How to Fake a Badge like a Pro: 11 Tips to Counterfeiting Event Credentials

Russell Phillips, SXSW

Who am I?

Russell Phillips

SXSW - Premiere Cultural Festival

20+ Years in Information Security & Event Access Control

Frontline of anti-counterfeiting & anti-fraud at the world’s premiere cultural festival

Why this talk?

- Too much security by obscurity
- Too many bad counterfeits
- Concepts are broadly applicable to information security systems

Why are Event Credentials an Interesting Challenge?

- Fast & Chaotic
- Secretive, security by obscurity
- Broadly applicable principles of security design/defeat
- High value & high challenge

Credential Anti-counterfeiting Tech

- Brief overview
- See talk notes for further info

Material

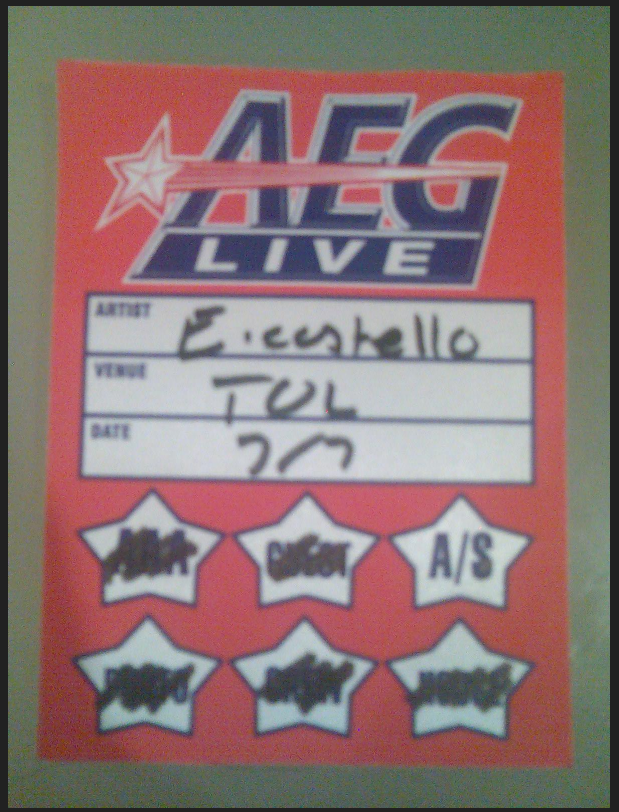


Credit: goblinbox_(queen_of_ad_hoc_bento) [CC BY 2.0.]

Visual Elements

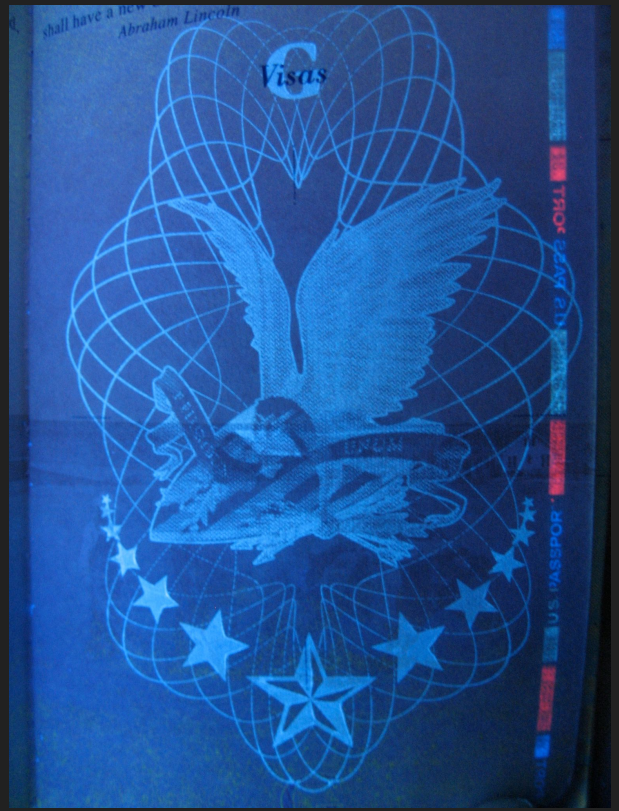


Credit: Kmeron [CC BY-NC-ND 2.0]

