# People, Process, & Paper: Workforce Mobilization

Saturday, August 4, 2018
4:00 – 5:00pm
APPA Annual Conference

## The University of Texas at Dallas Facilities Management

Jeannie Knott – Work Control Supervisor
Willie Taylor – Software Systems Specialist IV
Kevyn Bennett – Superintendent of Electrical Services

## Learning Outcomes

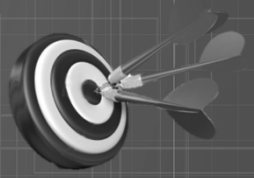
1) Understanding the research, prep work, time, and money involved in the implementation of mobile devices.

2) Knowing the process of scheduling, development, testing, training, implementing, transitioning, and follow-up required for implementation.

## Learning Outcomes

3) What possible complications you can encounter & the user response. Examples – adjustments to pre-existing procedure to fit implementation, pushback from reluctant employees, and employees learning a new technology.

4) Why it is worth the hard work; how implementing mobile devices benefit Facilities, its customers, and the university as a whole.



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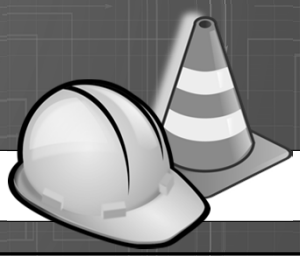
## Industries Already Mobilized

Construction:

"A study from Texas A&M found that construction professionals have been slow to adopt mobile apps, cloud-based systems and other technology, but are slowly recognizing the advantages they offer especially in terms of cost-cutting and quicker communication."

"This [study] highlighted a number of benefits of mobile technology. These included omitting duplication of effort, minimizing errors and allowing quicker communication between the field and the back office."

*http://www.notevault.com/blog/contractors-increasingly-turning-to-mobile-technology/*



# Industries Already Mobilized

Healthcare:

"The use of mobile devices by health care professionals (HCPs) has transformed many aspects of clinical practice. Mobile devices have become commonplace in health care settings to assist HCPs with many important tasks."

"One major motivation driving the widespread adoption of mobile devices by HCPs has been the need for better communication and information resources at the point of care."

*https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4029126/*

# Industries Already Mobilized

Retail & Manufacturing:

"Manufacturers are using mobile devices to support many core fulfillment functions and help provide visibility into the movement of product through the supply chain. Retailers have focused on commerce and productivity-related applications. These applications are designed to improve customer service through customer-owned and in-store mobile devices, loyalty apps, and other in-store retail execution strategies."

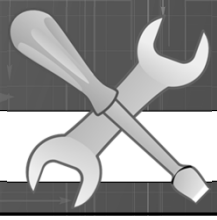
*https://www.business.att.com/learn/empowered-workforce/mobile-technology-trends-in-retail-and-manufacturing.html*

# Mobilization in Facilities Management

"Speed of access to information is but one of the many benefits of incorporating mobile tools into your facility management operation… They offer a chance for real efficiencies in several aspects of facility operations."

"Labor efficiency – or simply time saved – is another key metric and benefit of using mobile technology effectively. Time saved by using CMMS on mobile is one of the most-cited advantages of mobile technology – indeed, 73% of respondents to the BOM *(Building Operating Management)* survey said mobile technology helped improve work-order response time and tracking, and 62% said it improved workflow and reduced work order redundancy."

*https://www.facilitiesnet.com/facilitiesmanagement/article/Facility-Managers-Use-Mobile-Technology-To-Access-Information-Anywhere-Be-More-Efficient-Facilities-Management-Facilities-Management-Feature--16506*



# A Little About Us

**1961** – Founding Fathers from Texas Instruments created the Graduate Research Center of the Southwest.

**1969** – UT Dallas welcomed into the UT System

**1972** - Accreditation

**1973** – First Graduates

**1989** – Enrollment hit 8,000

**1990** – First Freshmen & Sophomores admitted (100 students)

**2009** – First Residence Hall & Dining Hall Open

**2010** – Enrollment hit 17,000

**2016** – Enrollment hit 26,797 - *9% increase from prior year*

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## How We've Grown

**Fiscal Year 2009**

- Student Headcount: 14,944
- Building Square Footage: 2,757,574 sq. ft.
- Number of Buildings: 86
- Work Orders Created: 7,197
- FM Staffing: 126 positions

**Fiscal Year 2017**

- Student Headcount: 26,793 - ***79% increase***
- Building Square Footage: 6,750,559 sq. ft. - ***131% increase***
- Number of Buildings: 158 - ***76% increase***
- Work Orders Created: 10,905 - ***52% increase***
- FM Staffing: 145 positions - ***15% increase***

## Our Workflow Evolution

Before the creation of our Work Order Center = Chaos!

