



REVEALING 5 MYSTERIES OF CROSS-PLATFORM APPS

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Partners at Upstate Interactive, LLC

INTRODUCTION



Founded in Upstate NY, we are a group of software engineers, entrepreneurs, community leaders, public speakers, and dreamers.



ZOE KOULOURIS AUGUSTINOS

- Partner & Cofounder, Upstate Interactive
- Web and mobile developer
- Certified Scrum Product Owner
- Cofounder, Women in Coding
- CNY's 40 under 40



PETER B SMITH

- Partner & Cofounder, Upstate Interactive
- Web and mobile developer
- Certified Scrum Master
- NgRx contributor
- Organizer, Syracuse.js



 @upstateagency #jsmobileconf

INTRODUCTION



We run an agile software consultancy with the following services...



UI/UX



WEB



MOBILE



API



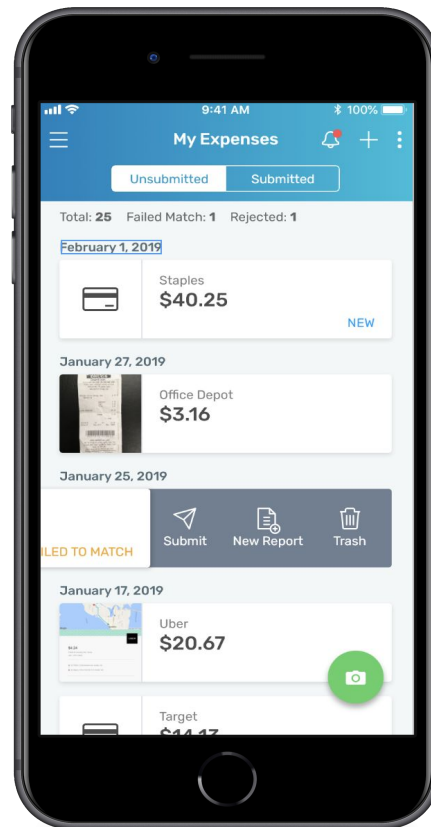
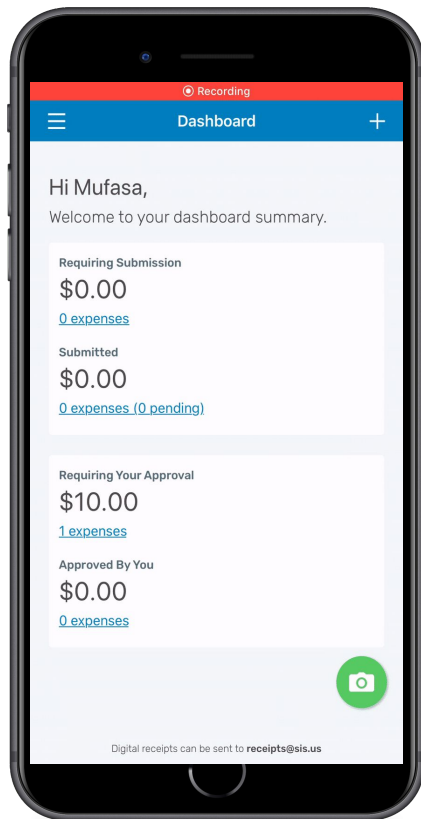
BLOCKCHAIN

