Digital Transformation

September 23, 2022

DIR

**Transforming How
Texas Government
Serves Texans**

Texas Department of Information Resources

Today's Speakers

Jennifer Buaas

Director of Strategic Digital Services
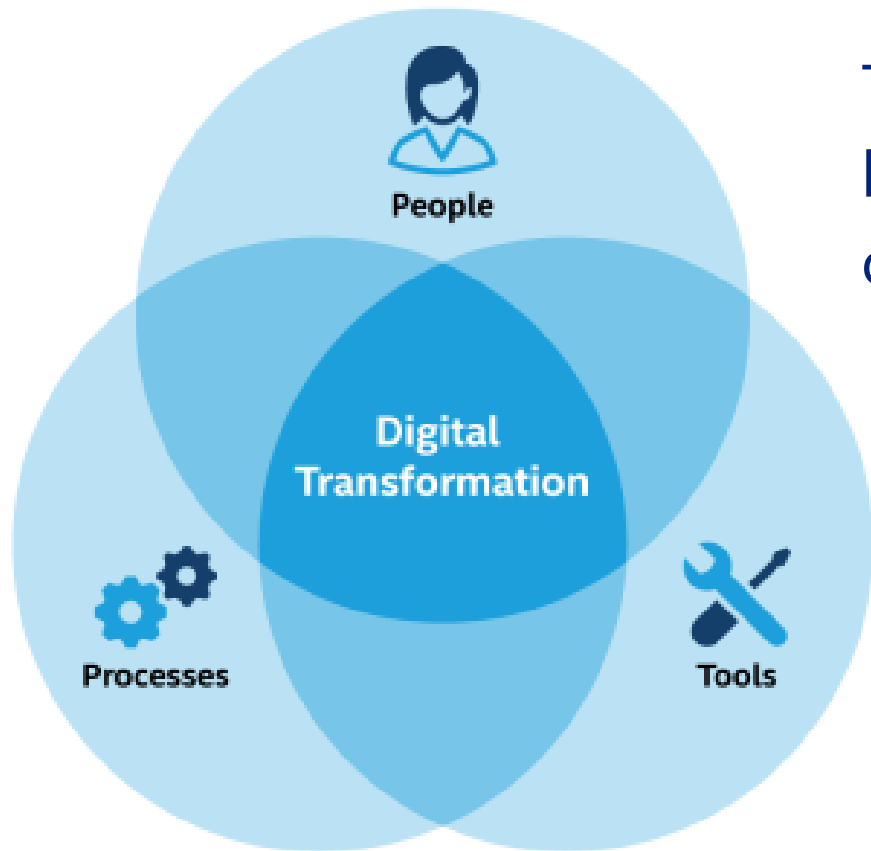
Texas Department of Information Resources

Krishna Edathil

Director of Enterprise Solution Services (Cloud/AI)

