the agenda

- What is Timm?
- Why was it developed?
- What does it do?
- How popular is it?
- How was it developed?
- Next steps with TIMM?
- Q & A
what is TIMM?
why was it developed?
The challenge

- Web-based desktop traveler information Map did not translate well to mobile
- Modot does not have traditional 511 telephone service
- Growing demand from mobile users (especially during winter weather season)

The opportunity

- Modot had feedback based on desktop TIM
- Data / services available
- Time - Started v1 of mobile apps in August / Winter weather season in October
what does it do?
EXPECT DELAYS
IS 44 W
ST. LOUIS CITY COUNTY

*NEW PAVEMENT CONSTRUCTION* scheduled from 04-AUG-2014 to 29-AUG-2014.

Route is affected from "0.03 MILES AFTER MO 799 N" to "0.04 MILES BEFORE IS 55 S"

Work will be conducted on weekdays only between the hours of 09:00 AM and 03:00 PM.
how many people are using it?
MoDOT TIMM app downloads

- **Total iOS Downloads:** 90K
  - Dec. 2013: 26K
  - 2013: 54K

- **Total Android Downloads:** 53K
  - Dec. 2013: 16K
  - 2013: 29K

*released to iTunes and Google Play in October 2013*
how has it changed?
9 versions (10 - upcoming) of both iOS and Android

- iOS 7 compatibility
- Google Maps SDK upgrades
- Enhancements
  - Google traffic integration
  - Dynamic message signs
  - Expected delays – floods
  - Alerts
  - New legend
- Enhanced my routes
- iOS and Android new device support
- UI improvements
- MoDOT NOW integration
- Bug fixes
- Performance improvements
- Responses to store feedback
MoDOT Presents Prize Money to Children's Cancer Charity

MoDOT Director Dave Nichols presents a check for $10,000 to Kyla Wright, director of grants for CureSearch for Children's Cancer. Also present were Harry and Robin Koenigs. Harry was KFU Constructors' project director for the Safe & Sound Bridge Improvement Project. (photo caption)

MoDOT recently joined the fight against cancer when Director Nichols presented a $10,000 check to representatives of CureSearch for Children's Cancer Monday, Dec. 16, in Kansas City. MoDOT received the $10,000 prize for winning the People's Choice Award for the Safe and Sound Bridge Improvement Program. The award is determined by a popular vote of the general public, and is part of the America's Transportation Awards competition, sponsored by the American Association of State Highway and Transportation Officials, AAA and the U.S. Chamber of Commerce.

MoDOT was allowed to select the charity of its choice, and there is a personal connection between the Safe & Sound project and CureSearch KFU Constructors' project director, Harry Koenigs and his wife Robin lost their son Jake to a form of children's cancer in 2006. They, along with Koenigs' employer, Kiewit, have worked tirelessly to raise research funds through a series of "JakeFest" poker tournaments that have netted more than $51 million. CureSearch funds and supports targeted and innovative children's cancer research.

"We are honored to contribute the prize to the CureSearch effort in honor of Jake," Nichols said. "We want the Koenigs to realize Jake didn't die in vain and this money will help raise more awareness for a cure for cancer."

Safe & Sound members also received 100 of the state's newest bridge signs on behalf of Missouri's 114 counties.
what drove the changes?
User feedback / reviews

Douglas Chastain  July 4, 2014
★★★★★
Could be better Make traffic cams larger so you can actually see them, remember we’re on cell phones. :-)

Wendy Truckerchickie  August 6, 2014
★★★★★
Awesome As a truck driver I travel thru MO almost twice a week, wish more states would provide an app period let alone one that is easy and smooth as this one to use.... Thanks!!!

Sean Hill  August 9, 2014
★★★★★
Great for EMS As a paramedic, I use this app often when weather causes road conditions to change. I find that MoDOT does a good job of updating it quickly as conditions change.

Bob Nestle  May 7, 2014
★★★★★
I travel a lot for my job and it is good to be able to plan your trip ahead of time and provide for enough travel time.

Rebecca Dunger Peak  August 19, 2014
★★★★★
Helpful This was especially helpful in winter to learn of road conditions. We also keep an eye on traffic with this app.

Doug Holland  May 1, 2014
★★★★★
Mo DOT Very helpful info to keep informed on upcoming road trip.

Zach Green  June 10, 2014
★★★★★
MoDot app Great app. Allows you to see most up to date roads conditions as well as weather!

Curtis Colbert  April 6, 2014
★★★★★
Love this app Easy to use and very helpful.

Gregory Evans  March 28, 2014
★★★★★
Maps Love this app. So easy to use

Tara Hamnersmith  February 22, 2014
★★★★★
Galaxy 3 When i open it its slow to show anything also gives a notification of an alert than forces close.

Malcolm Lutman  March 2, 2014
★★★★★
Ok so far Just downloaded the app an so far it’s pretty good! Keep getting an app update notice though an can’t see where play store has an update available!

