Practical UI Guidelines for Tizen Wearable Apps (Gear 2)

Victor Dibia
City University of Hong Kong.

TIZEN™
DEVELOPER
SUMMIT
2014
SHANGHAI
TIZEN开发者峰会（上海）

What We’ll Talk About

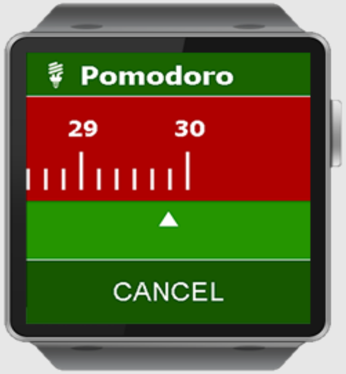
- Introduction – 3 aspects of design
- Designing around Fashion/Social Norms
- Designing around Sensing Capabilities
- Designing around Form/Function.
- Common Mistakes and Tips
- Useful Libraries
- Q/A!

About Me

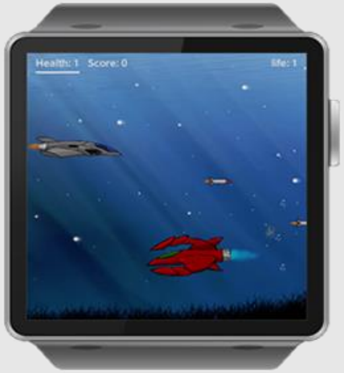
I enjoy building apps for mobile devices (Android, Blackberry, Windows Phone), and the Web (HTML, JS,PHP, JSP,ASP.Net) .

- Victor Dibia
  @vykthur, dibia.victor@my.cityu.edu.hk
- Researcher at City University
  of Hong Kong
- Lead Developer, Denvycom

