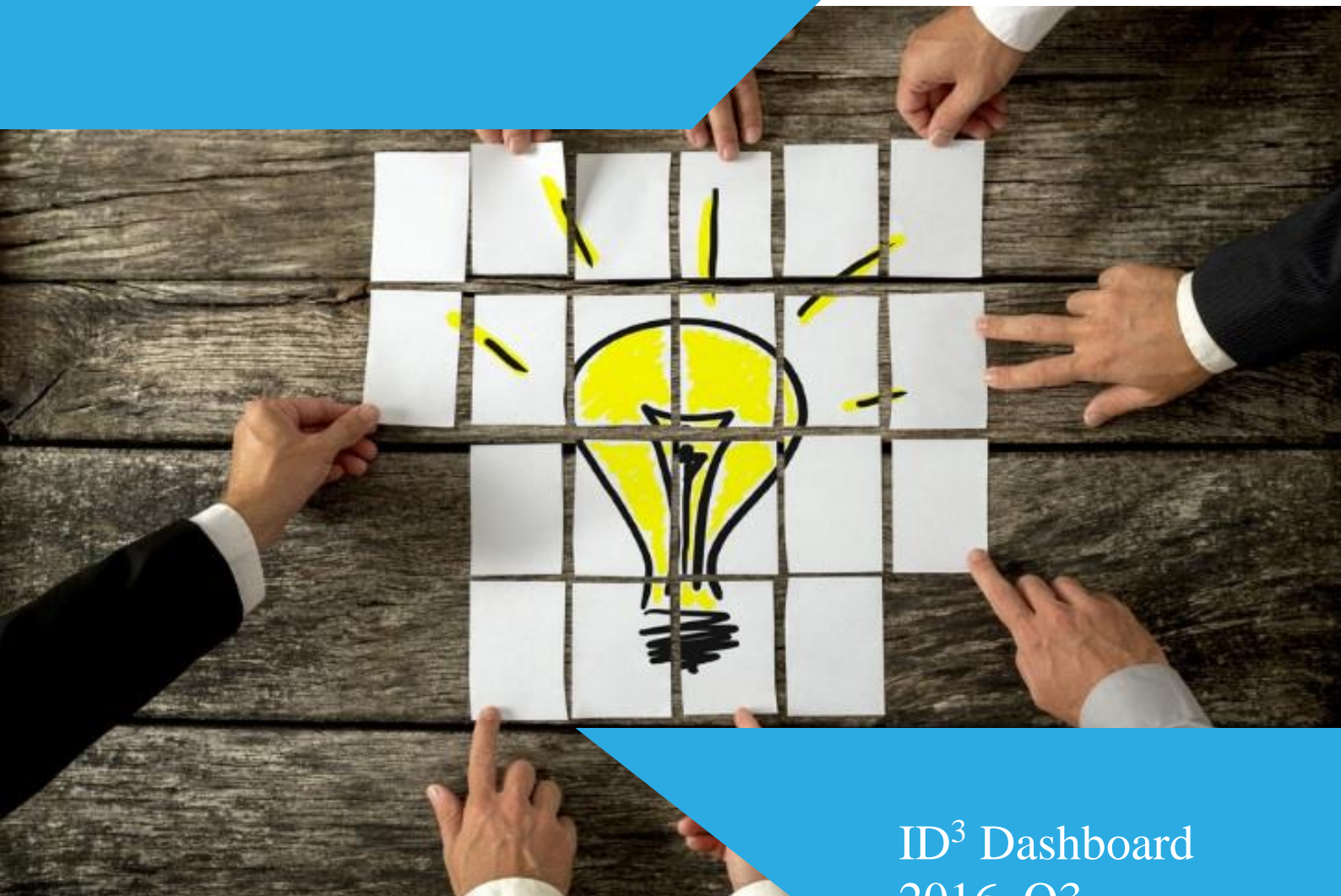# ID^3

UST Global Innovation Studio

ID^3 Dashboard
2016, Q3

Contents

ID³ - UST Global Innovation Studio

UST Global Innovation studio (ID³) provides a problem sensing and solutions framework to find innovative solutions for our customer business problems. The framework helps to tap the collective genius within UST to provide balanced and repeatable solutions with a significant value add to our customer. The framework involves an expert team that performs extensive research, business analysis, design, development and product management to create an innovative solutions.

