EECE401 Senior Design I
Electrical and Computer Engineering
Howard University
Instructor: Dr.Charles Kim
www.mwftr.com/SD1415.html

Capital One Design Project

Jared Alexander – Senior Mobile Developer

@jaredalexander

Capital One

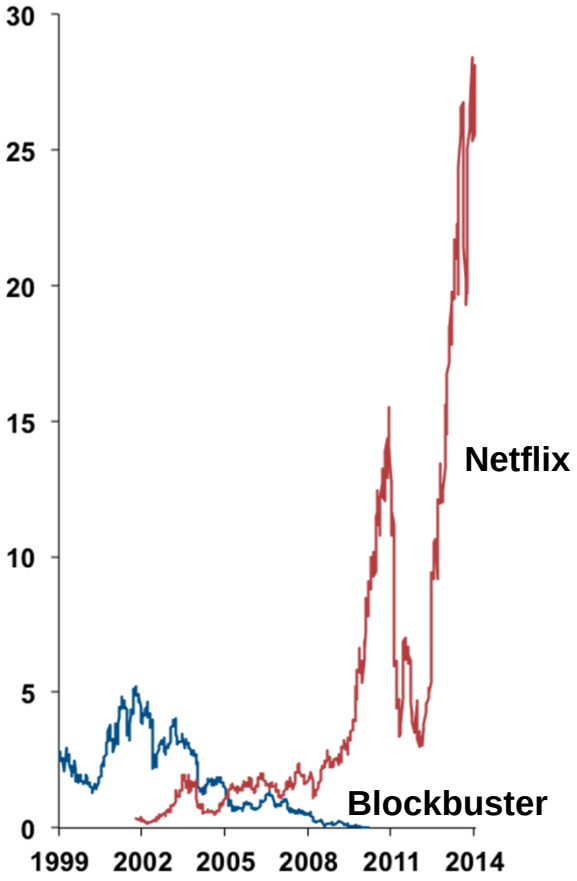
Leveraging technology to reinvent sleepy businesses can unlock value and be transformative

Books

Market Cap, $Billions

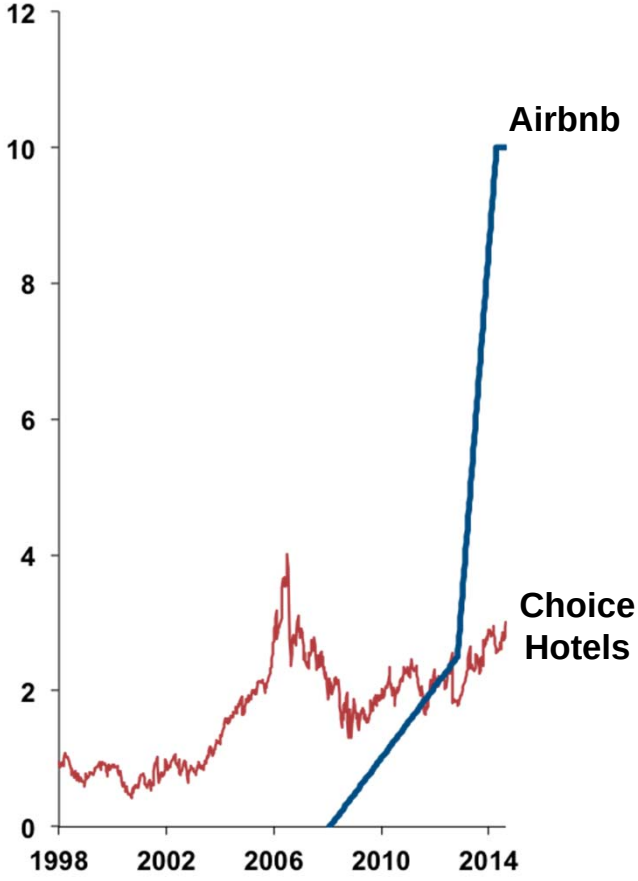
Home Movies

Market Cap, $Billions



Hotels & Lodging

Est Mkt Cap, $Billions



* Airbnb estimated from implied funding valuations.
Source:FactSet

At Capital One, we see banking ...MORE LIKE THIS

"I think Capital One is the Apple of banks."