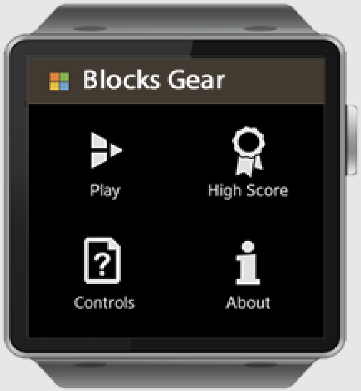
Some Apps I've Built



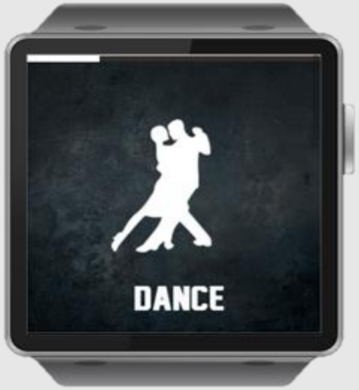
Foqus



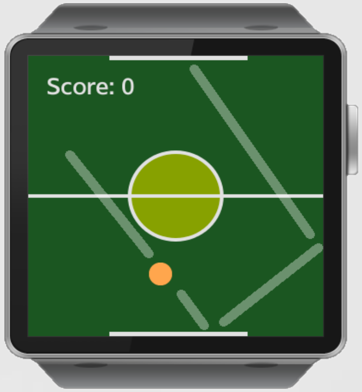
Gear Ship



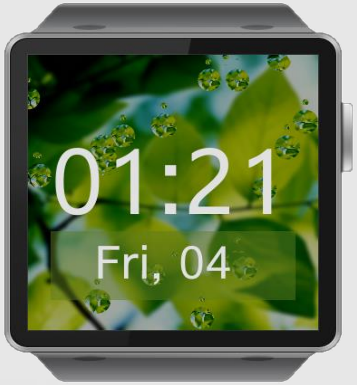
Blocks Gear



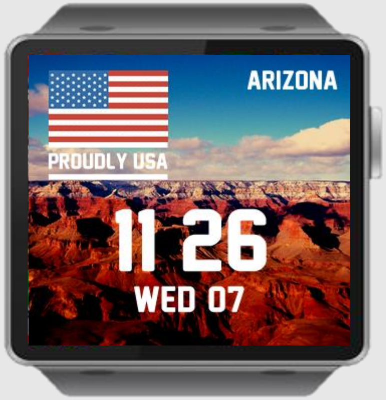
Dansa



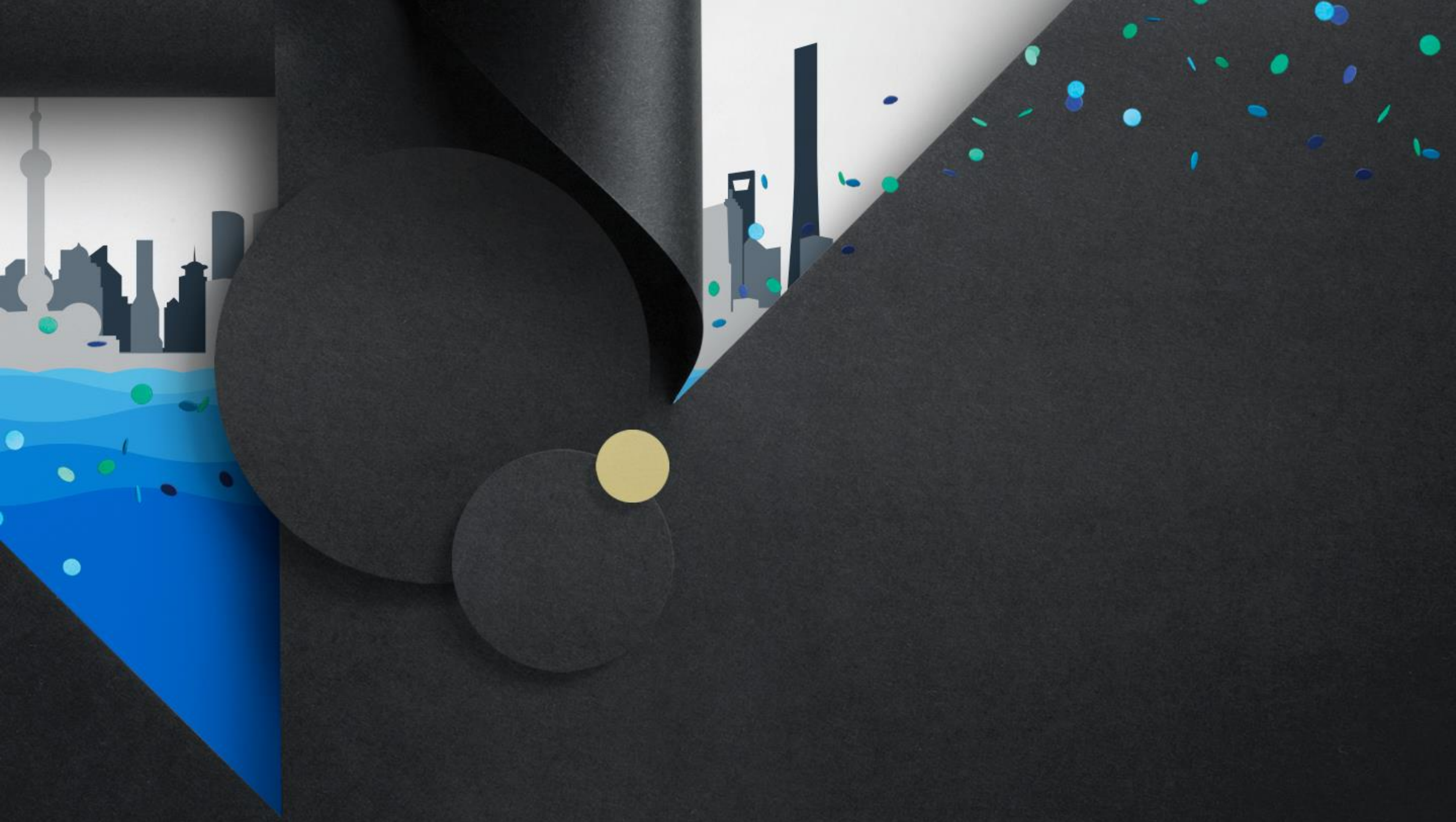
Gear Tennis



Raindrops

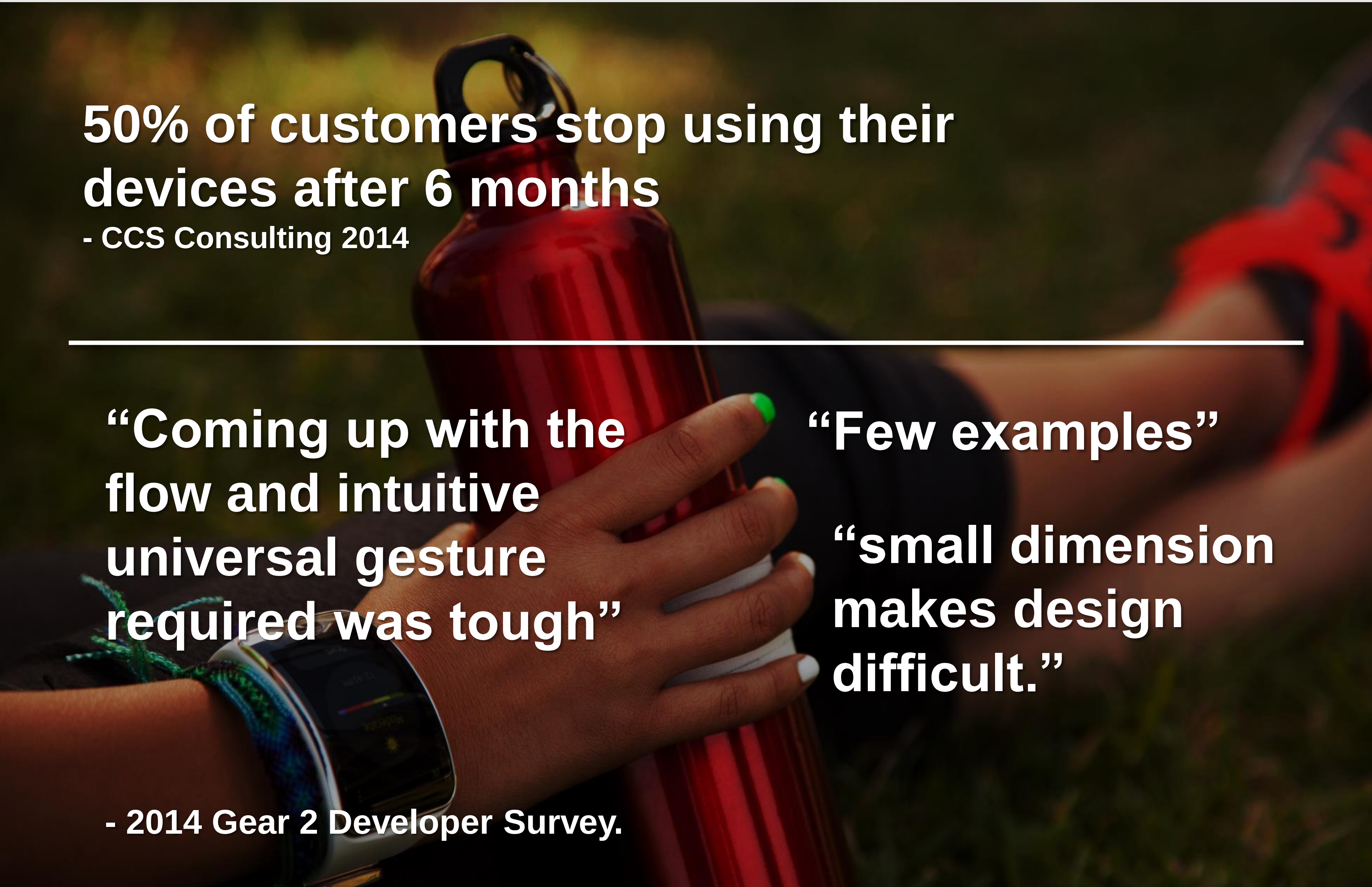


Proudly USA



Introduction

Why Design ?