Texas Department of Information Resources

What is Digital Transformation

People

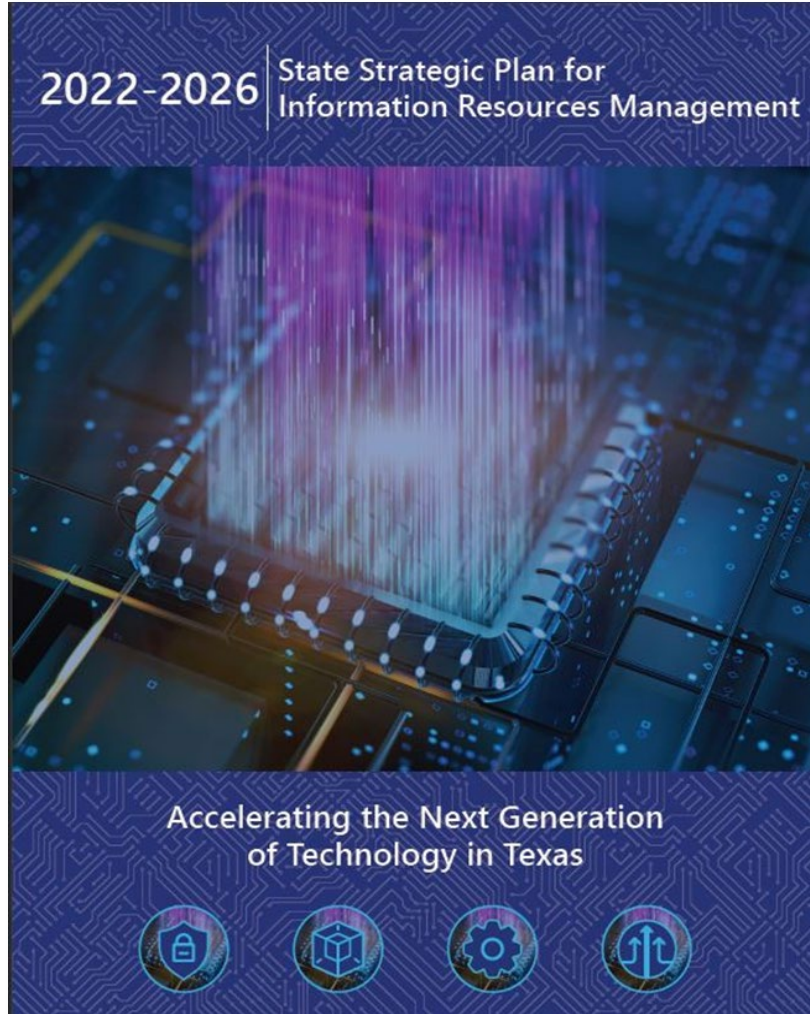Digital Transformation

Processes

Tools

The integration of technology into all areas of a business to fundamentally change how an agency operates and delivers value to constituents.

2022-2026 State Strategic Plan
Accelerating the Next Generation of Technology in Texas

2022-2026 | State Strategic Plan for Information Resources Management

Accelerating the Next Generation of Technology in Texas

Goal 1
Secure IT Service Delivery
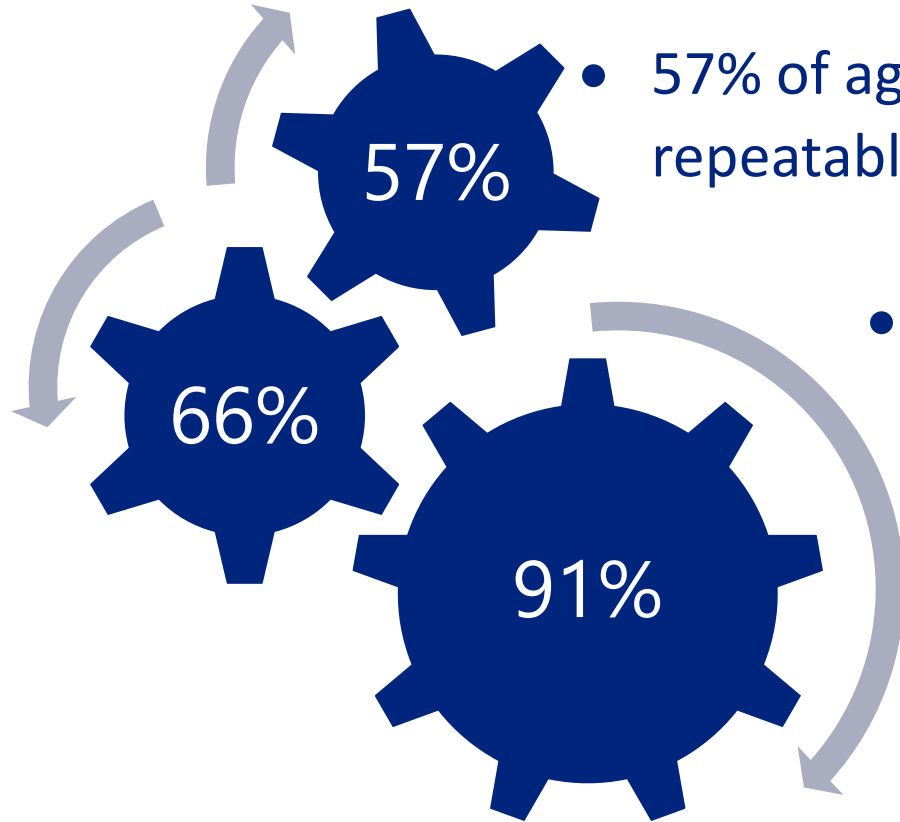
Goal 2
Advanced Data Management

Goal 3
Strategic Digital Transformation

Goal 4
Proactive Approach to Emerging Technologies

What does the data say?

57%

66%

91%

- 57% of agencies rate their digital transformation status as repeatable, defined, or controlled, up from 51% in 2020.

- Two-thirds of agencies have all or partially paperless processes.