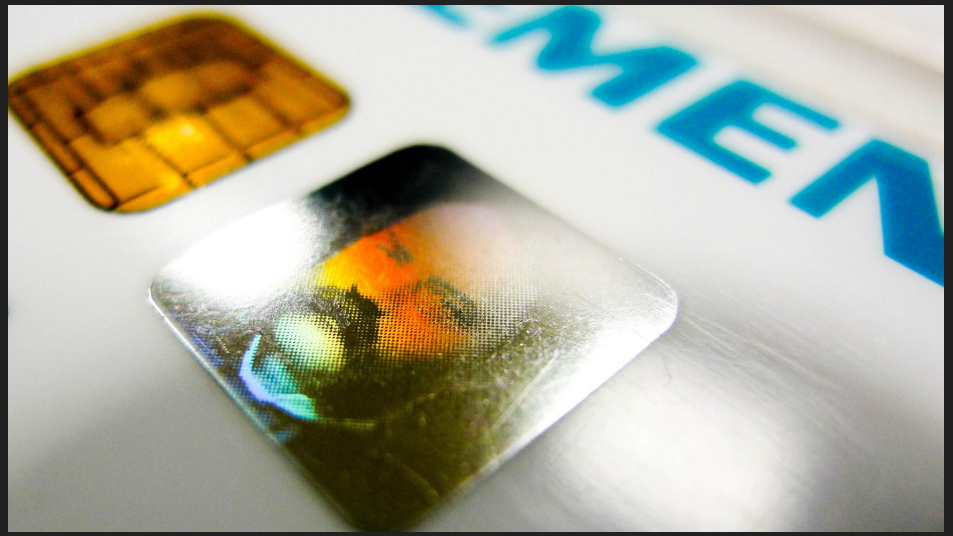


Credit: Mark Hillary [CC BY 2.0]

Other Optical Elements



Credit: Daniel Clayton Greer [CC BY-NC-ND 2.0]



Credit: (T)imothep [CC BY-NC-ND 2.0]

Multi-element Composites



Credit: SqueakyMarmot [CC BY-SA 2.0]



Credit: cnadia [CC BY-NC-SA 2.0]

Referencial



Credit: Jerry "Woody"' [CC BY-SA 2.0]

Cryptography



Credit: Mayo Nissen [CC BY-NC-SA 2.0]



11 Tips for Counterfeiting Event Credentials

- What do you need to get into?
- Are there better ways in?
- How are credentials checked?
- Countersurveillance

Tip #1 - Look the Part

- Play dress up
- Bring props
- Match attitude & demeanor

Tip #2 - Retouch & Recreate

- Photocopies stand out
- Matched level of detail is better than element accuracy
- Clear & clean prints

Tip #3 - Touch Test

- Fingers are nearly as important as eyes
- Determine when credentials might be handled and how

Tip #4 - Stay in Your Lane

- You dressed for a part, don’t act out of it.
- Becoming someone’s problem is the quick way to getting in worse trouble.

Tip #5 - Accessorize!

- Ensure you have everything associated with a valid credential
- Inventory items that accompany properly issued credentials
- Receipts, stickers, etc

Tip #6 - Colors Matter

- Color errors stand out more than detail mistakes
- Use inconspicuous items like clothing or pamphlets as color references in photos

Tip #7 - Consider Material (Laminates aren’t pouches)

- Pouches versus laminates
- Thermal paper versus printer paper
- Staple, clasp, etc color

Tip #8 - Consider Process (Cutting isn’t tearing)

- Cut versus torn
- Stamped versus printed
- Surface printed versus dyed cloth
- Relief versus intaglio

Tip #9 - Match photo quality

- Is there a consistent background?
- Photos often printed separately
- Downgrade quality if needed

Tip #10 - Scope Serial Numbers

- Research required
- Depending on your plan, passing but invalid might be ok
- Sometimes invalid might be better than already used

Tip #11 - Age & Condition

- Day 1 versus Day 11
- Multi-event credentials
- Credentials issued ahead of the event

Case Studies

- 5 examples of credentials through history
- Review elements
- Call out some (but not all) of the tips that apply

Case Studies - Tips for all cases

#1 - Look the part

#3 - Touch test

#4 - Stay in your lane

#5 - accessorize!