50% of customers stop using their devices after 6 months

- CCS Consulting 2014

"Coming up with the flow and intuitive universal gesture required was tough"

"Few examples"

"small dimension makes design difficult."

- 2014 Gear 2 Developer Survey.

But there is hope …

We design to maximize the strengths and minimize the weaknesses of these devices.

Strengths

- Sensors
- Consistency
- Social Aspects

Weakness

- Interface (screensize)
- Power (battery, processing)
- Storage

3 Important Aspects.

- As a software developer, (Android Java, iOS Objective C, HTML, JavaScript, Php) , there are 3 important aspects of wearable app design. We can design around ..

Fashion

Sensors

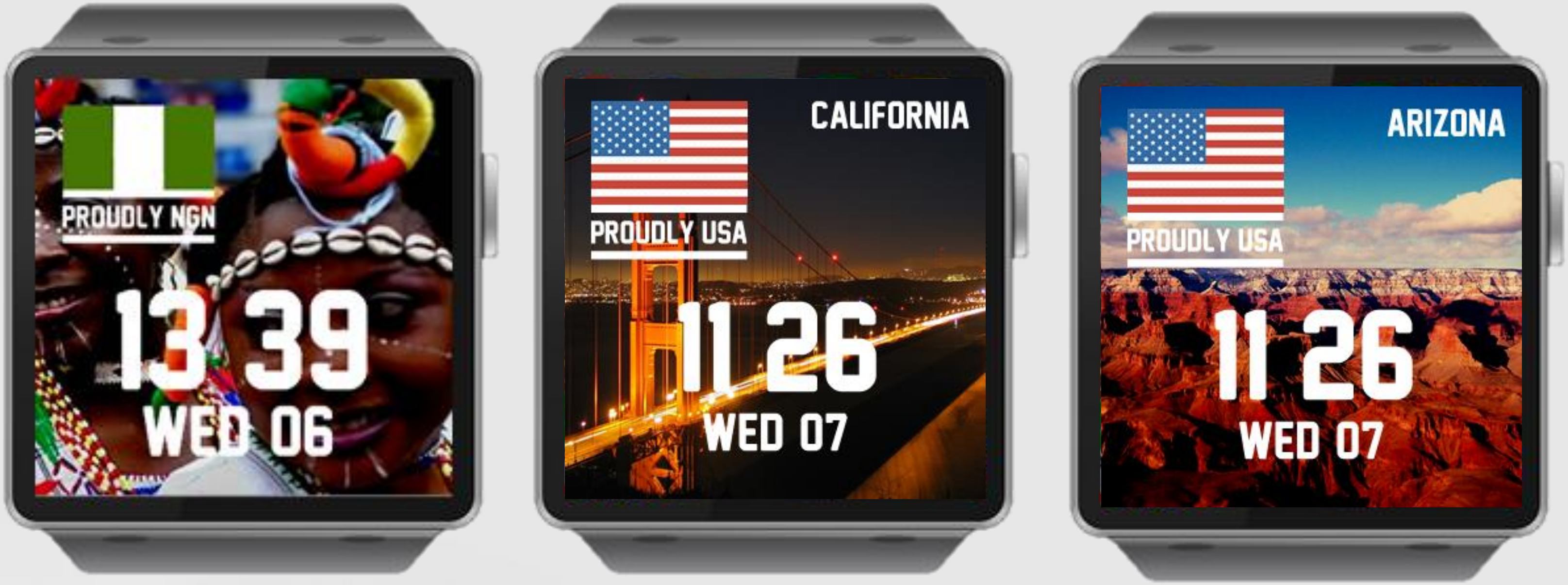
Function

icons : Kenneth Von Alt, Sherrinford ,Noun Project

Designing around Fashion/Social Norms

Social / Fashion Norms

- Smartwatches ARE a fashion accessory.
- Design watchfaces that are meaningful , expressive and elegant



Designing around Sensing Capabilities

Sensing Capabilities

Use multiple sensors for improved input.

- **Use Accelerometer Gestures**
  E.g close a notification, game control, (devicemotion api, direction api)
- **Use the new sensors – pressure, light, UV, GPS to estimate user state.**
- Eg. Instead of *asking* the user about calories, exercise reps, sun exposure, comfort etc, use sensors to *estimate*.
- **Voice and TTS**

Sensing Capabilities

Use multiple sensors for improved feedback.

- Vibrations are great for personalized feedback. Be creative. Use vibration duration to communicate with users even without glancing.

Eg. 3 vibrations can mean a meeting with the boss, or some app state has changed.

Meditate
Breathe
Breathe In
CANCEL
Meditate
Breathe
Breathe Out
CANCEL

Sensing Capabilities

Try out more advanced touch gestures ..

Tap, double tap, rotate, swipe (up, left , right, down), pan, pinch, zoom, to expand interaction model.