- Steve Wozniak, Co-Founder of Apple, June 2014

A NEW WAY TO PAY
Capital One
Pay
9:41 AM
100%
Capital One
VENTURE
VISA
•••• 9010
Pay with Touch ID

Objective

Design and build a **mind-blowing** Android Wear watch app for Capital One customers

android wear

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What is Android Wear?

- Google's new platform for wearable technologies
- SDK for building Android apps that run on your wrist and interact with your phone

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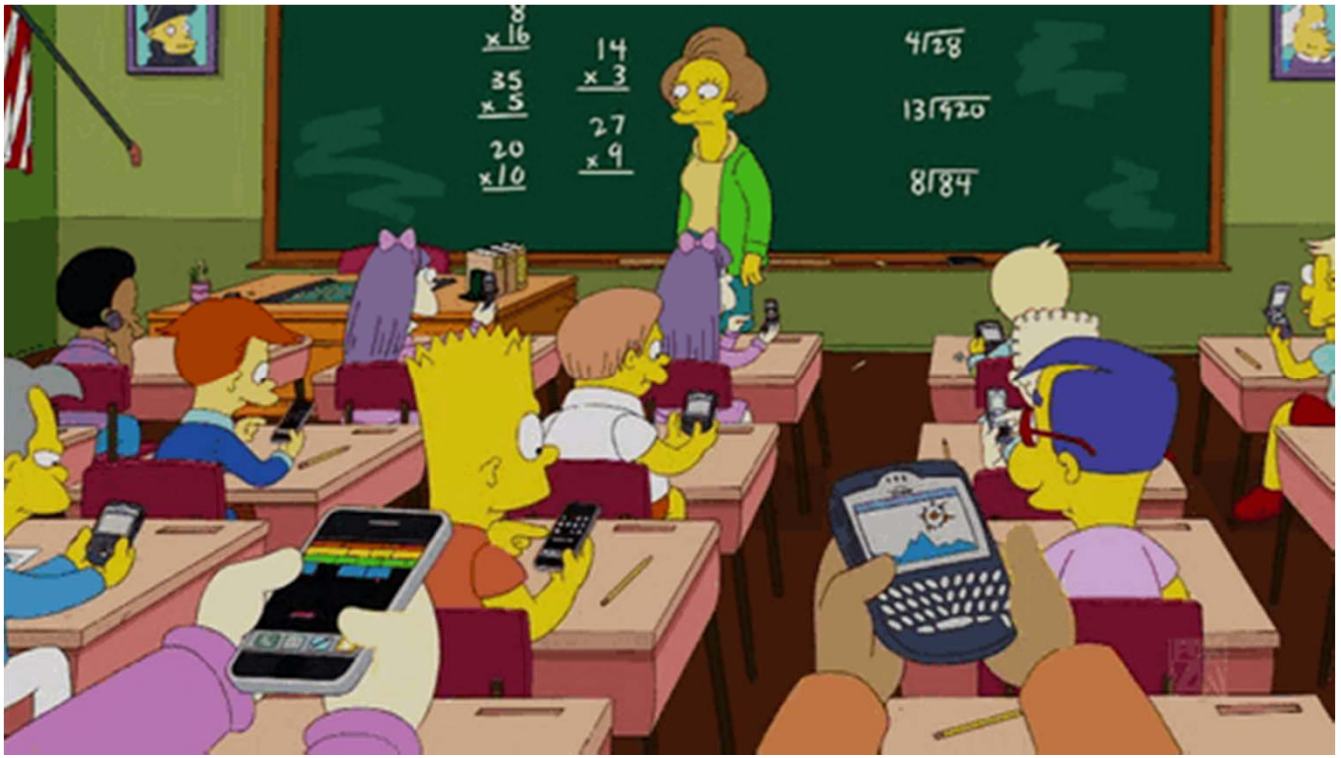
We check our Android phones 125x a day!

Assuming we sleep 8 hours a day, that's over 7x an hour!