Case #1 - WW2 Era US Navy ID Card

Tip #7 - Consider Material



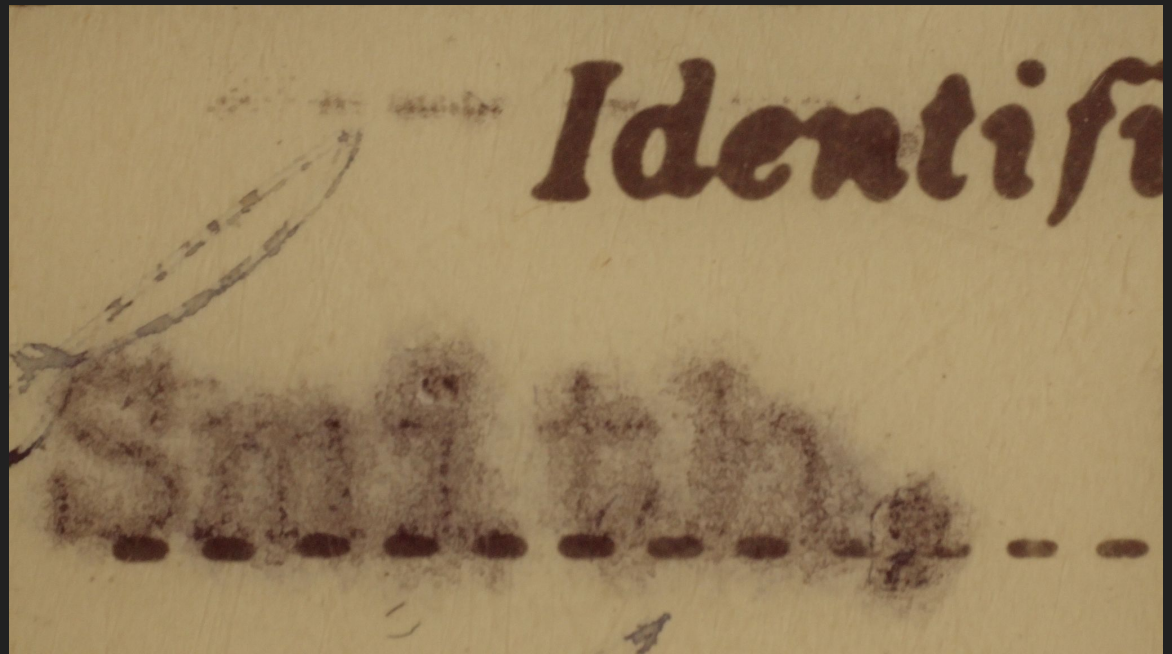
Case #1 - WW2 Era US Navy ID Card

Tip #9 - Match photo quality



Case #1 - WW2 Era US Navy ID Card

Tip #11 - Age & Condition



Case #1 - WW2 Era US Navy ID Card