- 91% of state agencies allow constituents to submit applications or forms via the internet, up from 85% in 2020.
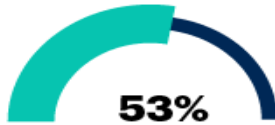
Source: 2022 IRDR

Transformation Objectives and Challenges

Even during this time of disruption, governments share common digital government objectives and challenges.
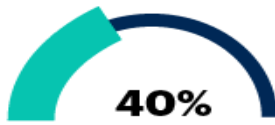
Objectives
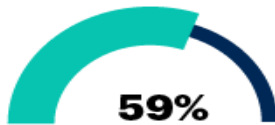
59% Improve the citizen or user experience of the organization

53% Improve operational efficiency

40% Improve outcomes associated with the public purpose or mission

Challenges
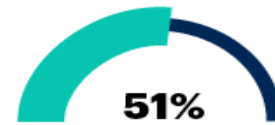
51% Siloed strategies and decision making

42% Business culture blocking change

38% Insufficient funding/ budgets

Government CIOs must **focus business executives on these objectives** and proactively build mitigation strategies for these challenges.

Source: Gartner

Strategic Digital Services

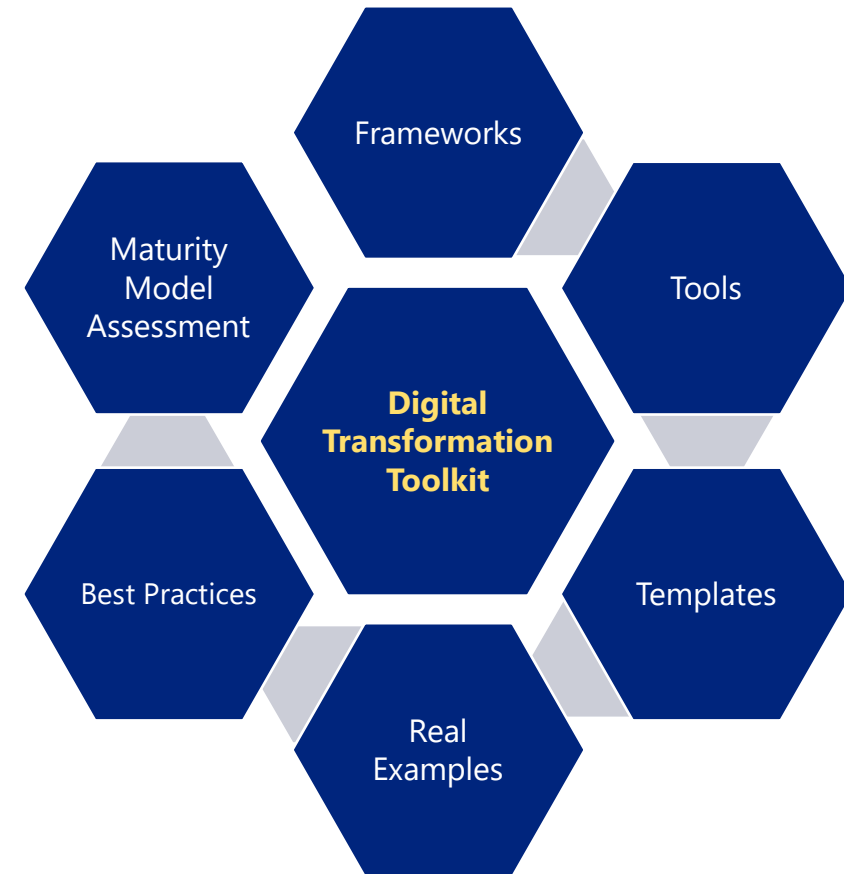# DIR's Strategic Digital Services (SDS) Program

Vision

Help agencies adopt digital technology to:

- transform manual processes with **digital processes**,
- replace legacy technology with **modern technology**,
- and shift from a task workforce to a **knowledge workforce**.

Frameworks

Maturity Model Assessment

Tools

Digital Transformation Toolkit

Best Practices

Templates

Real Examples

Digital Transformation Resource Guide

Provides guidance on the development and format of digital strategies for Texas state government. The tools intended to provide resources that can make the process of developing a digital strategy efficient and effective.