- **Use the common gestures first, go from the known to the unknown.**
- **Remember to teach the user** (add instructions)**.**

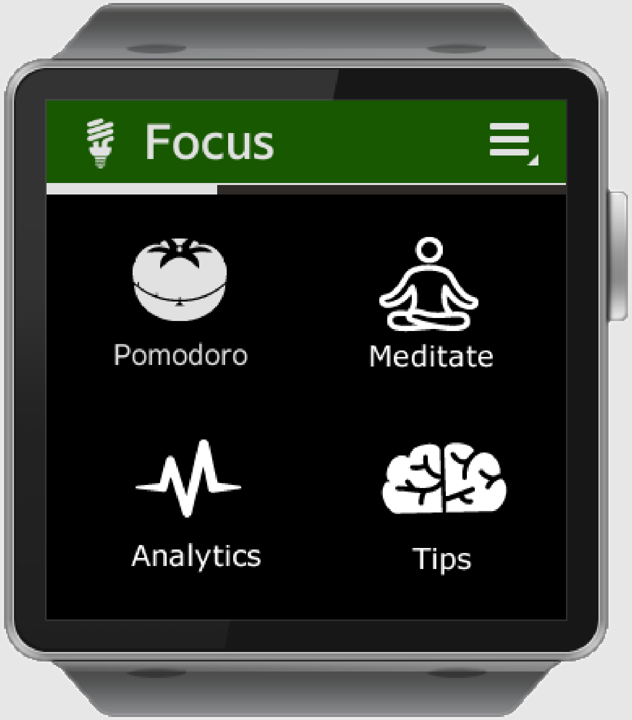
Designing around Form and Function

Form and Function

Be Legible and Clear

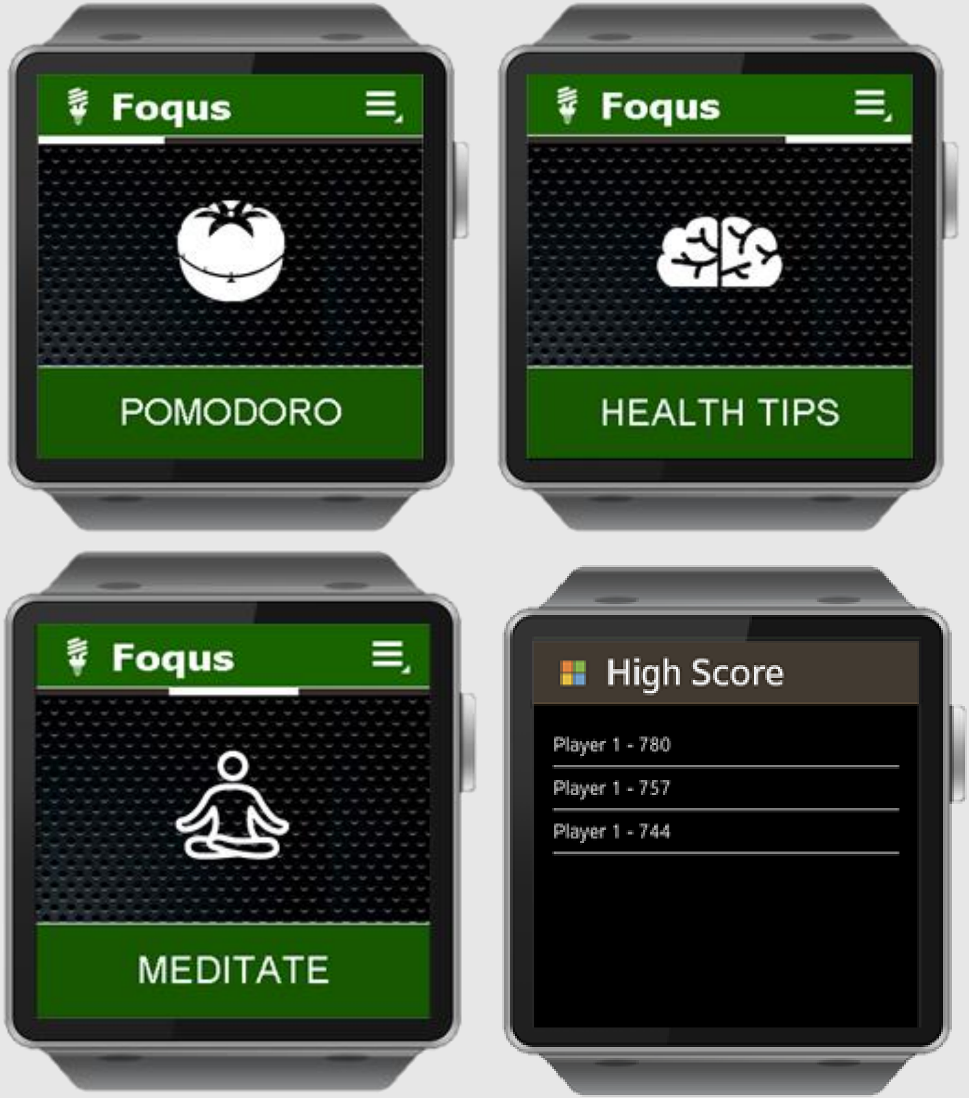
- **Legible text. 30px-35px font size.**
- **Single action per (small) screen . Aim for two buttons max per screen .**
  Beware of small text and buttons in games.
- **The Gear is meant to be glanceable .**
  Avoid use cases that require extended continuous use (E.g some games)
- **Optimize for Space**
  Remember to minify your files and remove unused scripts. Limited device storage.