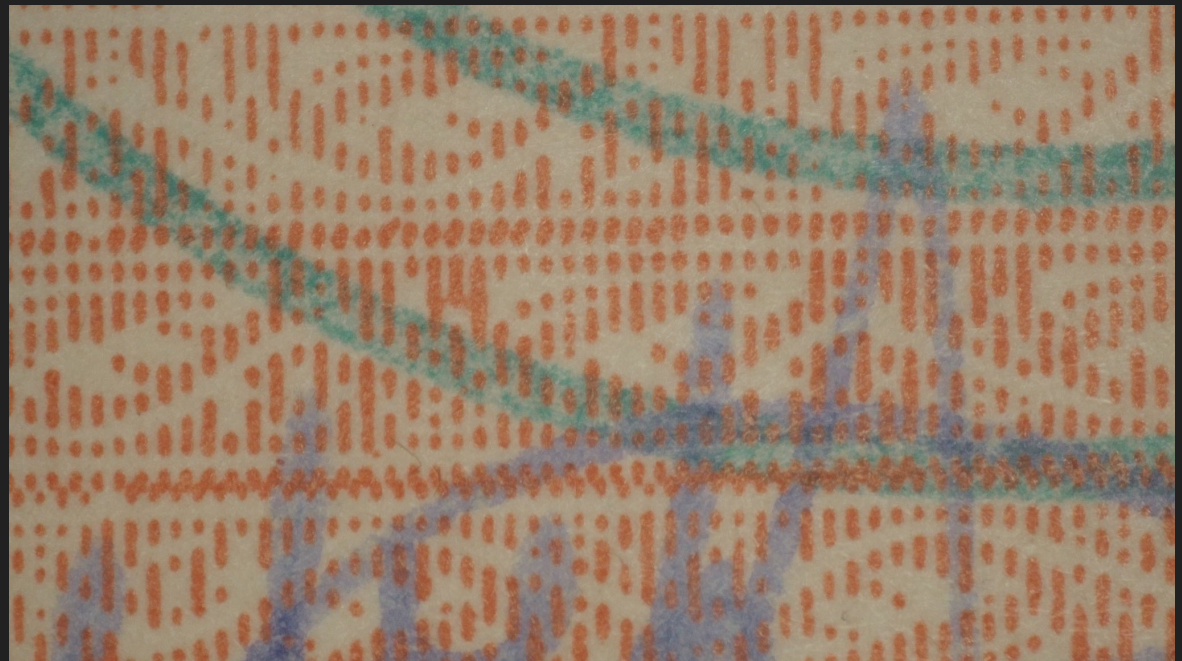
Tip #11 - Age & Condition

Tip #7 - Consider Material

Tip #9 - Match photo quality

Case #2 - 1966 NATO Delegation Pass

Tip #6 - Colors Matter



Case #2 - 1966 NATO Delegation Pass

Tip #11 - Age & Condition