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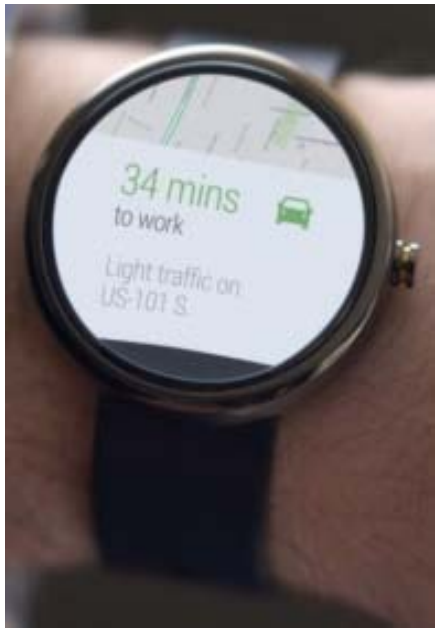
Why do I want a smart watch?

- notifications
  - and quick actions
- Google Now integration
- voice commands on your wrist
- track fitness
- reduce # times we pull our phone out of our pocket
- pay your credit card bill ;)
- feel like Dick Tracy
- many reasons we haven't even imagined yet!



What watches are available?

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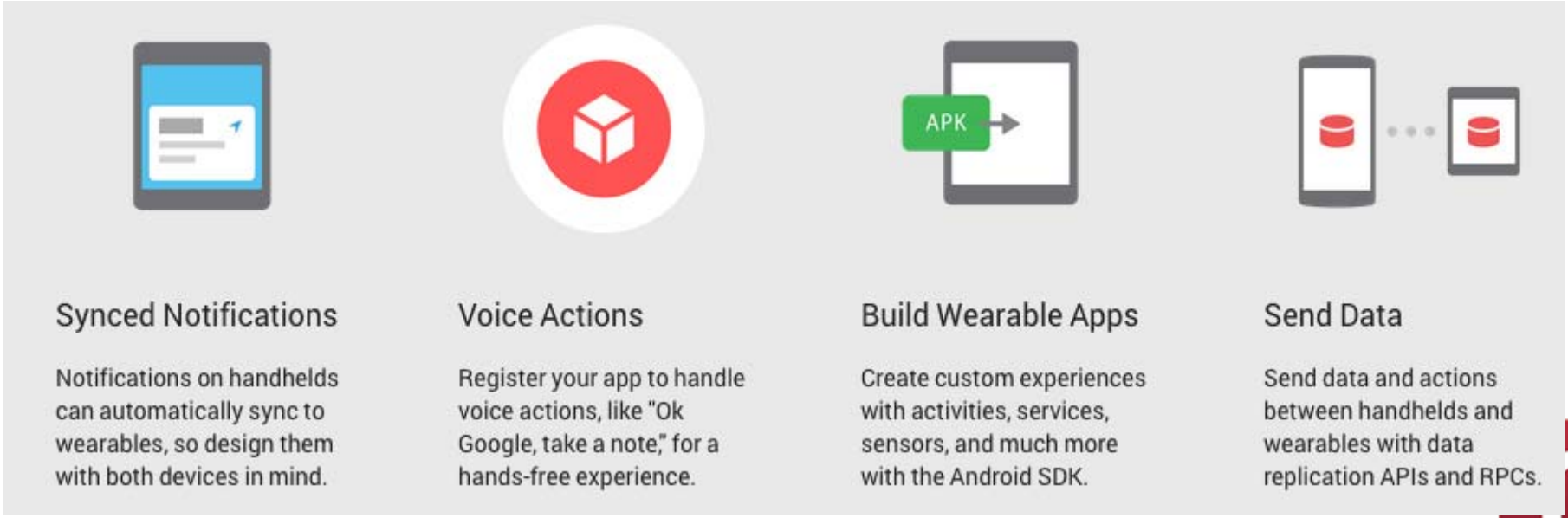
Android Wear Developer Basics

- Requires Android phone running 4.3+
- Users required to download Android Wear app from Google Play to pair and configure devices
- Android Wear APIs provided by Android Support Library and Google Play Services