Digital Maturity Assessment Tool

Digital Transformation Prioritization Tool

Digital Strategy Template

Digital Strategy Implementation Plan

Organizational Change Management

Cost Benefit Analysis Template
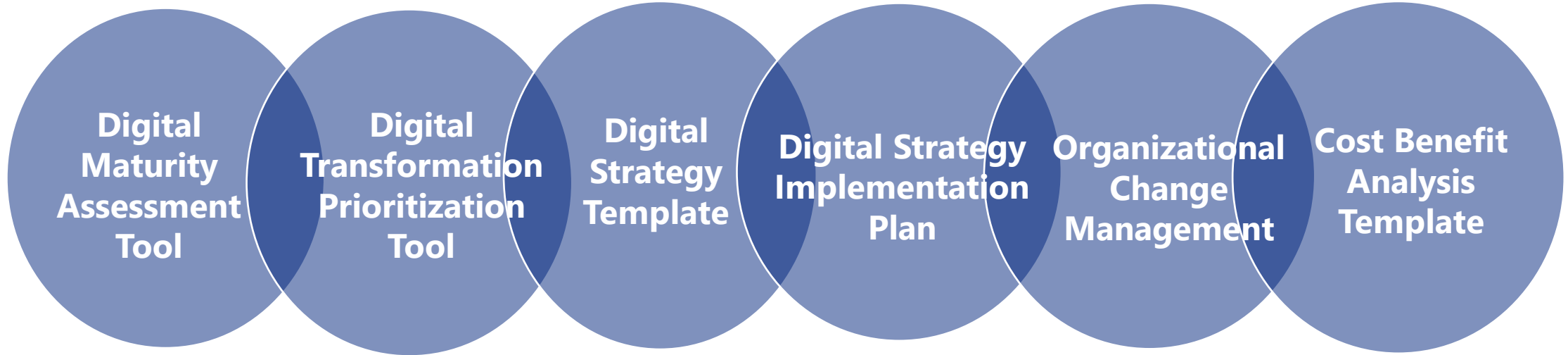
Digital Services Academy (DSA)

Public Sector

+

Private Sector

→

- Trainings

- Workshops

- Best practices

- Evolving Technologies

=

**Transformation and Digital Champions**

Digital Transformation in Action

Texas.gov Program Mission

Texas.gov is the state's official website and digital government program.

- Provides Texas government agencies with a portfolio of solutions to deliver the convenience and safety of online services to constituents.

- Enables Texans to conduct business with their government in a variety of easy, secure, and user-centric ways.
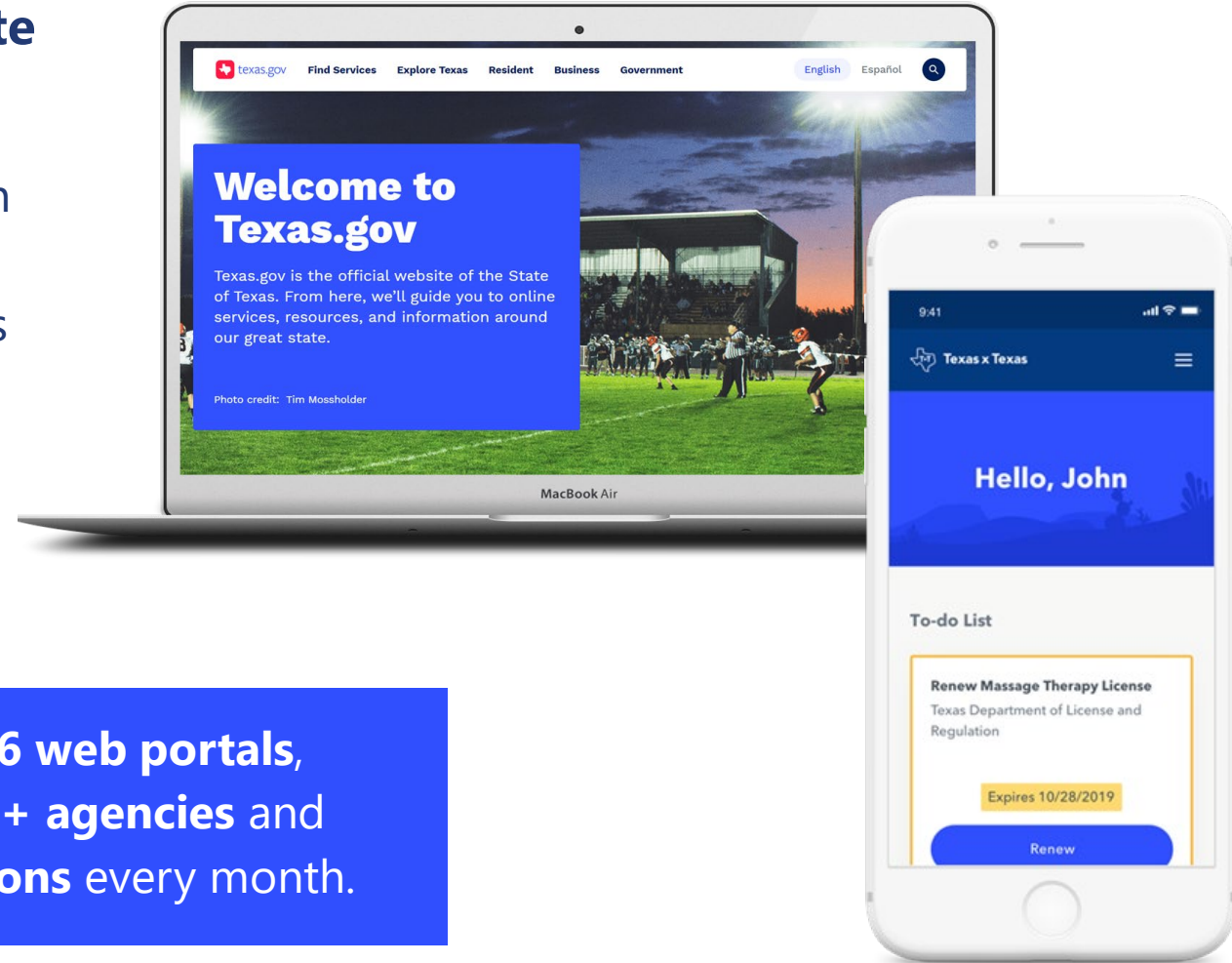
The Texas.gov Services portfolio includes **6 web portals**, **50+ hosted applications** on behalf of **30+ agencies** and supports **millions of users and transactions** every month.
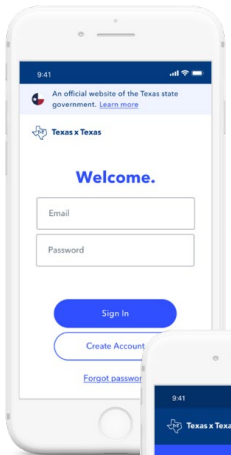
Texas by Texas (TxT)