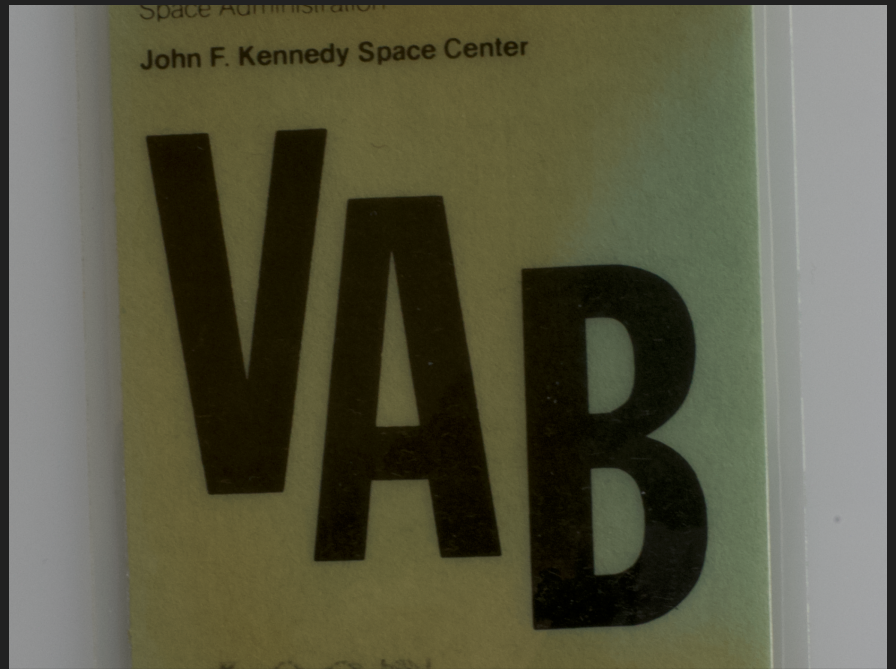
Case #2 - 1966 NATO Delegation Pass

Tip #6 - Colors Matter

Tip #11 - Age & Condition

Case #3 - NASA Vehicle Assembly Building Pass

Tip #6 - Colors Matter



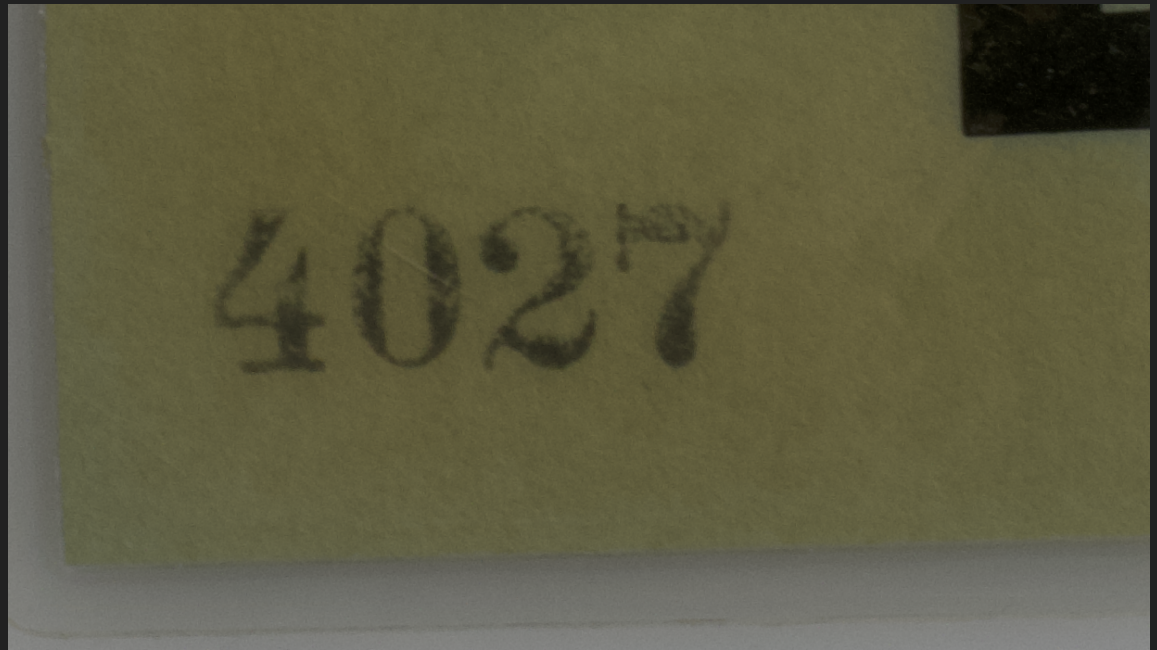
Case #3 - NASA Vehicle Assembly Building Pass