	Discover	Distill	Define	Innovate	Instrument	Industrialize
Contributor	Pods, Client Partners, Executive Teams	Originator, Idea Champion, Executive Teams	Idea Champion, Partner Ecosystem, Executive Teams	Innovation Studio, Hackathon, Executive Teams	Turbo Innovation, Executive Teams	Account Team, Executive Sponsor
Duration	Continuous	1-3 Weeks	1-2 Weeks	2 Weeks	12 Weeks	3-6 Months
Outcome	Ideas, Opportunities	Problem Definition	Candidate Selection Concepts	Minimum Viable Concept (MVC)	Minimum Viable Product (MVP)	Product
Platform	RISE- Rapid Innovation & Solution Environment			SEED - Scaled Evolutionary Engineering and Design		

ID3 framework adopts design thinking tools & techniques like Design Sprint, Hackathon Sprint etc. to help customers to validate the design and an MVP iteratively within a minimal span of time and resources before commercialization.

- The ID³ Design Sprint is a very effective process to produce a Minimum Viable Concept from the Candidate Solution concepts within a very short span of time.
- The Hackathon Sprint events are conducted to develop a Minimum Viable Product in a short span of time.

ID³ Design Sprint

ID³ Design Sprint is UST Global's customized Design Thinking process that usually spans for 5 days and is defined in six stages with clearly defined goals and expected outcome for each day. The active participants involve a design team that comprises of a Design Champion, Engineering Champion, Prototype Champion, Technology & Domain SMEs and a Client Partner, Customer user and an Idea Lead. All experts working together for a short period, facilitates rapid prototyping and quick user feedback focusing on the right solution.

	Day 1	Day 2	Day 3	Day 4	Day 5
	Understand	**Define**	**Diverge**	**Decide**	**Prototype**	**Validate**
Sprint Stage	• User needs • Business goals	• Define principle • Design strategy	• Explore ideas • Identify user value • Technology	• Assess the ideas • Shortlist solution	• Mock • Demo	• User feedback • Technical feasibility
Outcome	Educated sprint team on problem & goal	Design strategy	List of candidate solution concepts	Shortlisted "Candidate solution concept"		• Prototype • User acceptance • Backlog
Contributor	• Client partner • Customer user • Idea lead • Design sprint team	• Design champion • Engineering champion • Technology/domain SME	• Design champion • Engineering champion	• Design champion • Engineering champion • Prototype champion		• Client partner • Customer user • Idea lead • Design sprint team

ID³ Hackathon Sprint

Hackathon is an event with specific focus to produce a Minimum Viable Product or to address specific use cases with minimal resources and time. This event, which is typically conducted for a week or two, involves programmers, graphic designers, interface designers, project managers, Infrastructure engineers and other development stake holders who collaborate intensively to meet the objective.
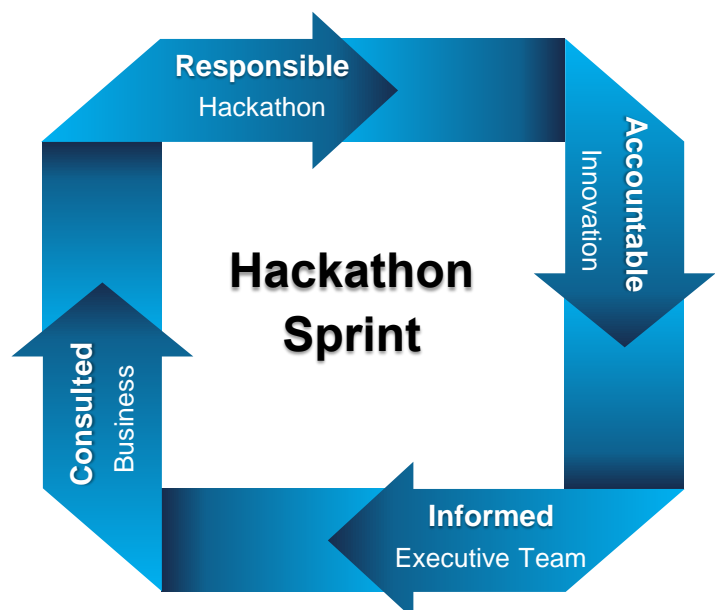
2016 Q3 Snapshot