2015

The Work Order Center centralized our workflow!

2017


Implementation of mobile devices has automated most data entry work, which means more time for the customers!

## A Time Before the Work Order Center

- No way to track reported calls and work orders.

- Paper timecard filled out per crew person, per day.

- Handwritten notes on each printed work order.

## A Centralized Work Order Center

**2015** – The Work Order Center was created to centralize customer calls, work orders, and data entry. Step in the right direction…

Paper timecards and notes turned in daily ➡ Data entry still the priority ➡

Customer requests, inquires, and updates need to be the priority ➡ Implementing mobile devices would increase labor efficiency and work order accuracy, and help put the customer first

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## Learning Outcome #1

Understanding the research, prep work, time, and money involved in the implementation of mobile devices.

## Finding the Right Integrated Workplace Management System

- Making sure we've got the best deal out there.

- Expert from our existing vendor gave us our *Aha!* moment. Turns out we already had many other features available within the operating system we were already using.

# Cost Investment – "Stuff"

What to Buy:

| Item | Description | Quantity |
|---|---|---|
| Apple iPad Pro | Apple iPad Pro 32 GB Tablet - 9.7" | 28 |
| iPad Pro Case | Otter Box Defender Case for iPad Pro 9.7" | 28 |
| Apple iPad Mini 4 | Apple iPad Mini 4 64 GB Tablet 7.9" | 40 |
| iPad Mini Case | Otter Box iPad Mini 4 Defender Case | 40 |
| iPad Locking Cabinet | Kensington Charge & Sync Locking Cabinet 10 Tablet | 13 |
| Charge & Sync Cable | Kensinton Charge & Sync Cable USB to Lignting 10 Pack | 13 |
| iPad Carrying Case | Case Logic 10.2" Netbook iPad Attache | 68 |
| Mobile Application | Software License | 1 |
| Meraki MDM | Cisco Meraki Mobile Device Management | 100 |

Total Cost: $66,980.18

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# Cost Investment – "People"

Man-Hours:

| | | |
|---|---|---|
| Outside Consultant | | $4,825.40 |
| Team Meetings, Group & Individual Testing, Training Development | 130 hours | $5,850.00 |
| Shop Supervisors & Crew Attendance to 2-Hour Training Sessions | 120 hours | $10,800.00 |

Total Cost: $21,475

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## Time Investment

| | | |
|---|---|---|
| First Meeting for the Mobile Implementation Project | November 30, 2016 | |
| Testing Application and Creating new Procedure and Training | December - February | 3 Months |
| Beta Groups' Training and Testing, then Follow-up & Improvement | March - May | 3 Months |
| Full Training of All Remaining Shops | June & July | 2 Months |
| Trial Usage until Official Implementation in Fiscal Year 17 | August | 1 Month |
| | | **9 Months Total** |

End of FY17 Goal: Full conversion to tablets only/ no paper:
***In Progress at 75 % converted***

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## Prepping Our IWMS for Mobile Implementation

- Cleaning up our IWMS data due to the changes and growth of our campus.

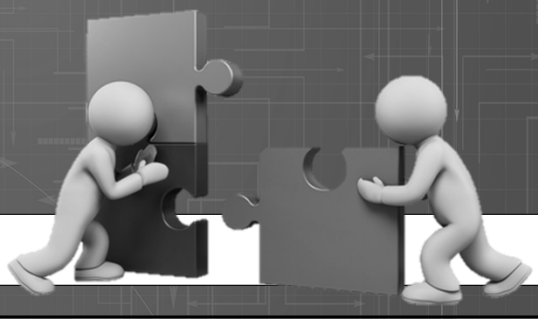
- Learned more about all the shortcuts, queries, and customization already available in our IWMS.

- Testing consisted, in part, of learning other existing features that our system already had on top of learning how to use the new mobile application in coordination with that system.