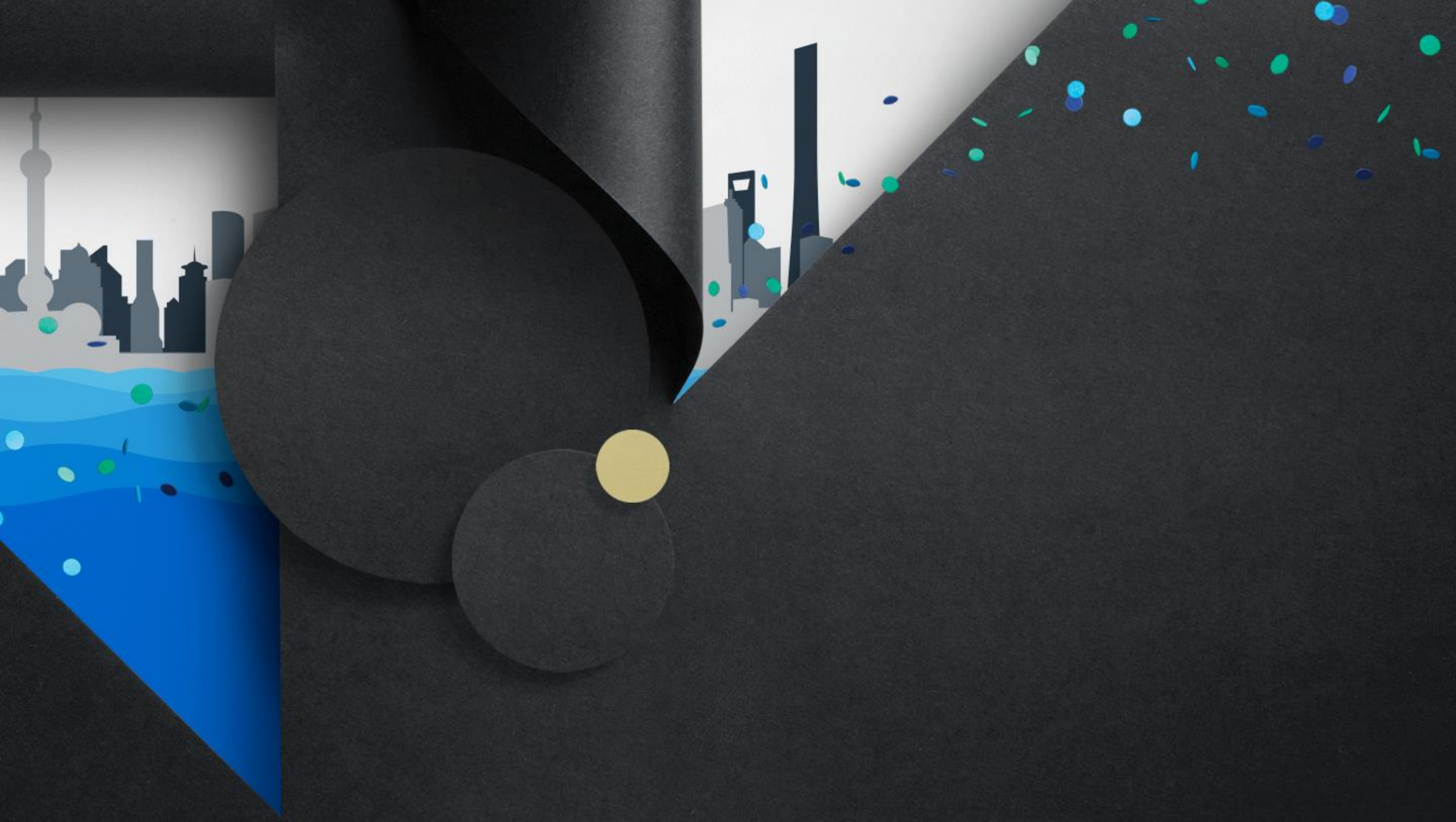
Example



Vs.

Disaggregate – One main function per screen.





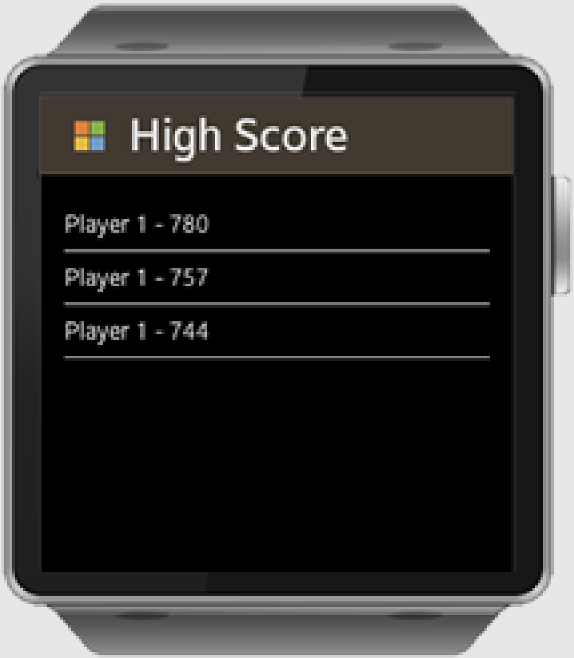
Common Mistakes and Tips

The Emulator is …

NOT always your friend.
Beware of Legibility and display discrepancies between the Emulator and a Real Device

Nice game but for those with good eyes.

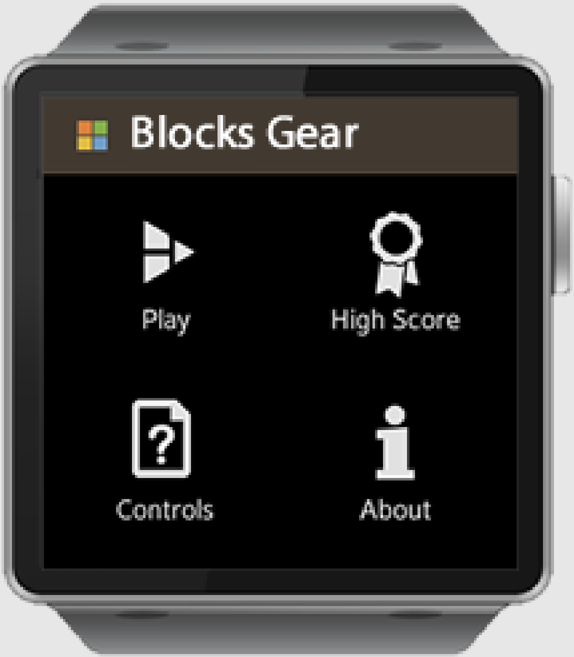
- User comment.