TxT is the state's official digital assistant. TxT gives Texans an easy, fast, and secure way to take care of government services – anytime, anywhere, and on any device. And it lets government agencies integrate constituent-facing services on a centralized, account-based, and trusted platform.

KEY FEATURES

- Create a single, secure, and multi-factor authenticated **user account** and **link services** (DL/ID, vehicle, etc.)
- Access a **personalized dashboard** with upcoming to-dos, stored payment info, transaction history, etc.
- Set **notification preferences** to receive proactive alerts and reminders
- Complete **agency transactions** in just a few taps
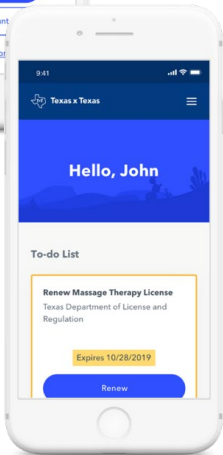
Learn more and create your TxT account!

- Visit **www.texas.gov/TxT** to get started.
- Hear state agency executives share their perspective on TxT:
  Amanda Crawford, DIR Executive Director and State of Texas Chief Information Officer
  David Gonzales, TDLR Deputy Executive Director

CURRENT INTEGRATIONS

- TDLR Massage Therapy License Renewal
- TxDMV Vehicle Registration Renewal
- DPS Driver License/ID Renewal, Replacement, and Address Change

KEY SUCCESS METRICS

>2.9M
Accounts Created
Over 15% of the State's eligible population has a TxT account!

>4M
Transactions Completed

Been waiting for this!
Setup was easy and intuitive. Had my driver license and all four family vehicles linked to my account in less than 10 minutes. Got a notification right away that two of my vehicles were within 90 days of their renewal deadline and was able to start the process right away from my phone. Can't wait for more services to be added.

Native Mobile Apps

TxT is available to end-users as a responsive web application and/or a mobile app.

*iOS and Android available now!*.

FEATURES

- Push notifications for streamlined call-to-action and status updates
- Scan vehicle sticker and DL barcodes to link to TxT account
- Geolocation ability to find inspection stations
- Integration with existing TxDMV "Dude, where's my sticker?" tracker to view status of mailed sticker upon renewal

Texas by Texas (TxT) [4+]
An official Texas.gov app
Texas Department of Information Resources
★★★★★ 4.7 • 28 Ratings
Free