# Prepping People for Mobile Implementation

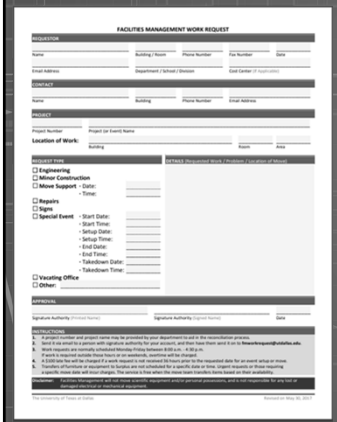
- Meeting with the Beta-testers.

- Creating access to Apple devices and other applications prior to testing.



# Prepping for a Digital Transition

Our new Work Request Form!




## Learning Outcome #2

Knowing the process of scheduling, development, testing, training, implementing, transitioning, and follow-up required for implementation.

## Implementation of Mobile Devices


- Scheduling testing and status update meetings around regular job duties.

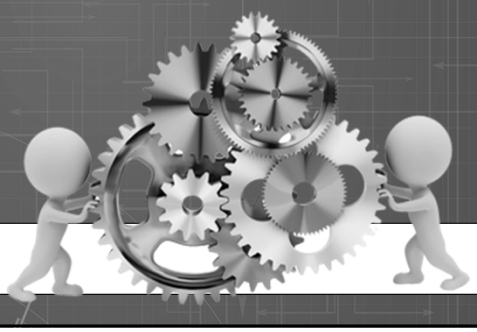
- Organizing trainings around crew working hours, and allowing for part of each crew to remain on-call.

## Implementation of Mobile Devices

Development

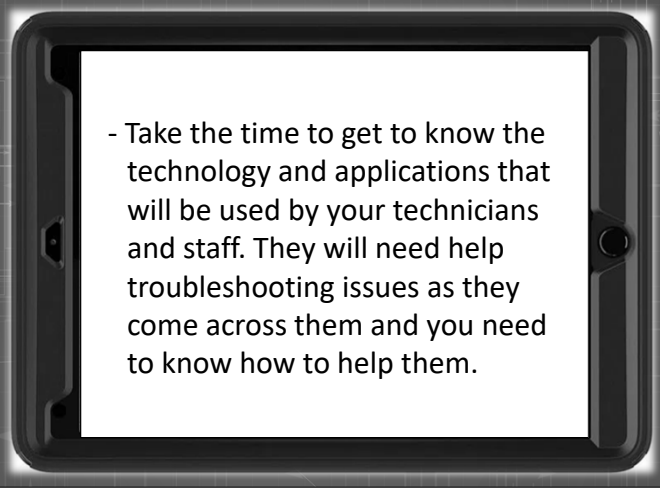
- Brought in a consultant to help guide us in our new process development.

- Our beta-testers helped us see where the shortfalls were in our process development, and training methods.



## Implementation of Mobile Devices

Testing



- Take the time to get to know the technology and applications that will be used by your technicians and staff. They will need help troubleshooting issues as they come across them and you need to know how to help them.

# Implementation of Mobile Devices

## Training

- Hold mock-presentations.

- No more than 2 hours long per session.

- Be patient. Not everyone will learn at the same pace.

- Allow for questions... As many as they want.

# Implementation of Mobile Devices

## What our Training Looked Like…

### TRAINING MODULES - OUTLINE

- "Workflow" Module

For Shop Supervisors/Foremen

- Work Processes and Reminders
- Using Your WorkDesk
- Daily Assignments
- Leave Codes
- Shop Availability
- Hands on Activity
- Questions, Concerns, Comments

- Objective: Supervisors will spend the next 1-2 weeks using Daily Assignments and developing their own routines to dedicate daily time to work order processing.

- "FiRE" Module

For All Shop Personnel (Supervisors/Foremen & Technicians)

Work Management:

- Assignments
- Queue
- Timecards
- Home
- Walkthrough
- Hands on Activity
- Questions, Concerns, Comments

- Objective: to become familiar with using your iPad to complete/process assignments while on the job.

- "The iPad" Module

For All Shop Personnel (Supervisors/Foremen & Technicians)

- Issue iPads
- General application setups and,
- Basic use of your Apple Device
- Questions, Concerns, Comments

- Objective: to become familiar with keeping your device with you at all times and to practice basic functions of the Apple iPad.