Tip #7 - Consider Material



Case #3 - NASA Vehicle Assembly Building Pass

Tip #10 - Scope Serial Numbers



Case #3 - NASA Vehicle Assembly Building Pass

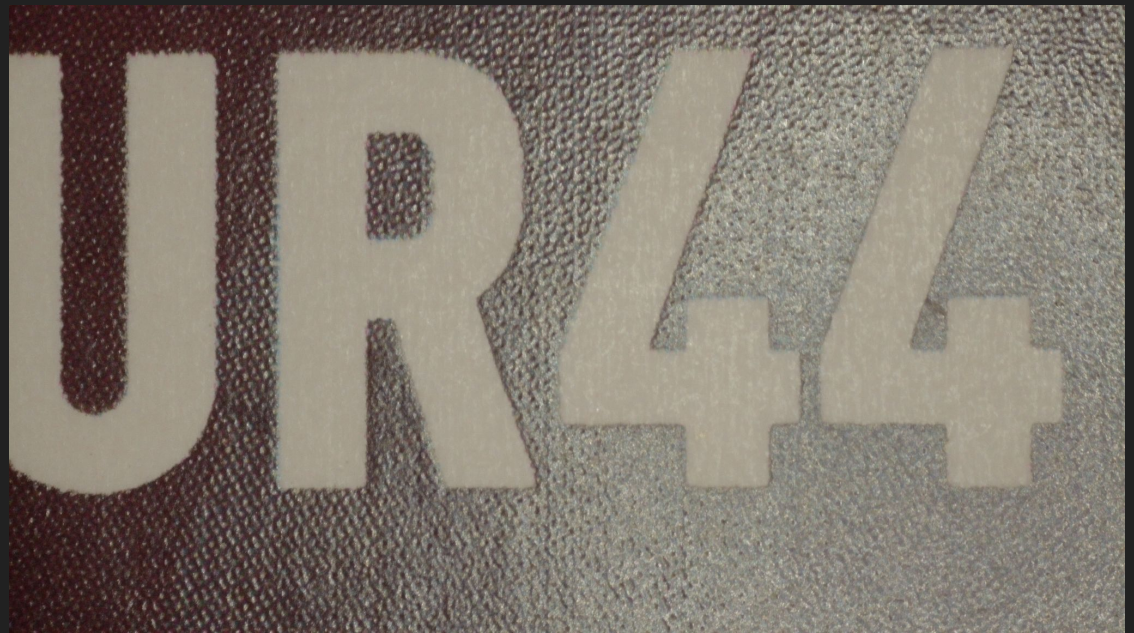
Tip #6 - Colors Matter

Tip #7 - Consider Material

Tip #10 - Scope Serial Numbers

Case #4 - 2021 NFL Game Ticket

Tip #2 - Retouch & Recreate



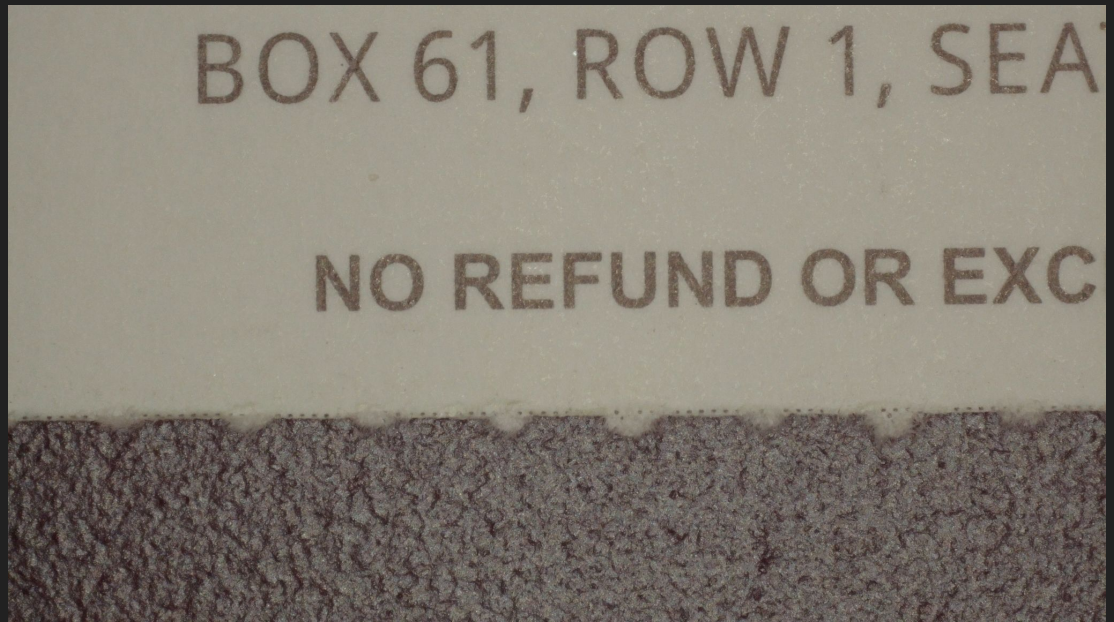
Case #4 - 2021 NFL Game Ticket

Tip #6 - Colors Matter



Case #4 - 2021 NFL Game Ticket

Tip #8 - Consider Process



Case #4 - 2021 NFL Game Ticket

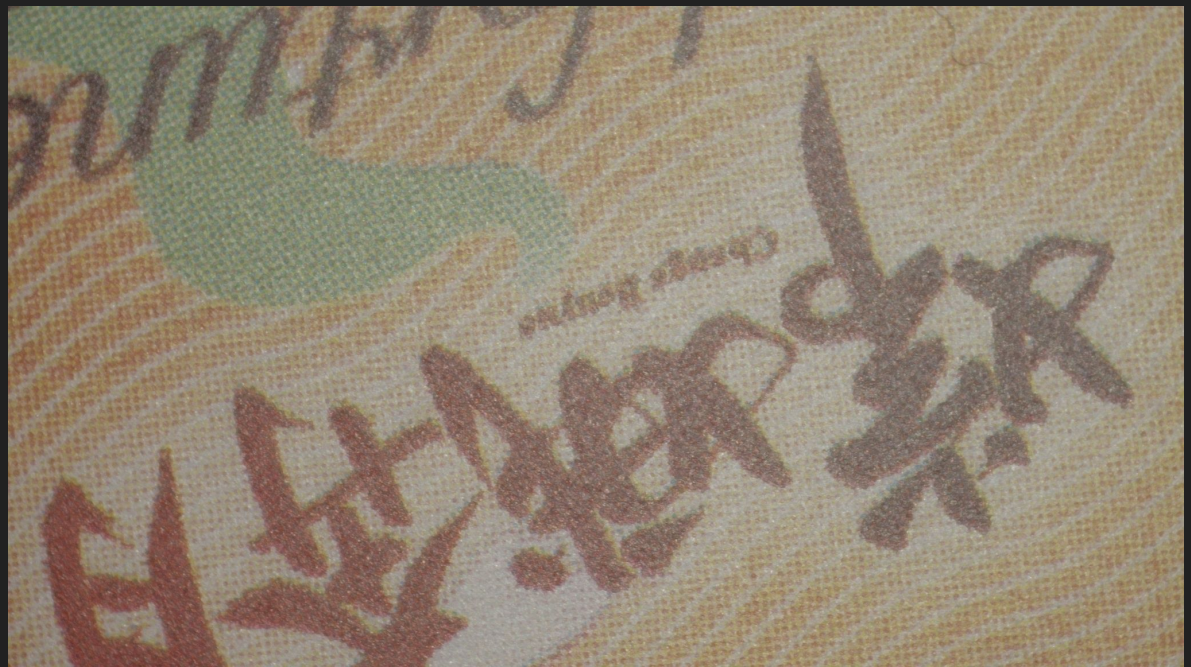
Tip #2 - Retouch & Recreate

Tip #6 - Colors Matter

Tip #8 - Consider Process

Case #5 - 2023 Mid-Autumn Festival Ticket