149,880+
iOS and Android Downloads

iPhone Screenshots

★★★★★
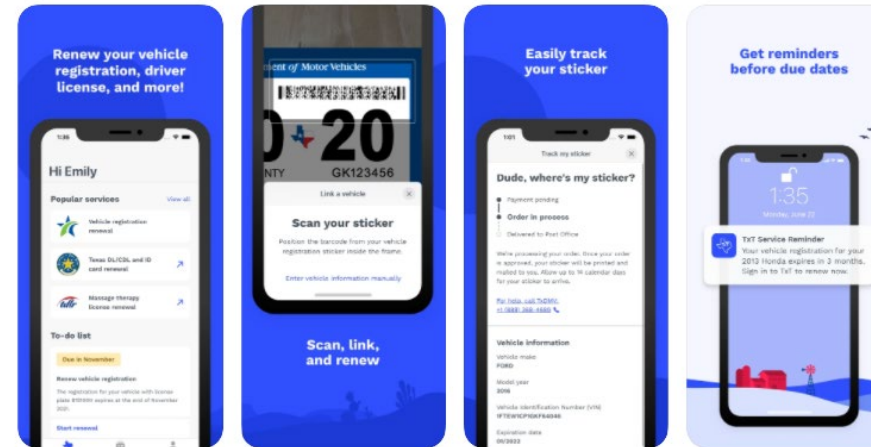
harten74, 01/21/2022

FINALLY!!!
Been waiting for this for years! Setup was easy and intuitive. Had my Drivers License and all four family vehicles linked to my account in less than 10 minutes. iPhone camera did a great job of scanning barcodes on DL and Registration Stickers which made adding them to my account very easy. Got a notification right away that two of the vehicles were within 90 days of their renewal deadlines and I was able to start the process right away, from my phone. Can't wait for more services to be added... talking to you Texas Parks & Wildlife 😊

Quick Start

	NATIVE APP	MOBILE WEB APP
Overview	An application for specific mobile devices (smartphone, tablet, etc.) installed directly on the device. Apps are typically acquired through the Apple App Store or Google Play.	An internet-enabled application with specific mobile device functionality accessed through a web browser (ex. Safari or Chrome) that does not need to be downloaded and installed on the device.
Development Environment	Unique development platform (ex. iOS and Android) and development process.	Runs on a mobile web browser and each browser may have its own unique features, quirks and bugs.
	Unique native mobile development platform and language (ex. Java for Android, Objective-C for iOS, and Visual C++ for Windows Mobile).	Offers more development flexibility as can be developed in HTML5, CSS3, JavaScript and server-side languages, or web application frameworks of the developer's choice (ex. PHP, Rails, Python)
	Standardized software development kits (SDKs), development tools, and common UI elements are provided by the platform.	No required, standard software development or UI kits but accelerators are available.
Native Features	Ability to access with the device's native features, information, and hardware.	Limited access to the device's native features, information, and hardware.
Delivery	Downloaded onto a mobile device.	Accessed through a mobile device's web browser.
	Installed and runs as a stand-alone application without a web browser.	No need to install new software.
	Users must manually download and install app updates.	Updates are pushed to the web server without user intervention.
	Stores and marketplaces provide easier access to find app.	No centralized marketplace so it's more difficult for user to find app.

Pros & Cons

NATIVE APP	
+	**–**
Typically, perform faster than mobile web apps.	Typically, more expensive to develop, if supporting multiple devices.
App stores and marketplaces help users find native apps.	Supporting multiple platforms requires maintaining multiple code bases and can result in higher development, and maintenance costs.
App store approval and distribution assures users of the quality and safety of the app.	Users with different versions can make it harder to maintain and support.
Accelerators via tools, support and best practices provided by the platform can speed up development.	App store approval can delay or prevent the launch and release date.

MOBILE WEB APP	
+	**–**
Common code base across all platforms.	No access to all device functionality, but likely forthcoming.
Users don't have to go to a store or marketplace to download the app and install the app.	Supporting multiple mobile web browsers can result in higher development and maintenance costs.
More release freedom on format and timing as there's no app store to approve and warehouse the app.	Different mobile browsers and can make your app harder to debug, maintain, and support.
Ability to retrofit an existing web app with a responsive design.	Lack of a centralized marketplace may increase marketing costs for user.

Proactive Approach to Emerging Technologies

Krishna Edathil

Did You Know?

Did you know that of the 4,130 business applications (identified as part of 2014 study) in use in Texas, over half rely on hardware and software technology that is considered obsolete or inefficient?

Three Phases in Application Modernization Journey

- Phase 1:
  - Identifying the Projects and evaluating using Legacy Modernization Guide
  - Gartner's TIME Quadrant for Risk and Impact Analysis
  - Application Development Decision Framework for prioritizing Apps for modernization
- Phase 2:
  - Implement Application Portfolio Manager for funding efficiency, Roadmap Development, End of Life and Risk and Impact Analysis. APM is paid for DCS agencies by the program.
  - Provide IT Modernization Roadmap and strategy by October 1, 2022 (HB 4018 Section 2)
- Phase 3:
  - Participate and submit legislative reports and especially IRDR, PCLS to inform legislature about your technology debt and urgency for funding
  - The Centers of Excellence (CoEs) will help implementing the project using emerging technologies through research items, proof of concept and rapid prototyping

Embrace the Funding Levers – IRDR, PCLS, APM, ADDF...