Accomplishments

- ✓ *Captured 101 potential customer business problems from account partners*
- ✓ *35 business problems shortlisted from initial discovery phase*
- ✓ *Solution packaged for 10 business problems*
- ✓ *25 business problems are in solution development phase*
- ✓ *66 business problems are in discovery & distill phase*
- ✓ *$370K flow through revenue generated*
- ✓ *Opportunities identified with $3.2M weighted pipeline flow through revenue*

Business Problem Inventory & Execution Status

Solution in progress, 25, 25%

Solution Completed, 10, 10%

Business Problem Development, 66, 65%
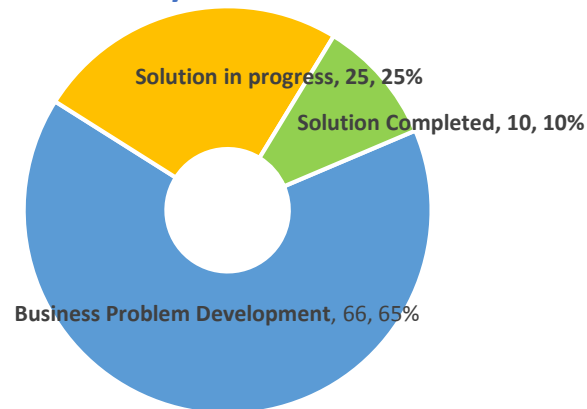
Top contributing accounts

Accounts (left to right): Anthem (20), Boots (16), Walmart (14), HBI (5), Equifax (5), IBC (5), Merck (4), Microsoft (3), Costco (3), PepsiCo (3), Ralph Lauren (2), State Street (2), DANA (2), McDonalds (2), KPMG (2), General (1), Carnival (1), Wolters Kluwer (1), Equator (1), Sempra (1), Navistar (1), Wolseley (1), Pacific Dental (1), HRB (1), Debenhams (1), McKesson (1), ADESA (1), Intuit (1)
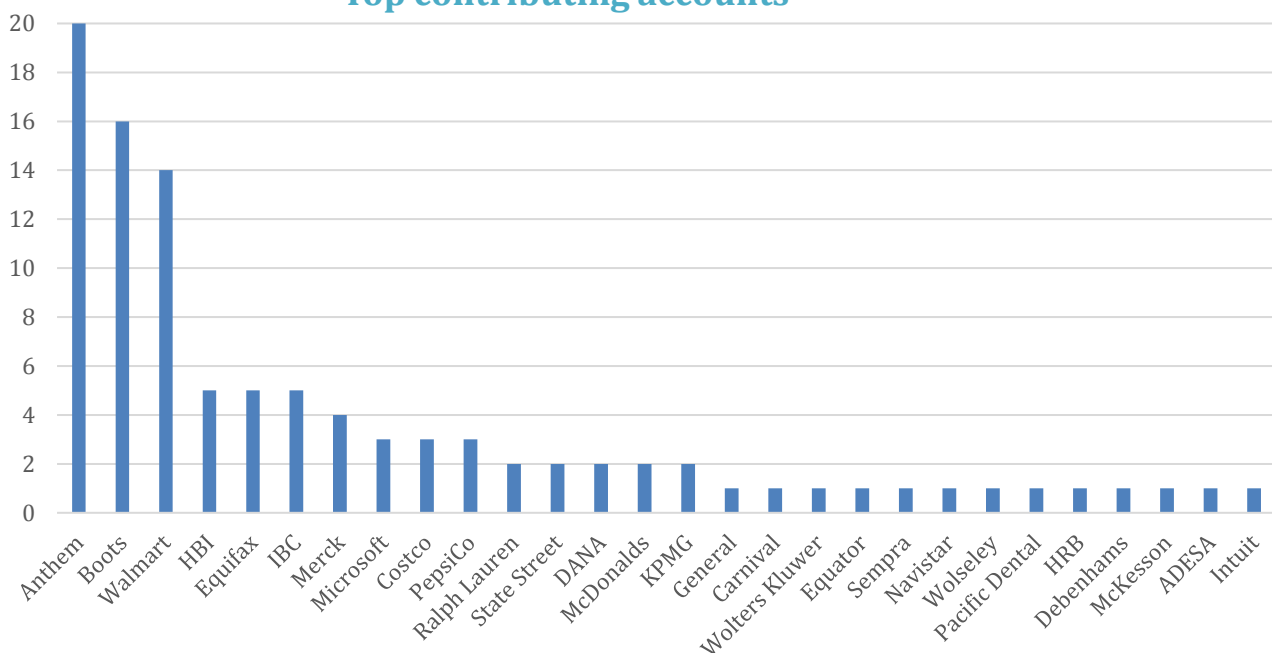
Innovation Solution Repository

SoapBox # 71 - Carrier Optimization

Business problem

One of the largest retailers in the world seeks to improve efficiency of their existing process of identifying carriers for tendering of loads, within 48 hours, which are in "Need Pick Up" or "to be picked up" state.

