Interns & Automation in ITSM

Bob Black, Emil Sayahi

Agenda

- Introductions
- What do we do, and why?
- What is iPaaS?
- What we've made with iPaaS
- Managing intern development efforts
- Future plans
- Q&A

While we hope to leave time for Q&A at the end, please interject with comments and questions as we go.

Introduction — Emil Sayahi

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Introduction — Bob Black

Assistant Director, IT Process and Planning
IT Services
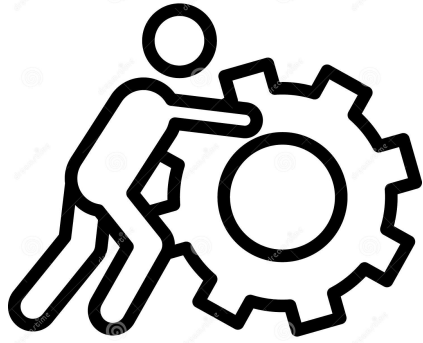Miami University
blackrw@miamioh.edu
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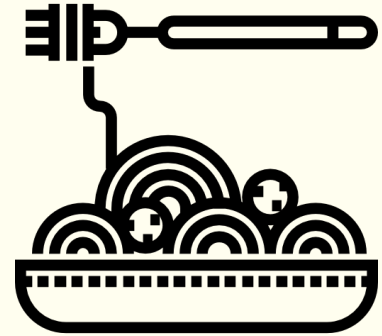Class of 2001
BS in Business Administration

Driving forces for action

Growing daily/weekly repetitive tasks

Deferred Data Hygiene Cleanup Efforts

Growing backlog of python scripts

What is TeamDynamix iPaaS?

- Low-code platform to automate tasks
- Visual, block-centric
    - Vanilla JavaScript can also be used
- Built around connecting with existing APIs ('connectors')
- Can be used to build simple user-interfaces
   - Drag & drop

Applications, flows, and forms

- Flows and forms are put into groups, called 'applications'
- Flows are low-code scripts, built with drag-and-drop blocks
- Forms are UIs built with drag-and-drop. Backend is written with flows
- It's possible to build simple Web applications without much or any code

Connectors

- TeamDynamix connectors
- Google connectors
  - Access to Google Drive
- Custom connectors
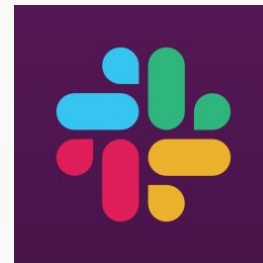
Notifications

- Flows can send emails and SMS (via Twilio)
- Require HTML templates (email) or text templates (SMS)
- Templates use logic-less Mustache-like templates (`{{ some_variable }}`)

Tackling problems

- Wittgenstein claimed 'it is the system of language that makes the sentence a thought and makes it a thought for us'
    - First, we think about the nature of the problem *by trying to describe it*
- Then, we think of the necessary variables and logic
- We then implement some of our approach and test it
- We continue iterating & evaluating
- <u>Collaboration can be made easier with blocks</u> instead of code
    - If someone can read your work, they can help you refine your approach

01 Automation

- Conduct hygiene types of tasks
- Notification of certain events
- Repeatable paperwork types of tasks

02 Data Extract, Transform, and Load (ETL)

- Consolidate data into our data warehouse

03 Configuration Management

- Synchronize data between source systems and TDX CMDB
- Provide single pane into all managed devices

04 Small Applications

- Fill ITSM gaps unmet by existing tools
- Experiments with limitations and capabilities of iPaaS

Examples of simple flows

Problem	iPaaS Solution
Sensitive attachments stored in tickets	14 days after ticket closed, remove the attachment
Retired assets in TDX retain owners, locations, etc	Purge retired assets of these values
Duplicate assets cannot be deleted because they have tickets	Watch for an asset to be marked duplicate. Move tickets to the other one and mark for deletion

