

# CorpJS Meetup Budapest



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# React Native

A possible technical solution to an HR problem

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Corp JS Meetup, March 22 2017

# About Me

## Career

### Career

- Team Lead - Accedo's Budapest Web Team
- JS (node, angular, react), .NET, Java, Python
- 9 years in Software Engineering



## Tech + Social media

Twitter: @gergob (and @dealwithjs)

Blog: <http://dealwithjs.io>

GitHub: [@gergob](#)

LinkedIn: <https://www.linkedin.com/in/gergo-bogdan/>

# Accedo creates streaming video applications globally



# React Native, a possible technical solution to an HR problem

## Problem

- Relatively small number of Mobile Software Engineers
  - Many projects targeting only mobile platforms (Android and iOS)
  - Support and migration of closed projects to new OS and development platform, possible feature changes
- Changing/adapting to new technologies (Web->iOS, Android -> iOS, iOS -> Android) takes much time

## Possible Solution

- React Native might be a temporary solution to handle mobile projects by reusing Web Software Engineers to work on mobile app platforms with the support of senior Mobile Software Engineers

# What is React Native? - Learn Once Write Anywhere<sup>[1]</sup>

Features	History
<ul style="list-style-type: none"><li>• A development framework for mobile platforms</li><li>• Open Source</li><li>• Community Driven</li><li>• Great Documentation</li><li>• Monthly Release cycles (current version 0.42)</li><li>• Support for creating Market Place Ready Apps</li><li>• iOS platform more feature rich</li><li>• Native components can be (re)used</li><li>• Possibility to reuse the familiarity with ReactJS to create applications for mobile platforms</li></ul>	<ul style="list-style-type: none"><li>• Released by Facebook in 2015 (announced on F8)</li><li>• Original target was iOS Platform, then Android was added</li><li>• Developer Experience was considered as top priority</li><li>• Philosophy: learn once write anywhere (developers familiar with ReactJS and ES6 can easily use this technology and can be productive in no-time)</li></ul>

[1]: <https://code.facebook.com/posts/1014532261909640/react-native-bringing-modern-web-techniques-to-mobile/>

# React Native Supports most of the iOS and Android Features (UWP plugin available)<sup>[1]</sup>

	iOS / tvOS	Android
Full Development Environment Support	✓	✓
Marketplace ready App generation	✓	✓
UI KIT	✓	✓
Native Animations	✓	✓
Camera	✓	✓
Storage (AsyncStorage)	✓	✓
Push Notifications	✓	✓
Platform Share API	✓	✓
Advertising API	✓	
Network Info API	✓	✓
Geolocation API	✓	✓
Shadow properties	✓	
Status Bar changes	✓	✓
Possibility to use already implemented comp.	✓	✓
HTTP/HTTPS communication	✓	✓

[1]: <https://blogs.windows.com/buildingapps/2016/04/13/react-native-on-the-universal-windows-platform/#52xL14saaWMD8h6D.97>

# Every technology has to be able to comply with our requirements

Required Features POC (Accedo)	Does it comply?
• Media playback <ul style="list-style-type: none"><li>• MP4</li><li>• PlayReady</li><li>• Widevine</li></ul>	?
• Dynamic UI Layout	?
• Rest API calls	?
• Image handling	?
• Custom text formatting	?
• Create Submission (Marketplace) ready app	?
• Support for Analytics	?
• Close (enough) to Native Performance	?

We created a POC (proof of concept) application  
to see if React Native fits our projects

# POC has two components, Mobile Application and Backend

## Mobile Application

- Authentication (Login screen)
- Navigation (NavBar component)
- List (Resume Screen)
- Grid (Search, Series screen)
- Performance (Performance screen)
- Player (Player screen)
- Loader (Loading screen)
- Details (Series and Movie details screen)

## Backend

- Rest API
- Authentication
- Search
- Image Serving
- Metadata
  - Movie (Title, Description, Release Date, Actors, Director, Length, Genre, ImDB rating)
  - Series (Title, Description, Release Date, Actors, Director, Length, Genre, ImDB rating)

 Ant - Man  
Action, Adventure, Comedy

 Edge of Tomorrow  
Action, Adventure, Sci-Fi

 Interstellar  
Adventure, Drama, Sci-Fi

 Captain America  
Action, Adventure, Sci-Fi

 Deadpool  
Action, Adventure, Comedy

 Iron Man 3  
Action, Adventure, Sci-Fi

 Rio  
Animation, Adventure, Comedy

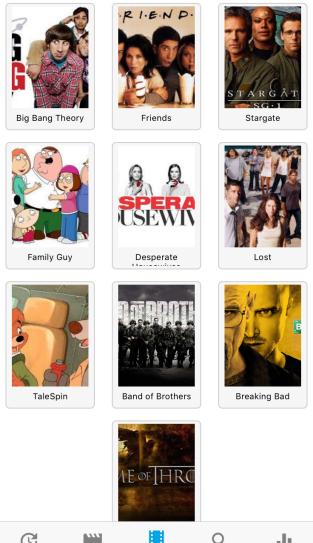
 Star Trek - Into the Darkness  
Action, Adventure, Sci-Fi