INTRODUCTION



...and **native cross-platform** software development





SIS HRIS - SPENSE

← → ↻ https://ems.sis.us

Apps ⚠️ SIS HRIS

SPENSE

Dashboard

My Expenses >

Approvals >

Awaiting Review

Reviews 2

Archive

Settings

Approvals > Awaiting Review

3 expenses selected

Actions 1

Reject X

Approve ✓

Search

Awaiting Review: 823 Expenses
51 overdue

Filters

<input type="checkbox"/>	Date	Employee	Vendor	Amount	Receipt	Type	Description
<input type="checkbox"/>	4/21/19	Cindy Francis Employee ID 12359	Koku Expense ID 43120148	\$56.23 Company Credit Card		Non-Billable Meal	Took a few employees out to lunch after we reached a major milestone in our HR project.
<input checked="" type="checkbox"/>	4/16/19	Courtney Howell Employee ID 58320	Staples Expense ID 50073029	\$24.49 Cash		Non-Billable Office Supplies	We bought this stapler for the office because the old one we normally use got jammed.
<input type="checkbox"/>	4/13/19	Jody Brooks Employee ID 55650	Home Depot Expense ID 18023821	\$32.05 Cash		Non-Billable Facilities	Buckets to catch the leaking brown liquid that is dripping from the roof on the 3rd floor of o...
<input checked="" type="checkbox"/>	4/10/19 - 4/15/19	Sandra Barton Employee ID 61290	Trip to Florida Report ID 72512032	\$719.68 (21 expenses)	—	—	Trip to Florida for conference and meetings with clients. >
<input type="checkbox"/>	3/25/19	Tricia Hayes Employee ID 21769	Trader Joe's Expense ID 34021697	\$5.02 Cash		Non-Billable Meal	Supervisor said he would cover my lunch.
<input type="checkbox"/>	3/17/19	Gabriel Horton Employee ID 35120	Lyft Expense ID 16546123	\$27.13 Personal Credit Card		Billable Travel	Ride from Building A14 to Building C2.
<input type="checkbox"/>	3/09/19	Gordon Butterfield Employee ID 24539	UPS Expense ID 24935782	\$34.71 Cash		Non-Billable Shipping	Shipment of sensitive electronic components to the office in Seattle. Includes packing mat...
<input type="checkbox"/>	3/03/19	Nicholas Harrington Employee ID 49210	Qdoba Expense ID 80621423	\$10.89 Cash		Non-Billable Meal	(No description)
<input checked="" type="checkbox"/>	2/20/19	Tara Hart Employee ID 77271	Fred Meyer Expense ID 43597830	\$6.60 Cash	(No Receipt)	Non-Billable Office Supplies	Pilot G2 pens.
<input type="checkbox"/>	2/16/19	Clyde Maxwell Employee ID 81245	Costco Expense ID 63484911	\$410.30 Personal Credit Card		Non-Billable Information Technology	External hard drives for data migration.

5 Mysteries

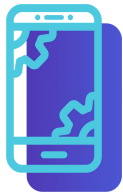
Deploying
Shareable Code
Testing
Set Up
Debugging

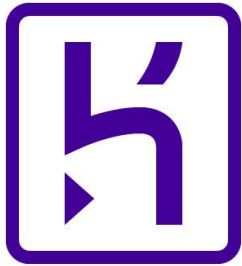
Deploying

The background of the slide features a collection of smartphones arranged in a scattered pattern. Each phone screen displays a different user interface, likely for a mobile application. The screens show elements such as calendars, appointment lists, login forms, and welcome messages. The entire image is covered with a semi-transparent blue overlay, which serves as a backdrop for the central text.



<https://ssl.isrequired.com>





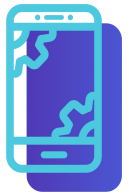
HEROKU



ZEIT NOW

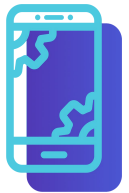


dev and production envs





custom webpack env





skip localhost





Shareable Code



how **.tns.ts** works



abstract classes



styles



ngrx

actions



reducers



effects





effects

Testing

The background of the slide features a collection of smartphones arranged in a scattered pattern. Each phone screen displays a different user interface, likely representing various stages or components of an application. The screens show elements like calendars, login forms, and welcome messages. The entire image is overlaid with a semi-transparent blue filter, creating a cohesive and modern aesthetic.