High Score

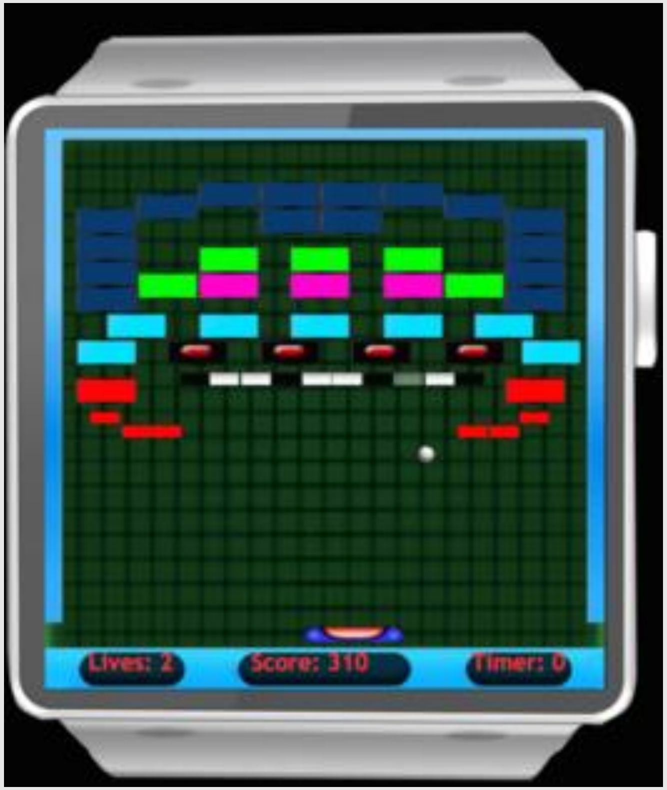
Player 1 - 780

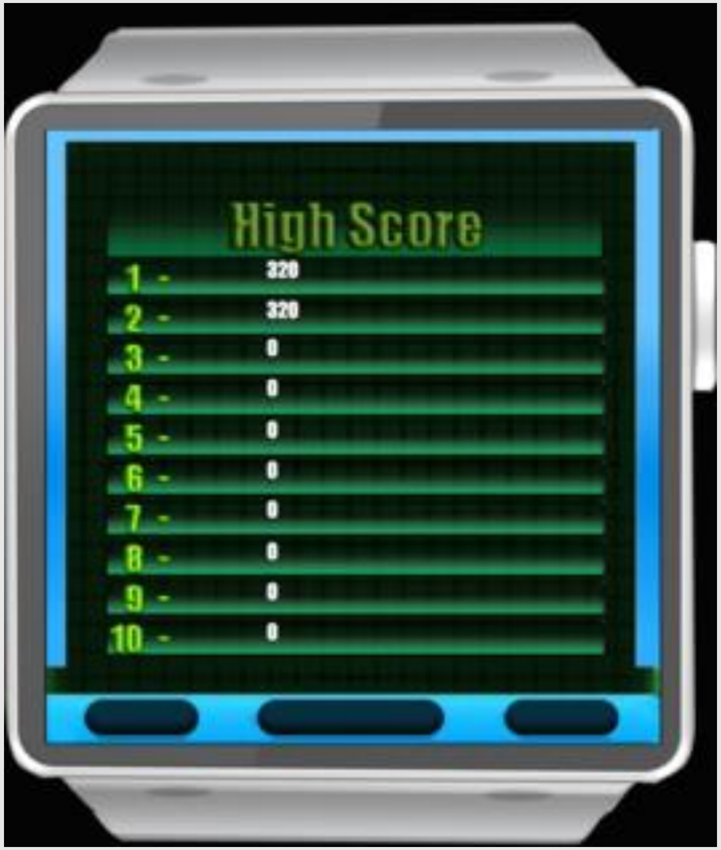
Player 1 - 757

Player 1 - 744



Emulator Issues .