 The Hobbit  
Adventure, Fantasy

 The Interview  
Comedy

 Big Bang Theory  
Comedy

 Resume    Movies    Series    Search   



#### Ant - Man

Armed with a super-suit with the astonishing ability to shrink in scale but increase in strength, cat burglar Scott Lang must embrace his inner hero and help his mentor, Dr. Hank Pym, plan and pull off a heist that will save the world.

 PLAY

 DETAIL



#### The Avengers

Earth's mightiest heroes must come together and learn to fight as a team if they are to stop the mischievous Loki and his alien army from enslaving humanity.

 PLAY

 DETAIL

# DEMO



#### The Avengers

-  movie
-  Action, Sci-Fi
-  Joss Whedon
-  IMDb Rating: 8.1
-  2h 23min

4 May 2012 (USA)  
Earth's mightiest heroes must come together and learn to fight as a team if they are to stop the mischievous Loki and his alien army from enslaving humanity.

 Play

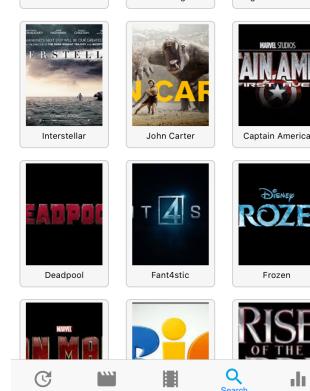
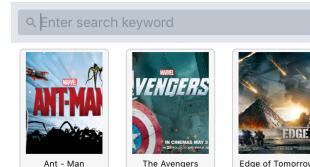
 Back

  
Transforming The Video Experience

Enter Email

Enter Password

 LOGIN



CODE REVIEW

ANALYTICS

# As a Developer working with React Native is good

Personal Opinion



- As a senior software engineer the learning curve is not steep (if you know ES6/React)
- Great tools provided by React Native Team
- Great developer experience
- Rapid Development
- Active community
- Possibility to learn Mobile Platform specific things
- Increased cooperation between teams
- Creating a good application in 50-60h (with learning and backend development)
- Cutting edge technology

- If you are a junior and not familiar with ES6 or React then its very difficult
- Android and iOS support is not the same, but its pretty close
- Upgrading from one version to another can be difficult especially if you are using your own native modules, because Android and iOS specific project files might be overwritten, so dependencies and project settings might need to be done again
- Cutting edge technology

# Results of POC

Required Features POC (Accedo)	Does it comply?
• Media playback <ul style="list-style-type: none"><li>• MP4</li><li>• PlayReady</li><li>• Widevine</li></ul>	✓
• Dynamic UI Layout	✓
• Rest API calls	✓
• Image handling	✓
• Custom text formatting	✓
• Create Submission (Marketplace) ready app	✓
• Support for Analytics	✓
• Close (enough) to Native Performance	✓

The technology is promising, but the most important parts (for us) still have to be done in native code (DRM and friends)

More analysis needed

# FAQ

- **Can I Share Code Between React Native and My Web App?**
  - UI related code cannot be shared.
  - Any JavaScript code, including React components, which don't render any UI element can be shared (business logic, data validation, API handling, Models...)
- **Can I generate packages which can be submitted to App/Play Store?**
  - Yes (steps shown in the next presentation)
- **Can I debug it like every web project?**
  - Yes, React Native has a Remote JS Debugger which can be used within Google Chrome
- **Can I use JS libraries (redux, lodash, rambda)?**
  - Yes, any JS lib can be used, but not for UI manipulation (so Angular cannot be used, but rambda.js can be used)

# References

1. [React Native Homepage](#)
2. [React Native GitHub Page](#)
3. [Nuclide IDE](#)
4. [Essential Libraries to use in your React Native App](#)
5. [Dive Into React Native Performance](#)
6. [React Native at Instagram](#)
7. [React Native Custom iOS Components](#)
8. [Writing an Android Component for React Native](#)
9. [Wix Engineering – Building a React Native App for 80 million users](#)
10. [Wix Engineering – Introduction to React Native performance](#)
11. [Frontend Masters – React Native Training](#)
12. [Awesome React Native](#) – USEFUL LIST OF RN RESOURCES

# GitHub Code Repos

1. [ReNT](#) (Proof of Concept)
2. [SimpleOVPApi](#) (backend component)

Thank you!  
Q&A