TESTING: 2 DEPLOYMENT COMMANDS



ios

```
tns build ios --bundle --release --env.production
```

WEB

```
ng build --prod
```

TESTING: A SCREW



```
petersmith@pop-os: ~/code/clients/sis/gui
File Edit View Search Terminal Help
→ gui git:(next) X ng build --prod

ERROR in src/app/dashboard/containers/expense-modal/expense-modal.component.html
(22,37): Property 'anything' does not exist on type 'Expense'.

→ gui git:(next) X
```




Set Up



choose a cross-platform structure



Schematics

xplat



create cross-platform project

- Easily create a shared project through the CLI
- Shared
 - Routes, services, component classes
- Customize
 - UI layer, NgModules, dependencies
- Build
 - `ng serve`
 - `tns run/build ios/android --bundle`



Schematics



Choose apple developer account



APPLE ID



APPLE DEVELOPER PROGRAM



APPLE ENTERPRISE PROGRAM



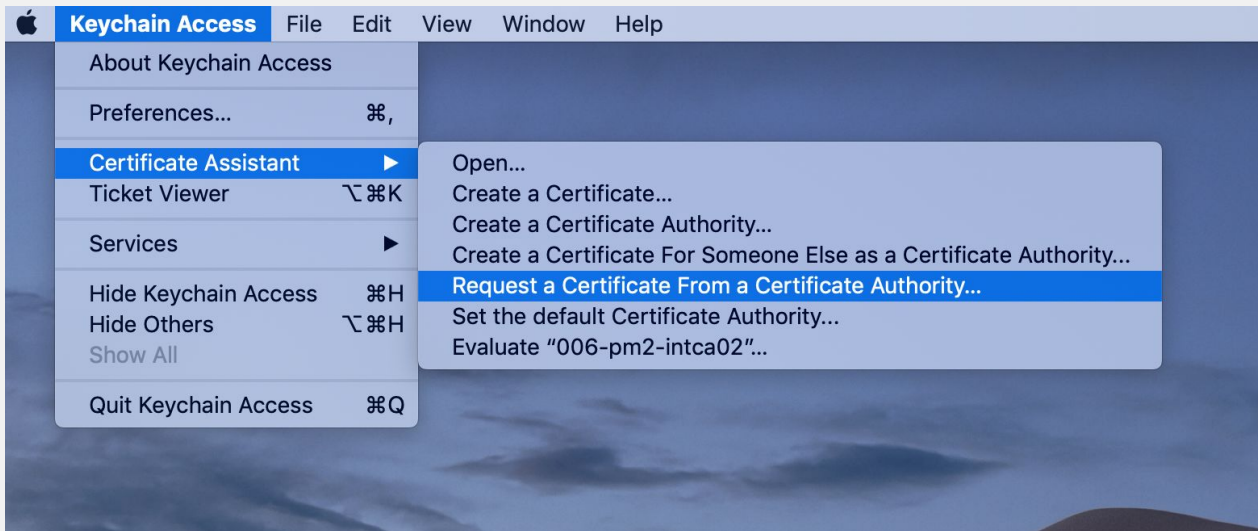
Set team up on real devices with
NS Sidekick or Manually



1. Certificate Signing Request (CSR)
2. Certificates
3. Identifiers
4. Provisioning Profiles



1. Certificate Signing Request (CSR)





2. Certificates

developer.apple.com/account/resources/certificates/add

Developer Zoe Koulouris - Security Industry Specialists, Inc. - 97D7853NMJ

Certificates, Identifiers & Profiles

< All Certificates

Create a New Certificate

Continue

Software

- ☒ **Apple Development**
Sign development versions of your iOS, macOS, tvOS, and watchOS apps. For use in Xcode 11 or later.
- ☐ **Apple Distribution**
Sign your apps for submission to the App Store or for Ad Hoc distribution. For use with Xcode 11 or later.
- ☐ **iOS App Development**
Sign development versions of your iOS app.
- ☐ **iOS Distribution (App Store and Ad Hoc)**
Sign your iOS app for submission to the App Store or for Ad Hoc distribution.
Maximum number of certificates generated
- ☐ **Mac Development**
Sign development versions of your Mac app.
- ☐ **Mac App Distribution**
This certificate is used to code sign your app and configure a Distribution Provisioning Profile for submission to the Mac App Store.
- ☐ **Mac Installer Distribution**
This certificate is used to sign your app's Installer Package for submission to the Mac App Store.
- ☐ **Developer ID Application**
This certificate is used to code sign your app for distribution outside of the Mac App Store.
You are not allowed to perform this operation. Please check with one of your Team Admins, or, if you need further assistance, please contact Apple Developer Program Support. <https://developer.apple.com/support>