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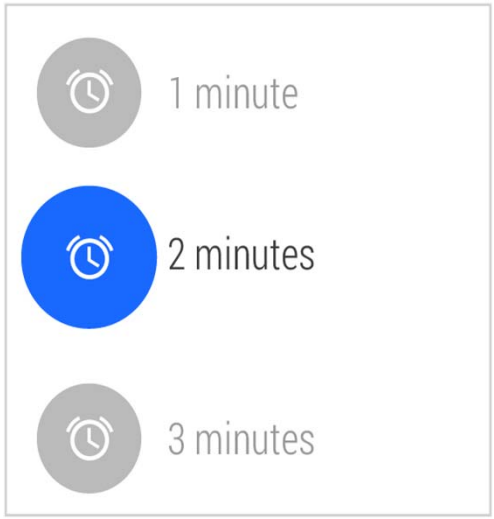
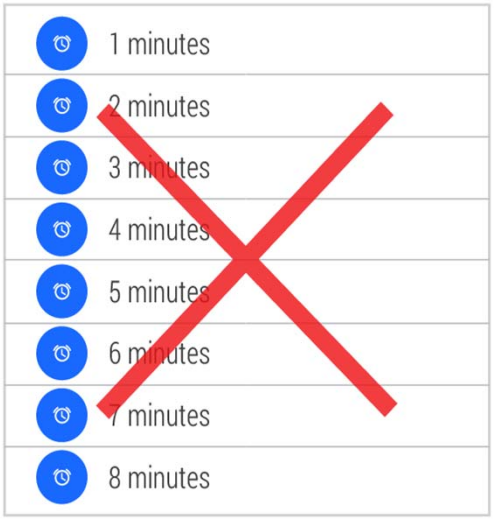
Android Wear Design

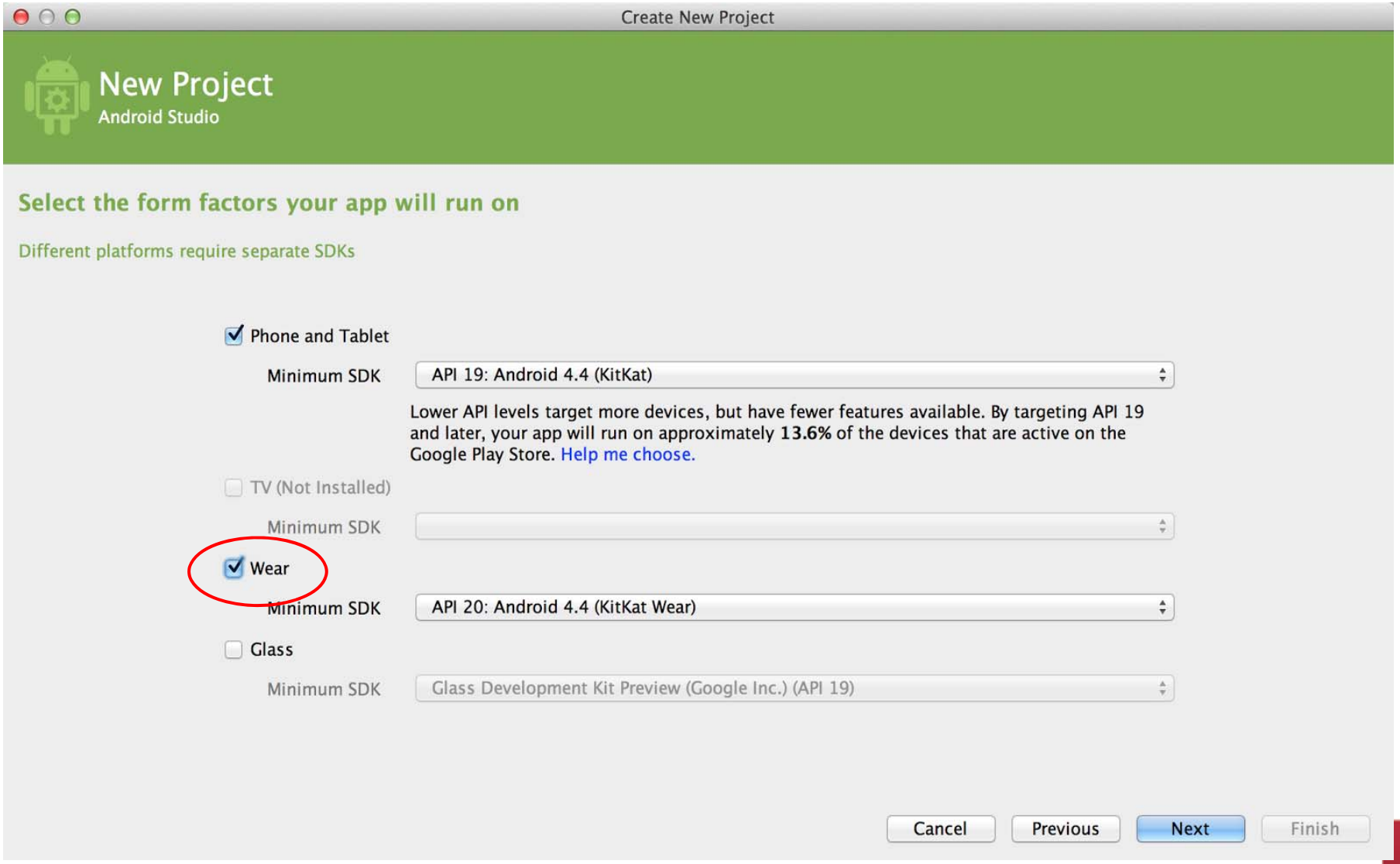
Great Android Wear experiences are:

- Launched automatically
- Glanceable
- Zero or low interaction





How do I get started?



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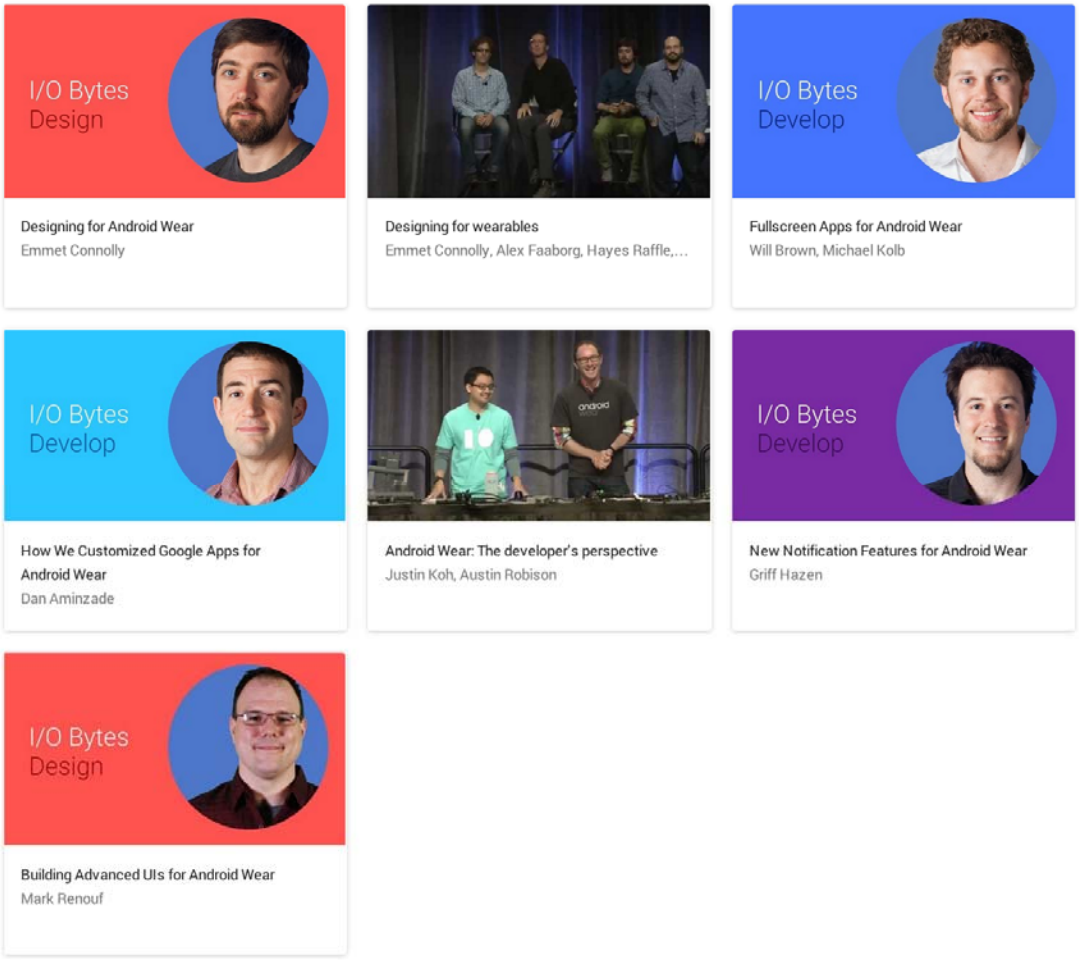
Learn more