Examples Flow Designer
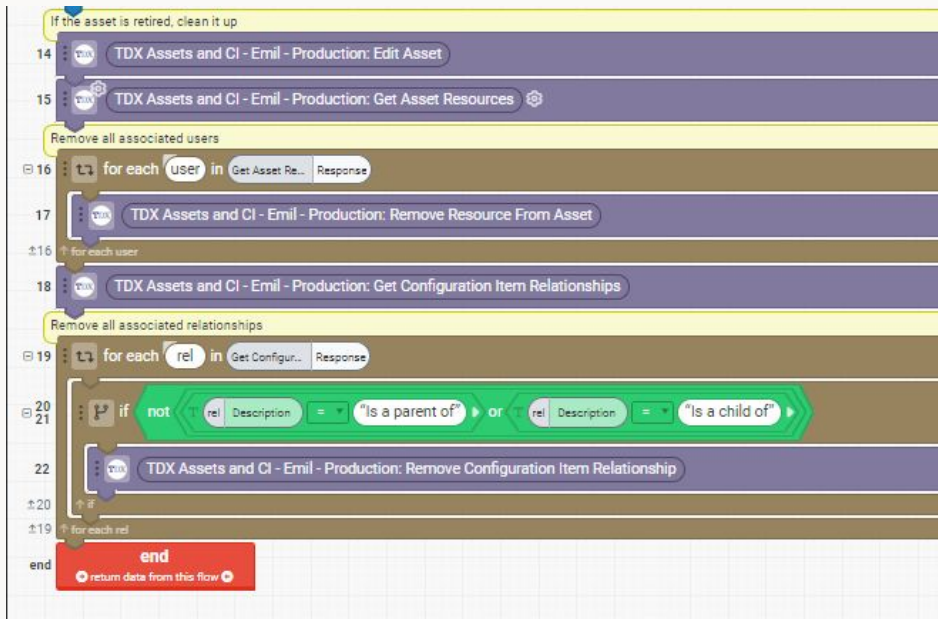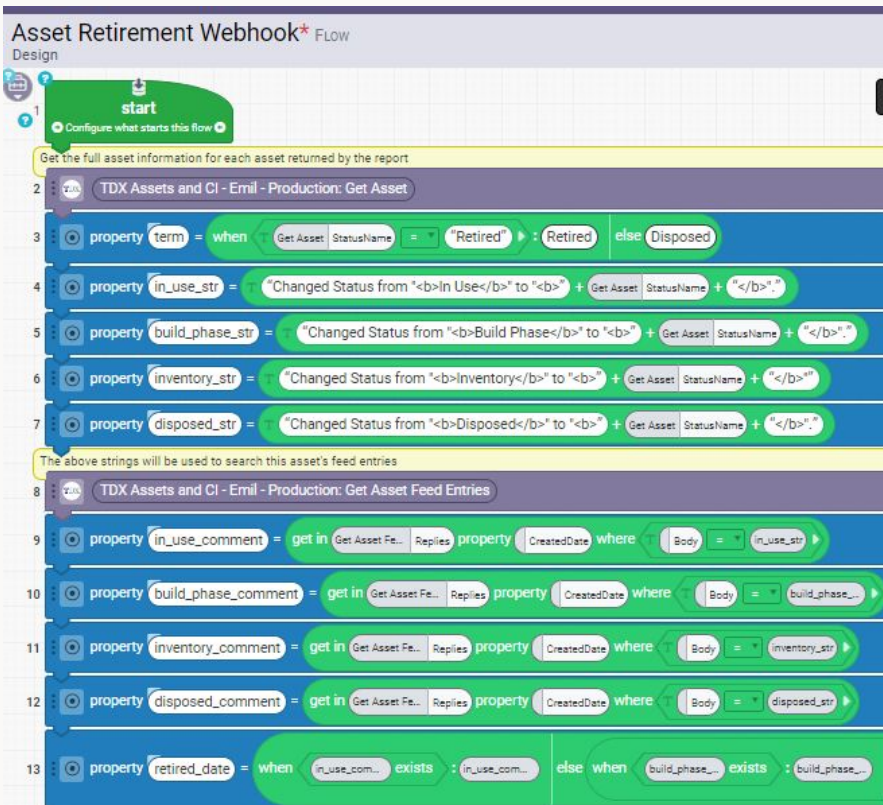
Examples of notification flows

Problem	iPaaS Solution
Some tickets fall between a major incident and a normal incident	Alert responsible on ticket when urgency is immediate/high via their slack channel or SMS
Learning space warrant extra love and attention	Alert classroom first responders when a ticket is created in a classroom they support

Facilities Data in TDX

FM:Interact

- Exported data from FM:Interact to Microsoft Excel sheets, and put them on Google Drive (as Google Sheets)
- Connector grabs sheet data
- JavaScript code manipulates sheet data into JavaScript objects
- Objects are sent to TeamDynamix APIs using connectors