developer.apple.com/account/resources/certificates/add

Developer Zoe Koulouris - Security Industry Specialists, Inc. - 97D7853NMJ

Certificates, Identifiers & Profiles

< All Certificates

Create a New Certificate

Back Continue

Upload a Certificate Signing Request
To manually generate a Certificate, you need a Certificate Signing Request (CSR) file from your Mac.
[Learn more >](#)

Choose File



3. Identifiers

developer.apple.com/account/resources/identifiers/add/bundleid

Developer

Zoe Koulouris
Security Industry Specialists, Inc. - 97D7853N

Certificates, Identifiers & Profiles

< All Identifiers

Register a New Identifier

Continue

- App IDs**
Register an App ID to enable your app to access available services and identify your app in a provisioning profile. You can enable app services when you create an App ID or modify these settings later.
- Services IDs**
For each website that uses Sign in with Apple, register a services identifier (Services ID), configure your domain and return URL, and create an associated private key.
- Pass Type IDs**
Register a pass type identifier (Pass Type ID) for each kind of pass you create (i.e. gift cards). Registering your Pass Type IDs lets you generate Apple-issued certificates which are used to digitally sign and send updates to your passes, and allow your passes to be recognized by Wallet.
- Website Push IDs**
Register a Website Push Identifier (Website Push ID). Registering your Website Push IDs lets you generate Apple-issued certificates which are used to digitally sign and send push notifications from your website to macOS.
- iCloud Containers**
Registering your iCloud Container lets you use the iCloud Storage APIs to enable your apps to store data and documents in iCloud, keeping your apps up to date automatically.
- App Groups**
Registering your App Group allows access to group containers that are shared among multiple related apps, and allows certain additional interprocess communication between the apps.
- Merchant IDs**
Register your Merchant Identifiers (Merchant IDs) to enable your apps to process transactions for physical goods and services to be used outside of your apps. Generate a Apple Pay Payment Processing certificate for each registered Merchant ID to validate transactions initiated within your app.

developer.apple.com/account/resources/identifiers/bundleid/add/

Developer

Zoe Koulouris
Security Industry Specialists, Inc. - 97D7853NM

Certificates, Identifiers & Profiles

< All Identifiers

Register an App ID

Back Continue

Platform
☒ iOS, tvOS, watchOS ☐ macOS

App ID Prefix
97D7853NMJ (Team ID)

Description

You cannot use special characters such as @, &, !, ' ; *

Bundle ID ☒ Explicit ☐ Wildcard

We recommend using a reverse-domain name style string (i.e., com.domainname.appname). It cannot contain an asterisk (*).

Capabilities

ENABLED	NAME
<input type="checkbox"/>	Access WiFi Information
<input type="checkbox"/>	App Groups
<input type="checkbox"/>	Apple Pay Payment Processing
<input type="checkbox"/>	Associated Domains
<input type="checkbox"/>	AutoFill Credential Provider
<input type="checkbox"/>	ClassKit