- Section 2054.069, Government Code entitled Prioritized Cybersecurity and Legacy System Projects Report requires the Texas Department of Information Resources (DIR) to report on state agency cybersecurity projects and projects to modernize or replace legacy systems, as defined by Section 2054.571, Government Code to the Legislative Budget Board (LBB) no later than October 1 of each even-numbered year.

Information Resources
Deployment Review
Prior to PCLS Submission

Application Portfolio
Management Assessments
Prior to PCLS Submission

Prioritization of Cybersecurity and
Legacy Systems Projects
Agency LAR Due Date

IRDR ⟩ APM ⟩ PCLS

➤ Inventory applications
➤ Determine applications to assess

➤ Complete application APM assessments as determined

➤ Associate applications to relevant project questionnaires

The 2020 report contains information about 59 projects from 27 agencies totaling an approximate funding request of $898.6 million.

In 2018 about 67 projects from 28 agencies totaling an estimated funding request of $482 million.

59 Projects awarded 1.6 Billion USD as $430 modernization fund

Technology Improvement and Modernization Fund

- Special fund created in the state treasury outside the general revenue fund.
- Fund consists of:
  - Funds transferred or deposited at the direction of the Legislature.
  - Federal funds for improving and modernizing state agency information resources.
  - Gifts, donations, and grants and interest earned.
- May be used to improve and modernize state agency information resources, including legacy system projects and cybersecurity projects.
- Joint Oversight Committee On Investment In Information Technology and Improvement Projects is made of up of three members from House of Representatives and three from the Senate which will review investment and funding strategies for projects to improve or modernize state agency information resource technologies.
- SB 8 (3rd special session) allocated $200M from ARPA to the fund.
- HB 4018 requires each agency to create a strategic plan to modernize.

Prioritization of Cybersecurity and Legacy Systems (PCLS)

- Every even year, before the start of the Texas Legislative session, DIR reports on state agency cybersecurity projects and efforts to modernize or replace legacy systems.

- Agencies must submit information about their requests to DIR through the SPECTRIM portal prior to the agency's LAR due date to be considered in the prioritization report.

- For questions about the PCLS assessment content, please email pcls@dir.texas.gov.
    - PCLS Instructions
    - PCLS inbox pcls@dir.texas.gov

Texas Cloud and AI Centers of Excellence

DIR Centers of Excellence (CoE)

Background

- Initiated in spring of 2019 to drive with cloud initiatives.
- Hands-on user experience approach with in-person and virtual training.
- DIR, customers, and vendor community provide training and risk-free environments.
- Currently focused on cloud and artificial intelligence technologies.

Impact

- Over 6,000 training seats for cloud skills development.
- Accelerated response efforts during pandemic period.
- Twenty-nine artificial intelligence proof of concepts with five moving to production.
- Increasing productivity and efficiency while attracting and retaining talent pool.

Recognition

- Artificial Intelligence Center of Excellence won State Scoop's Innovation of the Year award.

The Four Pillars of Centers of Excellence (CoE)

The centers of excellences are built based on the four pillars identified below. The most significant of all was the opportunity to get quick hands-on experience, rapid prototyping and fast tracking PoC to production journey

Persuade
- Document best practices
- Fund pilots
- Offer a contest
- Share skills

Enforce
- Establish standards
- Choose vendors
- Document instances
- Centralize

Inform
- Share ideas
- Create repositories
- Brainstorm ideas
- Encourage participation

Innovate
- Build a product
- Develop a service
- Measure the impact specifically
- Plan to persist

ce: Gartner

State of Texas Cloud-Smart Strategy and Alignment

According to the 2020 National Digital Survey, **Texas is one of the leading states in terms of fast-tracking cloud adoption** and is backed by strong legislative support, strategic direction and agency alignment.

Government Code Section 2157.007

State agency shall ensure, when making purchases for an automated information system or a major information resources project, that the system or project is capable of being deployed and run on cloud computing services.

State Strategic Plan 2022-2026

As the utilization of cloud services is becoming more prevalent, it is imperative for agencies to consider implementing cloud-based solutions for business continuity and disaster recovery planning.

Agency Strategic Plan and LARs

Once state agencies have developed a cloud strategy and are ready to move forward, DIR has several offerings available. Cloud services are available to state agencies through DIR Cooperative Contracts and Shared Services.

Artificial Intelligence Center of Excellence

- Educate and evangelize emerging AI technologies to deliver services to Texans faster.

- Leverage DIR services, customer experiences, vendor expertise to drive adoption through "hands on" training.

- Public, private partnership to collaborate, innovate, and implement.

- Open to state agencies, higher education, and local government.