Sonia Dea  March 2, 2014
★★★★★
Best emergency road map Don’t leave home in Missouri w/o this priceless App!!!

76 reviews on iTunes
607 reviews on Google
User feedback / reviews

John T  December 6, 2013
Not working  Winter Storm Cleon 12/5/13 - Freezing rain started around 0700 Hrs, sleet around 0800 and turned into snow in the afternoon. App from yesterday afternoon, through the night. 12/6 - This morning - app shows clear roads. I'm looking out the door at 8-10' of snow, on top of ice, with more snow to come.

Brandy Holtsclaw  December 6, 2013
Really downloaded so I could see road conditions. Doesn't show any bad weather on all roads clear.

John Hinck  December 20, 2013
Must turn on road conditions layer I'd recommend the road conditions layer be turned on by default. Other than taking a bit too real that it wasn't on initially, once I found the control to do that (colored lines in the upper left corner) out came quickly. I was also happy to see there was a weather (radar) layer available. I want a nap like this for the whole U.S.

Heather Spurling  January 6, 2014
Select weather overlay and region people! Be sure to select Weather overlay and your Road Region, can even add your route. Shows weather conditions, just need to use correctly. Select your region people!

Ronald Young  January 7, 2014
Reasonable info. Would like to see road camera images like Iowa includes. Also it is very difficult to discern closed roads. The color red is hard to see on interstates that are orange. Hard to tell if red or purple.

Austin Green  January 12, 2014
Great app  This is a great app for those who are on the roads in Missouri a lot accurate weather and travel it is good on the Samsung galaxy s4 and om the iPhone 5 and iPhone 5s good for making your own route and it will help you get where you want to go as fast as possible and as safe as possible and it is nice to see the live feed from the cameras on the roads so you can what is going on before you leave the house and it will let you read the sights that are on the roads great app.

76 reviews on itunes
607 reviews on Google
how was it developed?
Iteratively
Sketch → develop → deploy → test → discuss until it works.
FAST ENOUGH FOR YOU?
User experience (UX) focused
geo + mobile + UX = challenge
user experience

Noun

the overall experience of a person using a product such as a website or computer application, esp. in terms of how easy or pleasing it is to use.

"if a website [or app] degrades the user experience too much, people will simply stay away"
“To provide the best user experience (UX) for rating things, you should present the user with a small set of clear-cut actions.”
Updates to the map interface

In order to accommodate the new functionality and increase map readability, we are replacing the standard header bar with a custom control. We are also moving all layer toggling functionality to a separate layers view.

Layer button | Tapping the button opens the layers view.

Traffic Cameras Cluster | At this extent there are 2 cameras very close to each other. By zooming in, the user can see the individual cameras.

Commuter Issue Cluster | At this extent there are 2 commuter issue layers. A work zone, a flood incident, and a road closure are all visible. Moving the incident becomes visible.

My location button | Tapping the button, zooms the map to the user's current location.

Pick a region button | Tapping the button opens the select region.

Clustering

Clustering will greatly reduce map clutter. When zoomed out, users will see aggregated information rather than individual layers. As users zoom in, the data on the map becomes more detailed.

We would treat "Commuter Issues" as a single layer that gets clustered (even though users can turn off individual layers). Traffic Cameras and Message Boards would be clustered as separate layers.

The Layers View

The layers view allows users to toggle layer visibility and serves as a legend for the map symbology. We recommend keeping the icons simple and streamlined as possible for commuters.

Zoom To a Region View

This view will function as it does currently, but we will update the header to be consistent with the layers view.
Updates to the list interface

Updates to the My Routes interface

Adding a new Route

Route detail interface

Preserving existing functionality
what do our users expect today?
focused
intuitive
self-explanatory
workflow based
real-time updates
integrated
native
<table>
<thead>
<tr>
<th>Approach</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native</td>
<td>• Full Access to Device/Platform/APIs</td>
<td>• Different skills/languages/tools for each target platform</td>
</tr>
<tr>
<td></td>
<td>• Best Performance (esp. with UI concerns)</td>
<td>• Tend to be most expensive-to-develop, with thin margin</td>
</tr>
<tr>
<td></td>
<td>• App Store Discoverability</td>
<td>• Client code not re-usable between platforms (of course)</td>
</tr>
<tr>
<td>Mobile Web</td>
<td>• Arguably the broadest reach</td>
<td>• Extremely limited access to device APIs</td>
</tr>
<tr>
<td></td>
<td>• Can re-use existing, responsively designed sites</td>
<td>• Limited discoverability (no app store presence)</td>
</tr>
<tr>
<td></td>
<td>• Code base is re-usable between platforms</td>
<td>• Tend to be more difficult to monetize</td>
</tr>
<tr>
<td></td>
<td>• Finding necessary skills isn’t difficult</td>
<td></td>
</tr>
<tr>
<td>Hybrid (CPT)</td>
<td>• Natively-installed &amp; run, but built with JavaScript, HTML &amp; CSS</td>
<td>• UI Performance affected by native webview implementation &amp; (potentially) poorly written JavaScript/HTML</td>
</tr>
<tr>
<td></td>
<td>• Code base is re-usable between supported platforms</td>
<td>• Differing webview implementations per platform</td>
</tr>
<tr>
<td></td>
<td>• App Store Discoverability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Access to many device APIs (&amp; extendable via plugins)</td>
<td></td>
</tr>
<tr>
<td>Cross-Compiled (CPT)</td>
<td>• Can re-use existing skills if source language matches team skills</td>
<td>• May not support all target platforms</td>
</tr>
<tr>
<td></td>
<td>• Code base is re-usable between supported platforms</td>
<td>• Can be difficult to debug</td>
</tr>
<tr>
<td></td>
<td>• Access to many (if not all) device APIs</td>
<td></td>
</tr>
</tbody>
</table>
the tg timeline