- "Timecards" Module

For Shop Supervisors/Foremen

- Timecard Approvals
- Rapid Timecard Entry
- Hands on Activity
- Questions, Concerns, Comments

- Objective: Supervisors will learn how to confirm work hours generated by technicians, and how to create new entries for missing time. This will need to be integrated into daily routines.

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# Implementation of Mobile Devices

## Implementation

- Each iPad had to be individually prepped by our Software Systems Specialist.

- Finding a mobile device management system to regulate applications.

- Creating an Acceptable Use Policy.

# Implementation of Mobile Devices

## Transitioning

- Be available for questions

- Walkthrough procedure with the technicians as many times as needed.

One way we helped with this was to make laminated “Cheat Sheet” cards with bullet-point steps to follow that could fit into the iPad cases.

**Cheat Sheet**

- Sign In to Mobile Application
- Work Management
- Assignments (or Queue)
- Select a Work Order/Phase
- Review Work Order/Phase
  - Description
  - Extra Description
  - Notes Log
  - Related Documents
- Stopwatch (travel to job)
  Will be upside down
- Take a photo (if needed)
- Enter note in Notes Log
- Change Phase Status (*NOT on Standing Work Orders*)
- Stopwatch (to end job)
- Back to Assignments for next job.

## Implementation of Mobile Devices

Follow-up

- Q&As for Beta-testers.

- One-on-one with all shops.

- Keep an open door policy for the technicians even after the project is completed.


## Learning Outcome #3

What possible complications you can encounter & the user response. Examples – adjustments to pre-existing procedure to fit implementation, pushback from reluctant employees, and employees learning a new technology.

## What Could Go Wrong?

- Be prepared for changes… the expected and the unexpected.

- Keep in mind that change can be hard to adapt to.

- Be sure to document all changes to procedure.

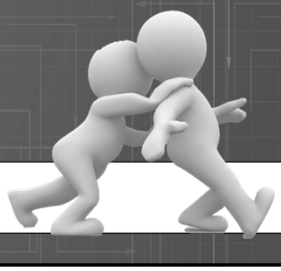
- It's hard to break habit. Follow up regularly to ensure progress is being made.


## What Could Go Wrong?

- Pushback from technicians... Usually based on opinions or beliefs they may have.

- If you decide to make use of mobile devices a requirement, be prepared to enforce it. If you have someone refusing to use the device, they may ultimately leave your facility.

- For the employees resistant to change, it is important to acknowledge their feelings, but reiterate that this is a mandatory implementation.



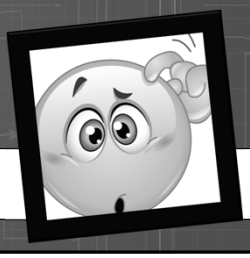
## What Could Go Wrong?

- Not all of your technicians will have the same level of competency when it comes to using the devices and the applications on it.

- There will be some very knowledgeable in the device and/or applications.

- But those that are not will set the pace for your trainings.

- Be patient when teaching those that need a little more extra one-on-one help, to stay positive about what the mobile implementation can do to make the technicians job easier, and improve overall workflow for the department.



## What Could Go Wrong?

- An Acceptable Use Policy is a great way to make sure the technicians understand they are responsible for the device.

- Clearly define what the repercussions will be if the device is lost, stolen, or damaged while in their possession.

- We've only had one case of a lost iPad. Luckily, it was recovered before any disciplinary action was taken.

# Learning Outcome #4

Why it is worth the hard work; how implementing mobile devices benefit Facilities, and its customers, and the university as a whole.

# **Results!** Improvements in the Work Order Center

Six months after fully implementing mobile devices to our workforce, the Work Order Center has drastically cut back on data entry.


We are now able to:

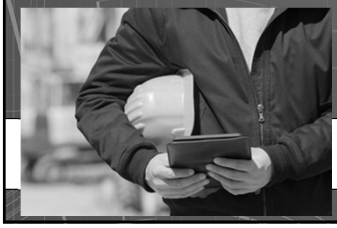
- Double check work orders for accuracy. Fewer errors and duplication issues.
- Check on the status of requests.
- Process changes or revisions immediately.
- Help supervisors stay on top of work orders that have longer turn-around times.
- Bill work orders faster than before.
- Help customers understand billing charges and send invoices upon request.
- Walk customers through filling out our online Work Request Form or running their own searches in our operating system for their reconciliations.