- https://developer.android.com/training/building-wearables.html
- https://www.google.com/events/io/io14videos



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Learn more

- [Github Android Wear Projects]
- [https://github.com/jaredalexander/wearsmytrain]

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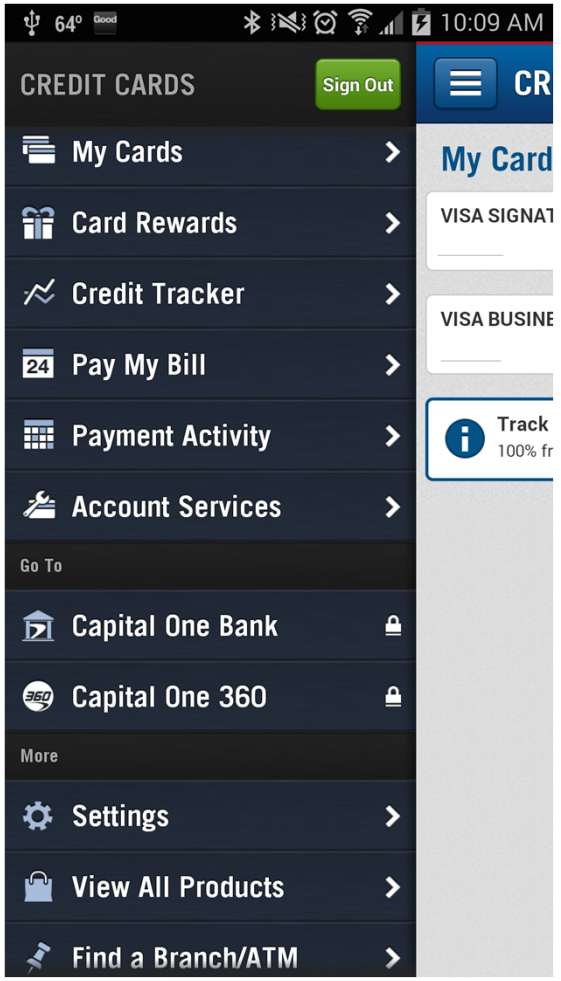
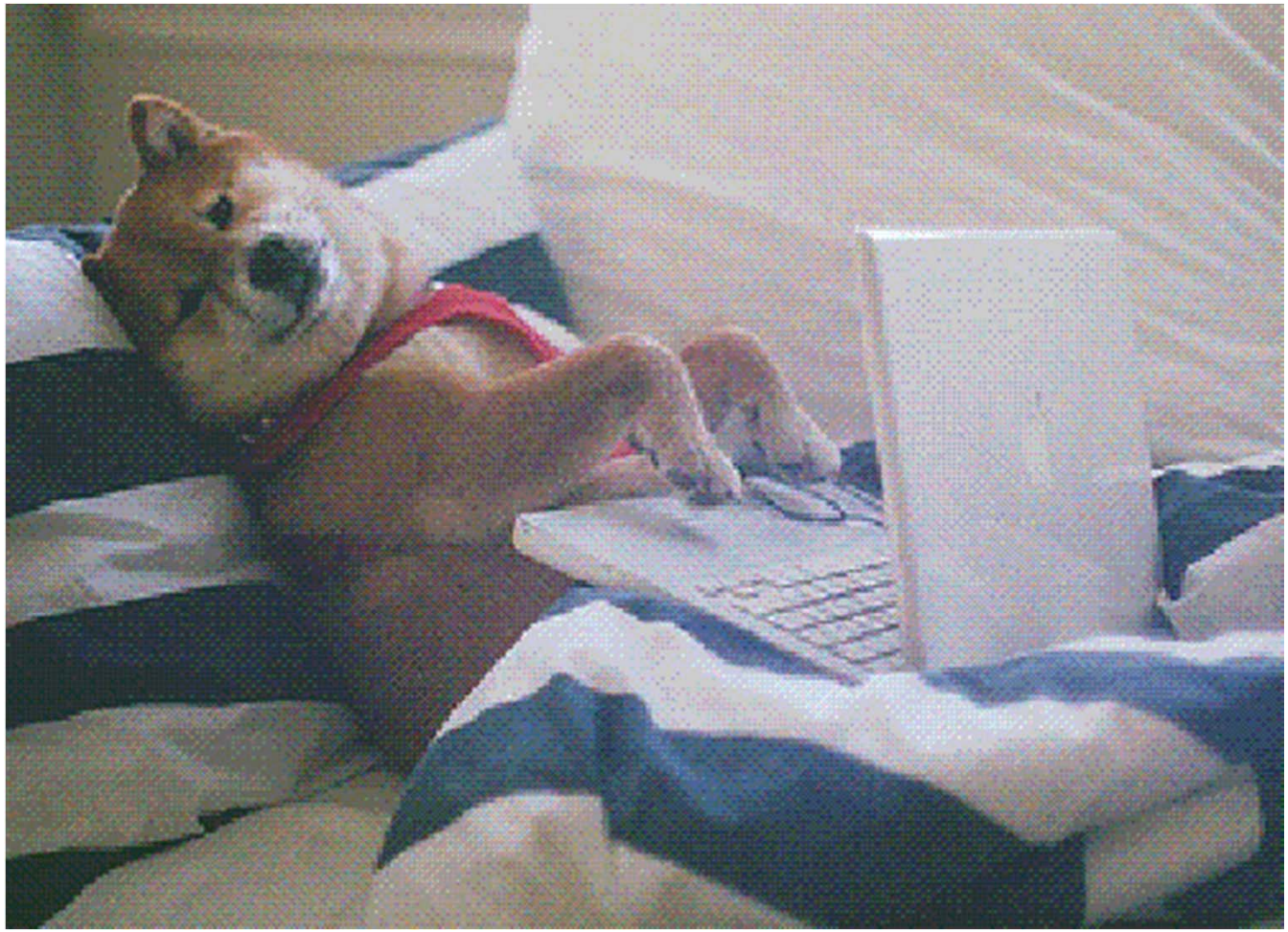
What banking functions might you want to do on a watch?