TG “pre-tablet era”

2006
ArcGIS Mobile released

2007

2008

2009

2010

“app” is word of the year

TG “hybrid experiment”

2011

2012

TG builds 25+ native apps

2013

2014

TG refines mobile delivery process

Ipad released

FB / Linkedin Dropkick hybrid

Slope of enlightenment for tg

iphone released
Gartner hype cycle

- Peak of Inflated Expectations
- Plateau of Productivity
- Trough of Disillusionment
- Slope of Enlightenment

Supporting multiple delivery of a phonegap and titanium app
TG “hybrid experiment”
Current state of mobile development at TG
MoDOT TIMM
next steps with TIMM
the 3 to 5 year cost
users expect updates
push-y upgrades
iOS Version History: A Visual Timeline

In 5 1/2 years, Apple has released 9 hardware devices and 51 total iOS version updates. Here we’ve captured the major milestones.

iOS 1.0
- Core iOS UI
- Multitouch gestures
- Mobile Safari
- iPod
- Visual Voicemail
- Maps
- iTunes Sync
- Hidden file system

Spotlight Search Introduced

Hardware releases

JULY 11
2007
2008
2009
2010
2011
2012
2013
JUNE

2008
2009
2010
2011
2012
2013
JUNE

iOS 2.0
- App Store
- MobileMe
- Native 3rd-party apps
- Microsoft Exchange support
- Contact search

App Store Born

JUNE 29
JUNE 17
JUNE 21
JULY 11
APRIL 3
OCT 12
SEPT 19
JUNE

2008
2009
2010
2011
2012
2013
JUNE

iOS 3.0
- Spotlight Search
- New dev APIs
- Cut, copy, paste
- Voice Control
- MMS
- Push notifications
- USB & Bluetooth tethering
- Landscape keyboard
- Find My iPhone
- Video recording
- Autofocus in camera app
- Direct purchase in iTunes
- Parental controls
- In-app purchases
- Subscriptions in app store
- POP connections
- iPod music in 3rd party apps
- HTML5 in Safari

Spotlight Search Introduced

iPod

JUNE 29
JUNE 17
JUNE 21
JULY 11
APRIL 3
OCT 12
SEPT 19
JUNE

2008
2009
2010
2011
2012
2013
JUNE

iOS 4.0
- FaceTime video chat
- Multitasking
- Home screen folders
- Unified email inbox
- Retina Display support
- iAd support
- Notifications w/ scheduled alerts
- Task completion in background
- First app switching/saved state
- Music apps can play in background
- First free iPod Touch update

FaceTime Arrives

World Meets Siri

JUNE 29
JUNE 17
JUNE 21
JULY 11
APRIL 3
OCT 12
SEPT 19
JUNE

2008
2009
2010
2011
2012
2013
JUNE

iOS 5.0
- Siri
- Notification Center customization
- Keyboard updates
- PC-free
- iTunes Wi-Fi Sync
- iMessage
- iCloud

iOS 3.0
iOS 4.0
iOS 5.0

JUNE 29
JUNE 17
JUNE 21
JULY 11
APRIL 3
OCT 12
SEPT 19
JUNE

2008
2009
2010
2011
2012
2013
JUNE

iOS 6.0
- Facebook integration
- Apple Maps
- Turn-by-turn navigation
- Siri enhancements
- Passbook
- iCloud Tabs
- Mail enhancements
- Do Not Disturb
- Facetime over cellular
- Panoramas

Enter Facebook

Supported devices:
- iPhones
- iPads
- iPods

This message was brought to you by cooled residue.
Designed by visually

Sources:
https://en.wikipedia.org/wiki/iOS_version_history
http://www.apple.com/ios/ios-update/release notes/7.0
How frequently, on average, are your mobile apps updated or enhanced?

- 29.6%: Once a month or more
- 52.8%: Once every 6 months
- 12.0%: Once a year
- 3.7%: Less than once a year
- 1.9%: Not sure / Don't know
Potential future Enhancements:

- Validating / disputing incidents
- Rating work zones
- Geo-fencing
- Push notifications
- ???
THANK YOU!

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