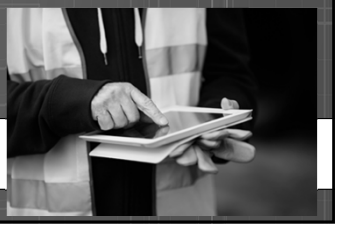
## **Results!** Improvements in the Field & Shops

- Supervisors are able to assign work to technicians electronically.

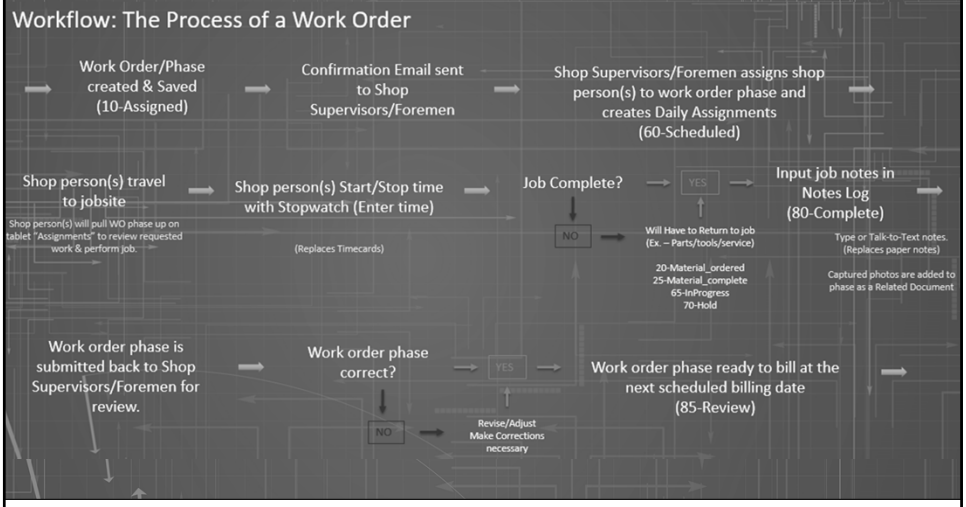
- Technicians have their assignments readily available on hand for quick reference and job preparation.

- Technicians save time by entering time and notes electronically while on the job.





## **Results!** Improvements in Workflow Efficiency



# In the Now

Labor Efficiency:

Technicians no longer waste man-hours on processing work order notes and timecards via paper. Before mobile devices, each tech would spend at least an hour filling out notes and timecard slips at the end of each day for the work they did. Which means, we are now saving **$15,300 per week** in labor hours that can now be redirected into work.

# What People are Saying…

*"Since we started using the I-pad mobile devices in the electric shop we have become much more efficient. I now spend a fraction of the time reviewing work orders and assignments from the previous day for approval. Where we had two people spending a large portion of the day performing this task I can now do in a few minutes every morning."*

*"The Electrical shop is loving it! More field time, better morale, faster response time…and have not heard a complaint in months about paperwork."*

*"The ability to assign work orders and share information makes it a very good tool for our shop."*

*"It allows us to communicate very well with the crews in the field. We can share pictures, folders and even "Facetime" live to help answer questions and work out problems that the crew may have."*

## A Greener Process

Our Facilities is also saving on the reduction of paper products that have been used for printed work orders and timecards.

- Prior to mobile devices, we spent **$1,325.80** a year in these paper products.

- As we stand now, we have reduced this cost so far down to **$615.48** a year.

- The goal of course is to soon ***eliminate*** this cost in full.

## In the Now

Labor Efficiency:

Work Order Center personnel no longer waste man-hours on entering data from paper timecards and work order notes. Before mobile devices, our call center would spend at least 12.5 hours a week entering in timecards and work orders submitted from the shops. Which means, we are now saving **$562.50 per week** in labor hours that can now be redirected into helping customers and ensuring work order accuracy.

## In the Now

For our next project:

We are looking into using our existing vendor's Asset Management application to begin connecting assets to work orders. This way, we will be able to start tracking maintenance on assets on campus, and therefore, begin the push towards more preventative work rather than reactive work.


# Thank you for Listening…

## And Carry on Clapping!

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