Potential features:

- Find nearest ATM
- My Bank Accounts
  - View Balances
- My Credit Cards
  - View Balances
    - With option to pay balance
  - Reward Balance ($)
    - With option to redeem for statement credit
- View my credit score
- Actionable Notifications
  - Credit Payment Due
    - Action: Pay
  - Fraud Alert – Verify transactions
    - Actions: Verify or Report Fraud



Before you start coding…



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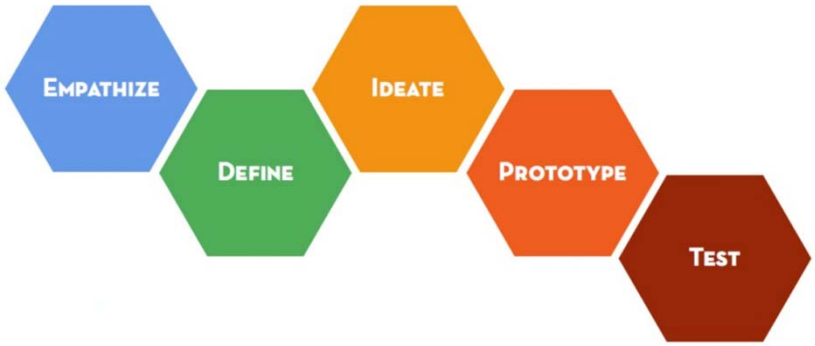
Use Design Thinking!

DESIGN THINKING
CAPITAL ONE

- Design Thinking is a **creative problem solving method**
- Used when our business and tech goals are clear, but the new products, services, and experiences we should offer to **meet human needs** are unclear



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Deliverables

- Backend web service that acts as mock data source
- Android app that serves as the “middle-man” between the web service and watch
- Android Wear companion app
- Report
  - Design thinking process you carried out
  - Technical documentation
  - Lessons learned

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Deliverables

android wear

Bluetooth

Internet

Web service / Database to provide mock data (e.g. account list, balances, etc..)