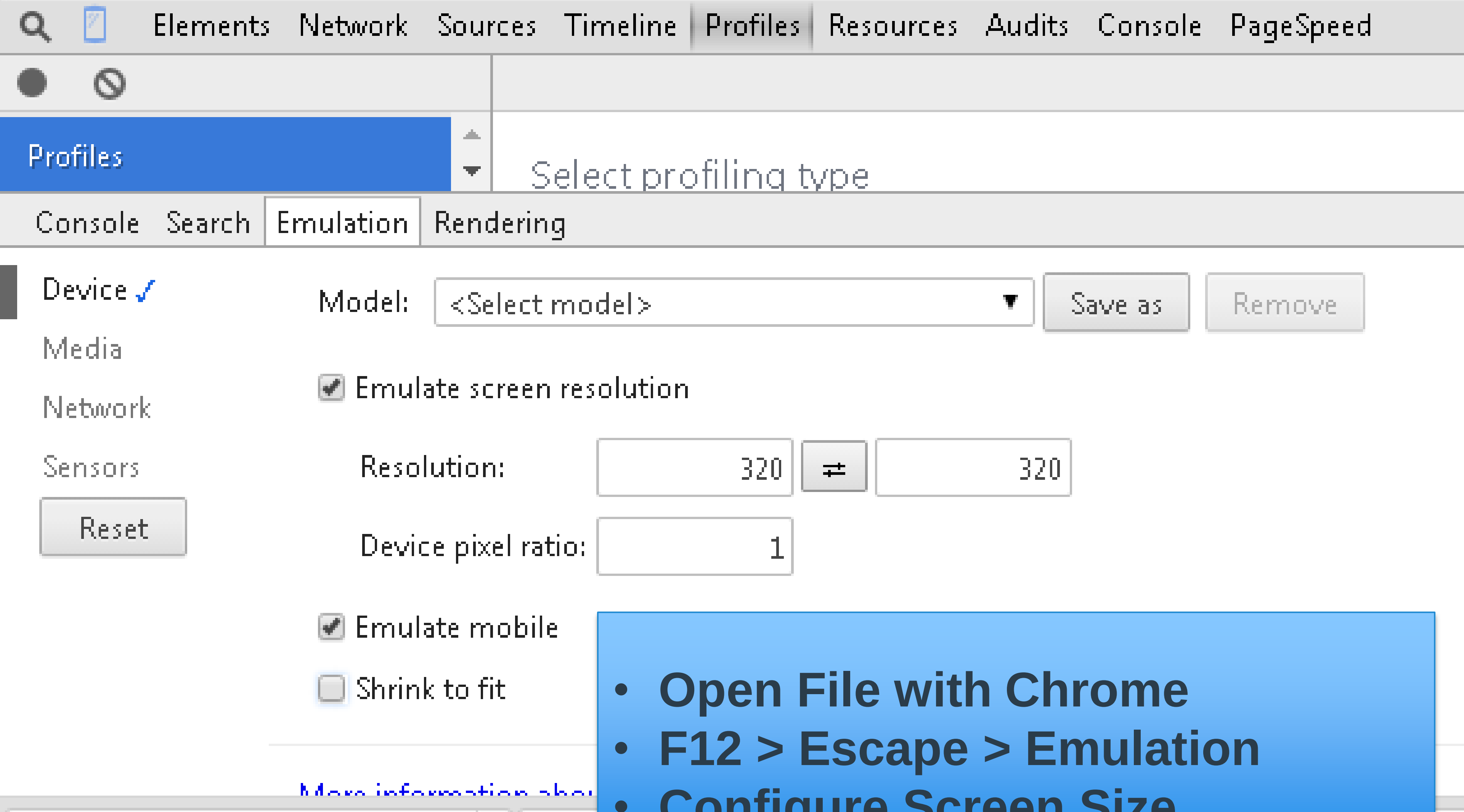


High Score

1 - 320
2 - 320
3 - 0
4 - 0
5 - 0
6 - 0
7 - 0
8 - 0
9 - 0
10 - 0

Beware of small fonts and legibility issues.
Major pain point for users.

Test/Debug faster with the Chrome Browser



Model: <Select model>

☑ Emulate screen resolution

Resolution: 320 ⇄ 320

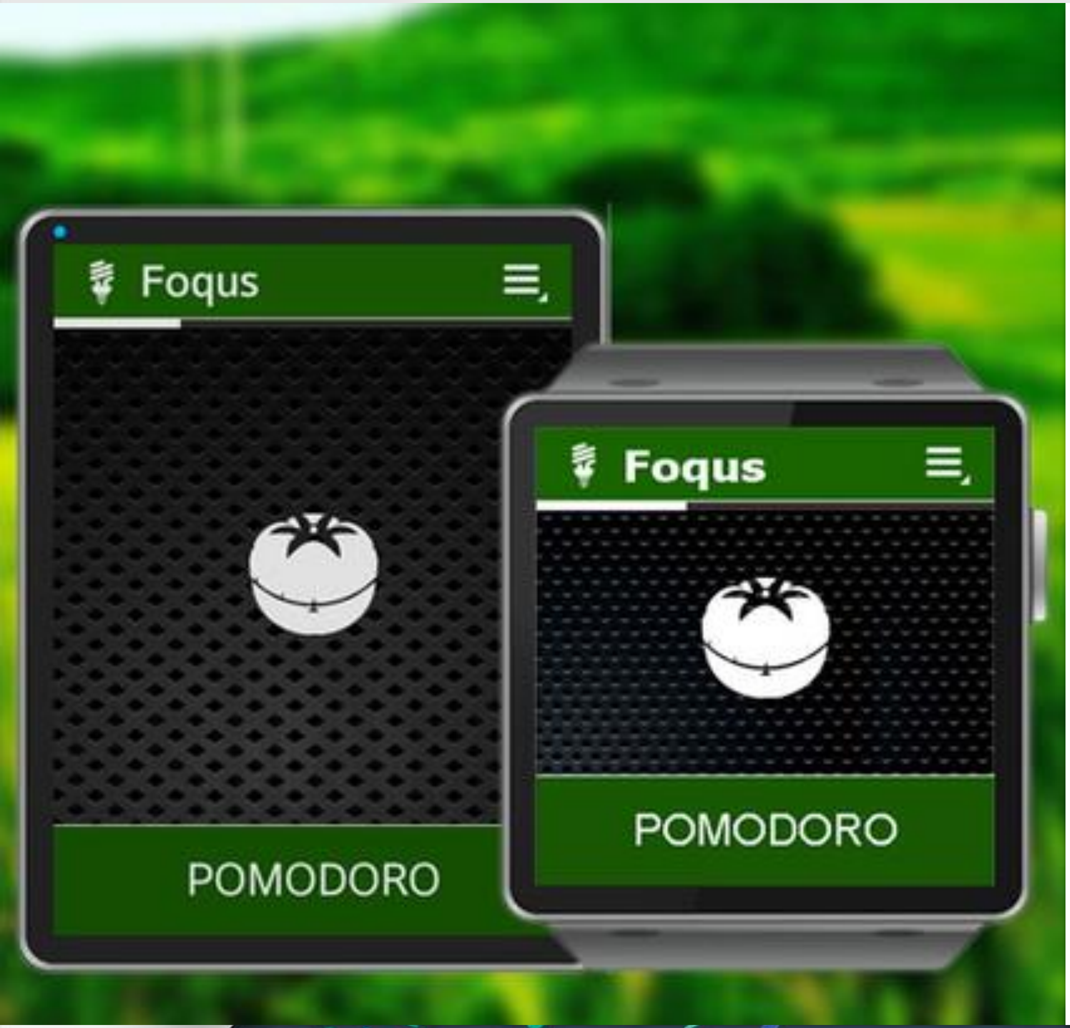
Device pixel ratio: 1

☑ Emulate mobile

☐ Shrink to fit

- Open File with Chrome
- F12 > Escape > Emulation
- Configure Screen Size

Use Relative Dimensions for Multidevice Support



Primarily use % or auto instead of px values for CSS element positioning.

```
margin: auto ;

margin: 50px 40px 40px 100px ;
```