Crestron Fusion

- Weekly report of rooms managed by fusion emailed to TDX
- CSV attachment picked up from ticket
- JavaScript code manipulates csv data into JavaScript objects
- Objects are sent to TeamDynamix APIs using connectors

201

Room ID: 10842

Details | Assets (14) | Configuration Items (0) | Tickets (43) | People (0)

✎ Edit   ⟳ Refresh   🖨 Print

Room Use: General - Tablet Arm Chairs
Room Name:

Attributes

Credit Bearing Validation Date ❓
03/29/2021

Crestron Fusion ❓
http://uitwcfcp01.it.muohio.edu/Fusion/WebClient

First Responder Team ❓
CASiT

FMI Department ❓
Registrar - Office of the Registrar

FMI Division ❓
EMSS - Enrollment Mgt & Student Success

FMI Function ❓
10 - Instruction & Instructional Support

FMI OBOR Space Type ❓
110 - Classroom

Refresh Designation ❓
C1 - Classroom 1

Room Last Synced with FM Interact ❓
09/15/2022 5:51 PM

Room Type ❓
Unclassified Classroom

Cisco DNAC to TeamDynamix

Switches:

- iPaaS gets a list of all network switches from DNAC
- Crawls through to see if any new serial numbers
- Conversion of name to match our naming schema for switch stacks
- Update existing switch or add new one

Cables

- Query the switch for the number of ports
- Get the name of each port (which we program to be the specific data pull where the cable terminates)
- Update the record with the switch controlling that port
- Mark "Open" if no longer terminated

The problem

- CIO traditionally rewarded "well done" with a candy bar
- No peer recognition system
- Remote work causing less visibility and interactions across teams
- Too much emphasis on negatives and complaints
- No tools for acknowledging good service management behaviours
- Multiple intake mechanisms within our division for capturing kudos

Rewards & Recognition

- Comprises several forms, each using several flows
- Has three main reward-types:
    - Awards (pre-existing; eg, 'Employee of the Month')
    - Kudos (ie, a message with praise)
    - Achievements (automated rewards, similar to those on gaming platforms)
- Recipients of all rewards receive an email

Miami University – IT Services
Rewards & Recognition

Create Reward

Give Award

Give Kudos

View Rewards

Rewards & Recognition — Create Award

Rewards & Recognition

Logged in as: blackrw@miamioh.edu

Create Reward

Title ⓘ

Test Award for OHECC Demo

Value ⓘ

3

URL to Reward Image ⓘ

https://thenounproject.com/api/private/icons/2381650/edit/?backgroun...

Is this award part of a sequence or stack of related awards? ◯ No ⓘ

Description ⓘ

Testing for OHECC

Category ⓘ

ITSM - Service Desk

Restrict who may issue or receive this reward? ◯ No ⓘ

Create ... ⓘ

Miami University − IT Services

Rewards & Recognition
Logged in as: blackrw@miamioh.edu

Give Award

Awards ⓘ

Award: Test Award for OHECC Demo

Award: Test Award for OHECC Demo

3 XP

Testing for OHECC

Recipients

Recipient Email ⓘ

blackrw@miamioh.edu

Recipient: Bob Black

bob.black@miamioh.edu

Bob Black (bob.black@miamioh.edu) has received the following rewards:

Message for Recipient (optional): ⓘ

This is going to be fun

Give ... ⓘ

Rewards & Recognition — Create Award

Bob Black
to bob.black ▾

MIAMI UNIVERSITY

Hello, Bob! This is an automated email notifying you that you've received a reward!

Award: Test Award for OHECC Demo
Issuer: Bob Black
Testing for OHECC
Category: 456207
Recipients: Recipients: Bob Black

<p>Note: This is going to be fun</p>

Details: https://us.ipaas.teamdynamix.com//app/form/render/eyJhbGciOiJIUzI1NiIsInR5cC
NTkiLCJzdGVwaWQiOiIyMyIsIml0ZXIiOiIxIiwiaXNzIjoiVERYIn0.rB1k5T7gF34yU7et069d4

Bob Black issued reward to Bob Black (2023-05-08T19:25:00.419Z)

Testing for OHECC

Note: This is going to be fun

OK

Next Steps

- Improve cosmetics
- Expand ability to browse awards
- Leaderboard

The problem

- Management systems do not tell us everything we care to track
- Remote work putting pressure from executives to prove ability to track and retrieve equipment
- Spreadsheets lack device level history