- Focus on all branches of AI including:
  - Robotic Process Automation (RPA) ← Initial
  - Machine Learning (ML)
  - Natural Language Processing (NLP)
  - Computer Vision (CV)

"By the end of 2024, 75% of enterprises will shift from piloting to operationalizing AI, driving 5X increase in streaming data and analytics infrastructures." –Gartner 10/2020

31%
of agencies are interested in AI training

60%
of agencies do not currently "align" to AI Goals in State Strategic Plan

Azure – QnA Bot
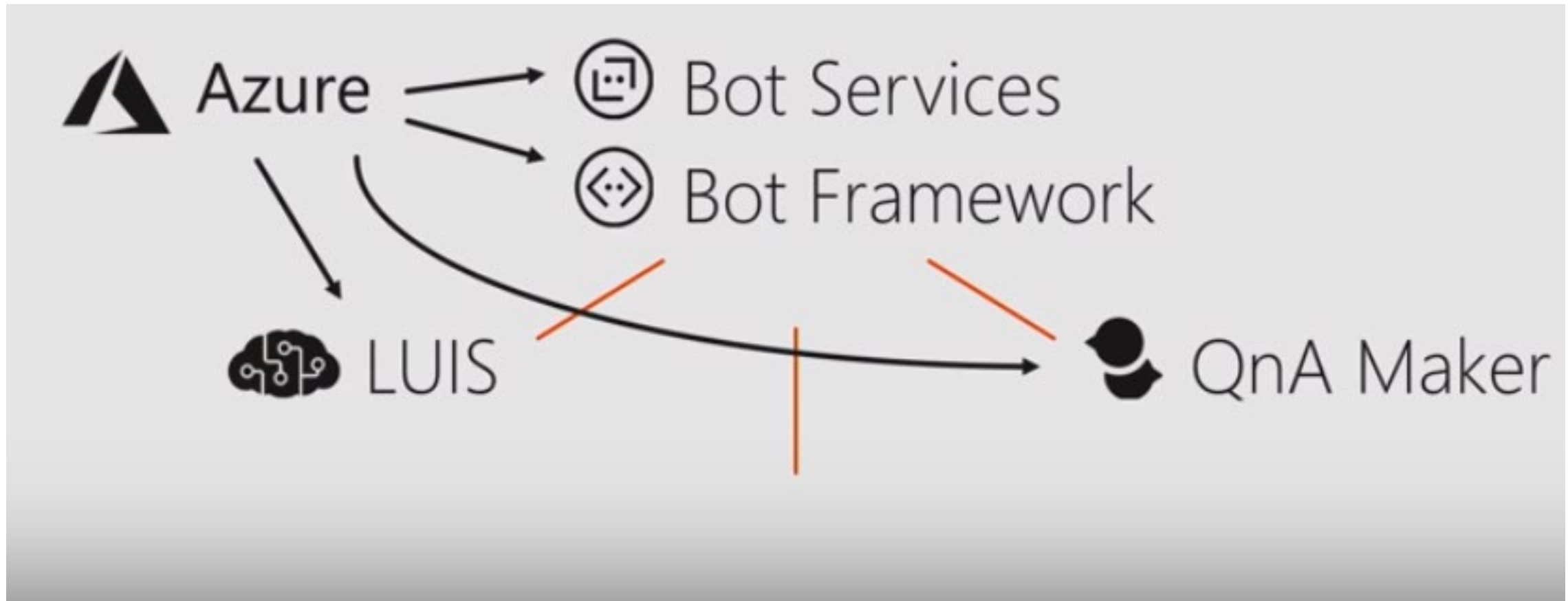
Virtual Assistant

Citizen engagement and self-service - use cases

Virtual agents

24/7/365 presence to respond to calls and questions with human-like virtual agents and IVRs

Intelligent routing

Identify callers' intent and route calls to the correct agent

Information capture

Collect key information to assist agents in resolving questions efficiently

aws

Larry the Chatbot

Ask DASH- Texas

quantiphi

Google Cloud

DESIGN	DEVELOP	REVIEW & TESTING	USER ACCESSIBILITY TESTING	DEPLOYMENT	SUPPORT

Week 1	Week 1-5	Week 2-5	Week 5	Week 5	Week 6-10
• Brainstorm and synthesize ideas • Formulate a Proof of Concept	• Develop and train Virtual Agent using GCP constituents • Trained on 40 FAQs	• Foolproof the solution through extensive testing	• Perform User accessibility testing	• Deploy the solution in the client environment	• Provide 75 hours of support post one month of deployment

Contact Us!

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Strategic Digital Services | Texas Department of Information Resources

Thank You

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