Android App acts as a middle-man, relaying data between web service and watch

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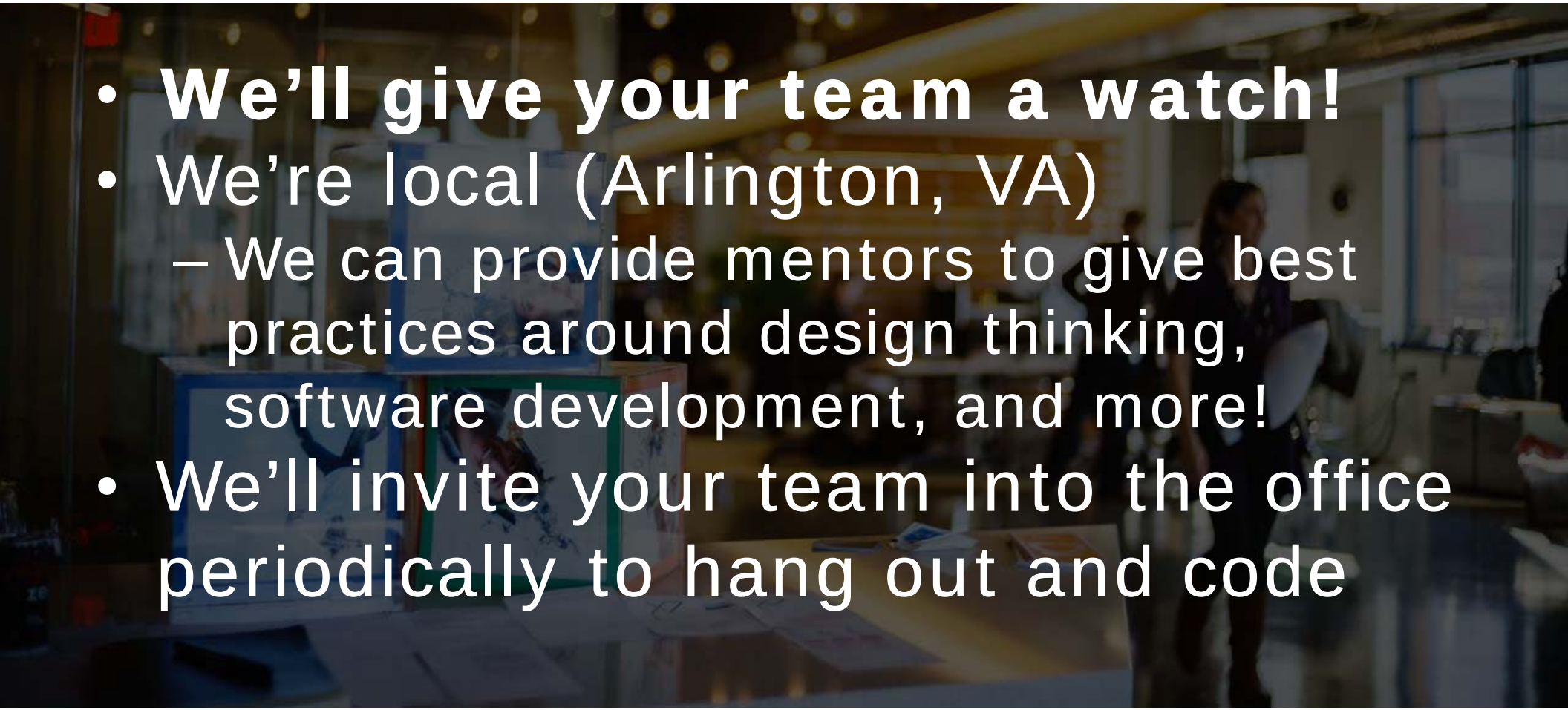
How will Capital One help?



- **We'll give your team a watch!**
- We're local (Arlington, VA)
  - We can provide mentors to give best practices around design thinking, software development, and more!
- We'll invite your team into the office periodically to hang out and code

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Questions?

Contact information:

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@jaredalexander

William Chichester
William.Chichester@capitalone.com

Important Events

- Submit resumes for our Technology Development Program & Internship Program on BisonCareerLink by October 8th
- We are hosting an info session with NSBE tonight!
  - 6:30 PM Reading Room (2nd Floor – Room 2019)
  - **FREE PIZZA**

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