Inventory Review

- Users review their list of assigned hardware
- If they haven't reviewed that hardware recently (past 30 days), they can make corrections
- Users can assign themselves hardware
- Form is sent out via email on a regular schedule (start of new semester)

Inventory Review — Screenshots

Onboarding

- Watch ITIL intro video
- Review ITSM Roadmap
- iPaaS Overview
- iPaaS Foundations
- Peer review of existing flows

Practice iPaaS

- Flow creation
    - Pull a TDX report and send email with some value from the report
    - Pull a TDX report and update a ticket value for a ticket on that report
    - Pull a TDX report, find each matching person, grab their address, and update the ticket feed with that address
    - Pull a TDX report find asset on a ticket, update feed of that asset with a comment
- Forms
    - Create a form that asks for favourite flavour of ice cream
    - Initiate a flow to update the logged in user's profile with their favourite ice cream flavour
    - Create a flow that pulls a report of people missing favourite ice cream and emails them to complete the ice-cream form

KanBan Card Wall - <u>Backlog</u>

- Column for Each Project
- Project context and related materials
- Cards represent specific features
- Story Points indicate how difficult we estimate the feature to be
- Priority indicates the highest value features

Slack Standup

- As start shift, indicate what they are actively working on and any obstacles that stand in their way.
- As end shift, indicate what they accomplished and any obstacles that stand in their way.
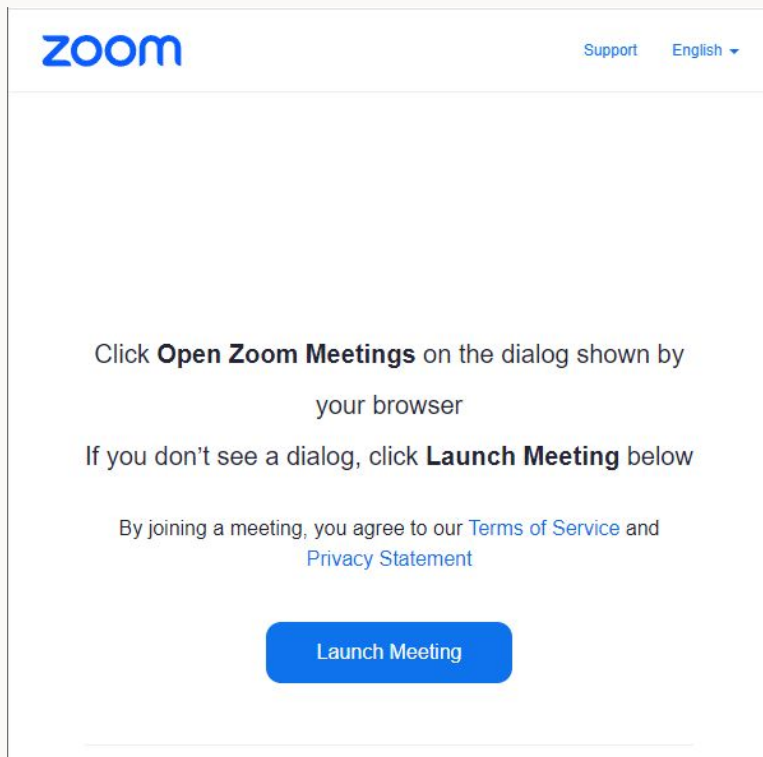

The Three Questions:
1. What have you completed since the last scrum?
2. What do you plan to complete by the next scrum?
3. What is getting in your way?

Showcase & Demo

- Highlight features
- Create feedback loops
- Easy to ship around to stakeholders for additional feedback

Value to the intern

- What did Emil get from this internship?
- Experience working in a team
  - Documenting work, communication intentions with others
  - Collaboration with peers, whether technical or not
- Experience satisfying client requirements
  - Interns were expected to have the technical skills
- Experience working with external parties

Challenges

iPaaS technical limitations

- Data file size limitations
- Better handling of null values in APIs
    - Returning '0', 'false', '0001-01-01', and empty strings is problematic
- Management of connectors and flows
- Difficult to apply formatting to iPaaS forms
- No "table" element on iPaaS forms
- How to avoid building features that belong in base TDX

Managing Interns for this work

- They are technical experts
- Keeping up and providing timely feedback
- Breaking down projects into pieces
- Describing features at right level of detail

Questions?

This presentation

Shameless plug for interest survey in face-to-face TDX meetup this summer

Credits:
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