4. Provisioning Profile

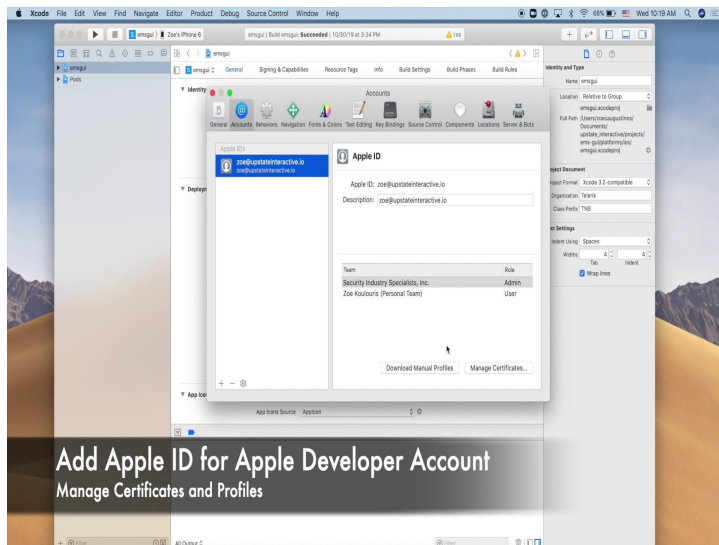
- Generate provisional profile in Apple developer account
- Automatically manage signing in XCode

Tie together App ID, certificate and device

The image displays two screenshots related to provisioning profiles. The top screenshot is from the Apple Developer portal, specifically the 'Certificates, Identifiers & Profiles' section. It shows the 'Profiles' tab selected in the left sidebar. The main content area is titled 'Getting Started with Provisioning Profiles' and includes a 'Generate a profile' button. The bottom screenshot is from the Xcode IDE, showing the 'Signing & Capabilities' tab for a project named 'emsgui'. The 'Signing' section is expanded, showing 'Automatically manage signing' checked. Below this, the 'Team' is set to 'Security Industry Specialists, Inc.', the 'Bundle Identifier' is 'us.sis.ems.mobile', the 'Provisioning Profile' is 'Xcode Managed Profile', and the 'Signing Certificate' is 'iPhone Developer: Zoe Koulouris (X7UV7N829Q)'.



Run project on devices & simulators



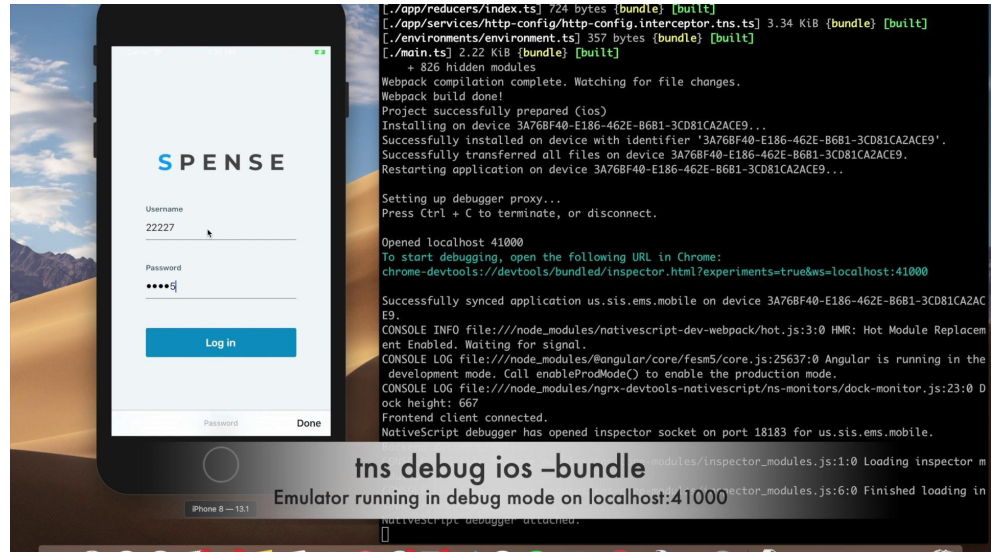


Debugging



Debug Ngrx

- [MetaReducer, 2017](#)
- [CLI, Devtools Plugin, 2019](#)





Conclusions



Technical Conclusions



1. Shared apps are effective
2. Either xPlat or NS Schematics
3. NS 6 is an easy update



Team Conclusions



1. What app am I building today?
2. Strong Base in Angular / Vue



Thank You