Tip #2 - Retouch & Recreate



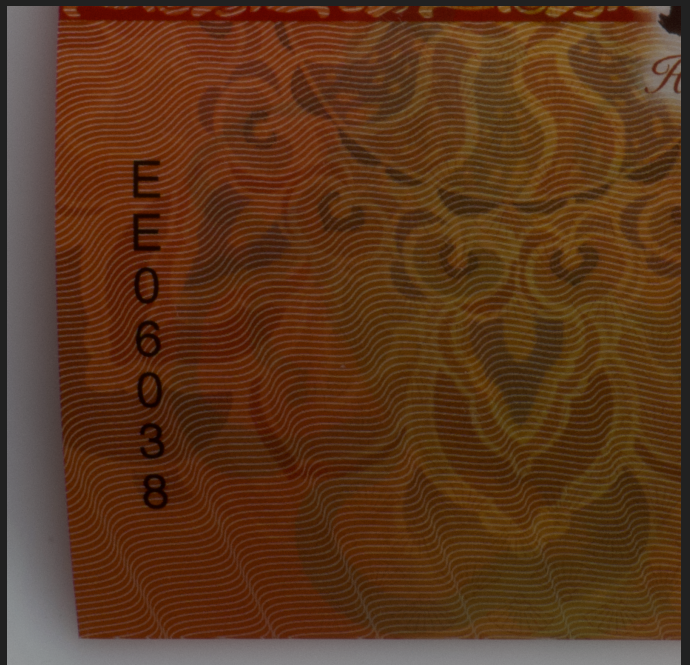
Case #5 - 2023 Mid-Autumn Festival Ticket

Tip #6 - Colors Matter



Case #5 - 2023 Mid-Autumn Festival Ticket

Tip #10 - Scope Serial Numbers



Case #5 - 2023 Mid-Autumn Festival Ticket

Tip #2 - Retouch & Recreate

Tip #6 - Colors Matter

Tip #10 - Scope Serial Numbers

Case Study Review

- Real events have more challenges
- Use multiple credentials as needed
- If they never check your credential, they can’t spot a fake

Final Thoughts

- Think about people: users & checkers
- Think about process: physical & rules
- Think about systems: human, physical, social (and digital)

Thanks!

Questions or comments? Send me an email: connect@russell.computer