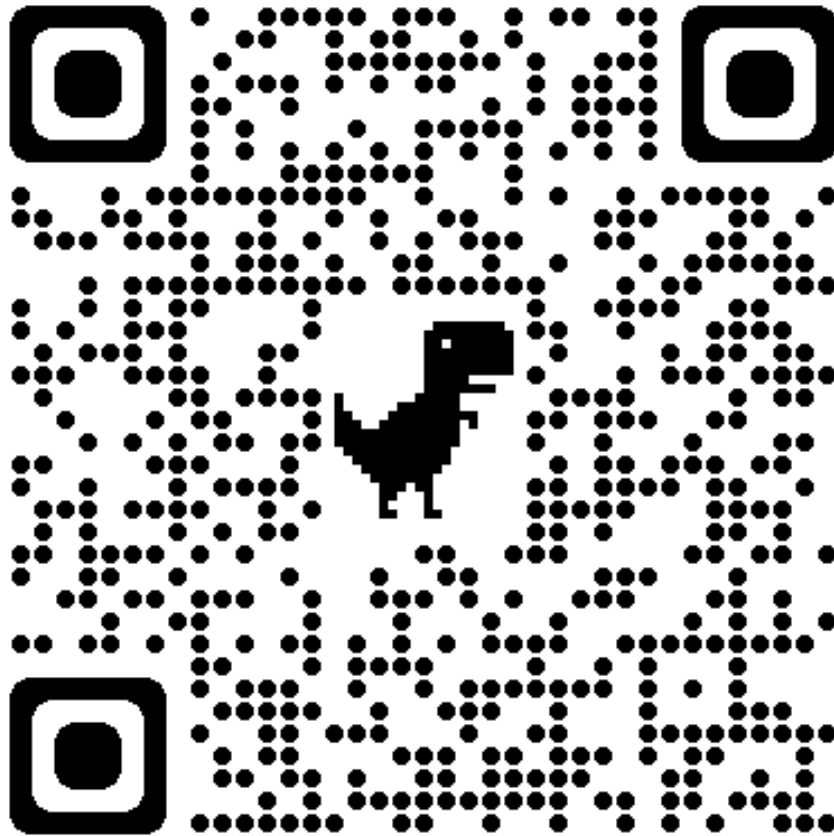
# Creating QR codes

- On a PC
  - MS Office products (2013 and newer)
  - LibreOffice Writer
    - Insert => Object
  - Microsoft Edge
  - Chrome

# Windows Chrome



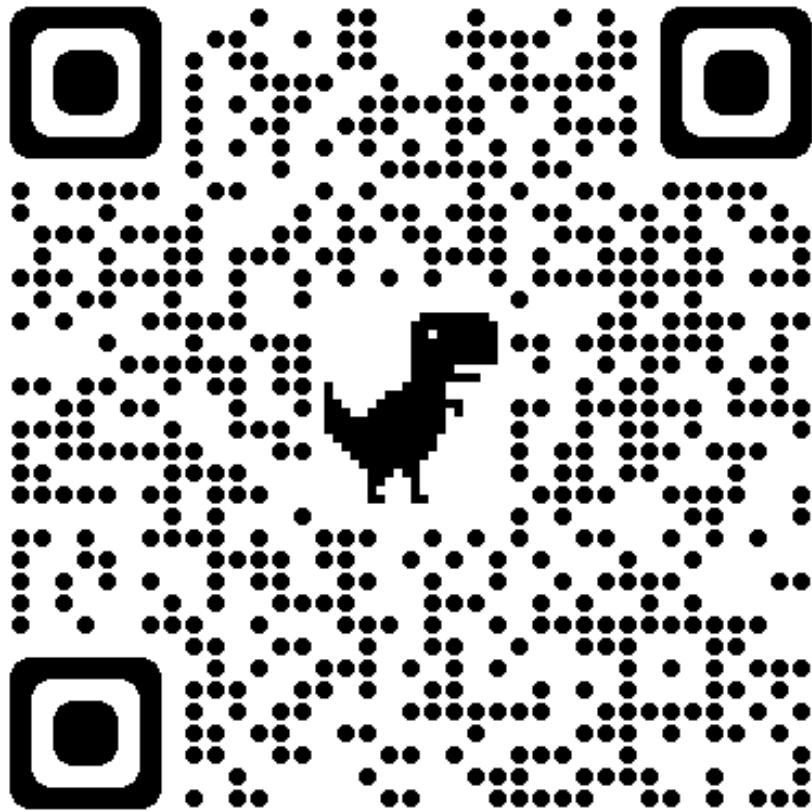
iPhone



iPad

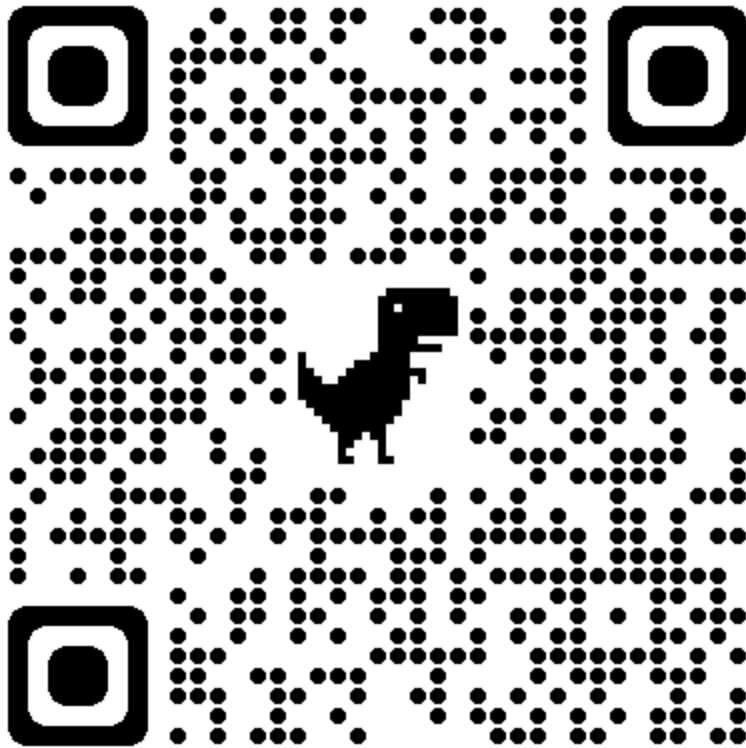


# Android





# QR codes from Contact Info – Apple store



# QR Code Android contacts



Thanks for coming!



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