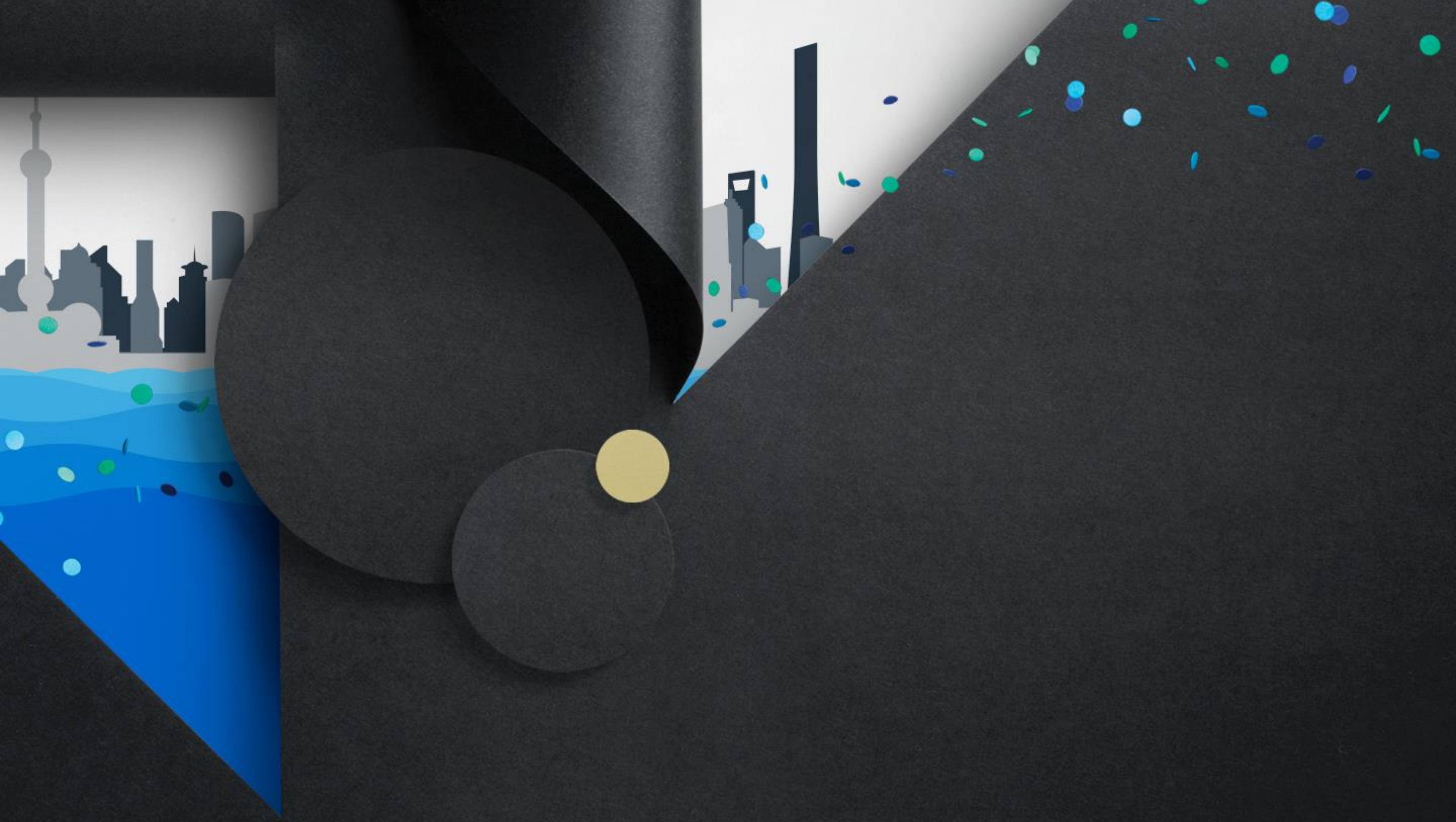
Localize Your App.

Translate to multiple languages

- Use the Wearable IDE localization wizard.
- Allows you reach more people ..
- Improves your number of downloads

Certification Tips

- Use tizen.time.getCurrentDateTime() instead of Date() .
- Manage the screen display when using non-touch gestures. E.g keep the screen on during voice dictation or gesture input.
- Ensure you save your package id for future app updates.
- Use the Samsung Developer Forum for Q/A.



Some Useful Libraries

Useful Libraries

- Hammer.js
  Expand your touch UI Interaction Model – Tap, DoubleTap, Pan, Pinch, Rotate, Swipe
- Pixi.js , Cocos2D-JS
  2D webGL renderer with canvas fallback
- Sketch.js
  Javascript Particle engine
- Charts.js
  Graphs and Charts

Conclusion

In addition to the design guidelines, here are 3 important questions ..

- **What is the main function of my app ?**
- **How does my app perform this function better than a mobile phone ?** (can my app be prescribed as a solution ?)
- **Does my app take advantage of context to provide more value ?** (gym, during meditation, everywhere?)

Resources

- Samsung Developer HomePage
  Download SDK, Official UI Guidelines
  http://developer.samsung.com/
- Samsung Developer Forum –
  Q/A
  http://developer.samsung.com/forum/en
- Tutorials on Denvycom .
  Installation, database access, sensor data access, certification tips , gestures etc
  http://denvycom.com/blog/tag/gear-2/

Thank you!

Questions ?

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