Pain Areas

- Inefficient Auto assignment –up to 2 hours resulting in 7300 loads/year to "need pick up" state
- Cost overhead – "Need pick up" state costs average additional $200 per load
- Fleet rejection after accept – Average of 9000 loads/year rejected within <48 hrs notice
- Carrier unassignment – Most loads are unassigned during contract renewal period

Solution and its components

Key features
- Enhanced carrier tendering
- Timely insights via mobile
- Intelligent algorithmic analysis
- Eliminate 'need pick up' state
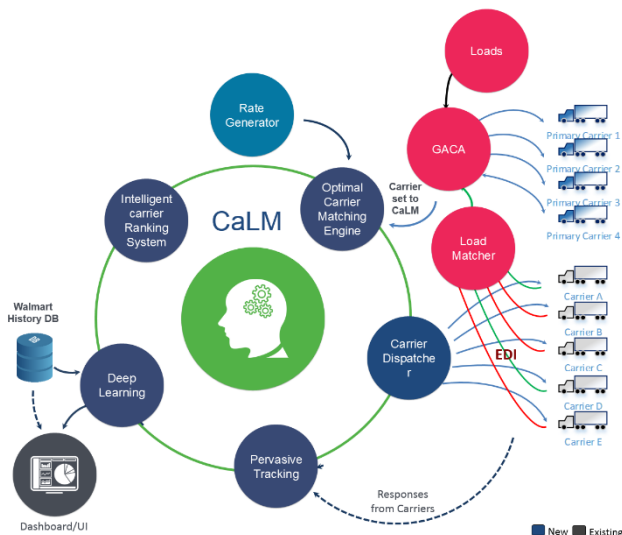- Real time operation automation vs manual effort
- Seamless integration

Value Proposition

Business Efficiency

Time to Reach out to the carriers - Instantly.

Significant productivity gain by reducing manual work and associated stress of trying to match an un-assigned load to a carrier

Identify & elevate the emerging carriers to preferred vendor group

Digital Trail and Transparency

Complete audit trail and brings full transparency to the process of carrier and price discovery per lane.

Allows for trend analysis/analytics

Enhance contract bidding knowledge and outcome cycle.

Executive Analytics + Insights

CaLM provides analytical insights via a dashboard for all carriers, lanes and loads.

Improved decision making power with ranking and trending data.

Flagging the emerging carriers - trend analysis based traffic ranking

Financial Efficiency

Conservative Estimate Total Cost Avoidance Potential 3 Million

Possible delay may lead to over stocking – thereby putting pressure on Cash Flow .

3M Savings

Level of Service GAIN | Productivity GAIN | Digital Trail/Audit | Advanced Insights

Dashboard Mockup

Executive Insight

CARRIERS RANKING | **PRODUCT INSIGHT** | **LOCATION AND DC INSIGHT** | **SERVICE-COST TREND**

47mins Truck Turnaround Time
Total Trucks 130158

Containers Per Truck 2.7
Total Containers 242339

Teus Per Truck: 2.5
Total TEUs: 363603

Slots Available/Used

	Weekdays	Saturdays	Sundays	Total
08:00-18:00				
18:00-24:00				
24:00-06:00				

CARRIERS RANKING | PRODUCT INSIGHT | LOCATION AND DC INSIGHT | SERVICE-COST TREND

Carrier Name A	Accepts 120	Rejects 28	Pricing $1.75	Overall Rank	100%
Carrier Name B	Accepts 120	Rejects 28	Pricing $1.20	Overall Rank	70%
Carrier Name C	Accepts 120	Rejects 28	Pricing $1.37	Overall Rank	70%
Carrier Name D	Accepts 120	Rejects 28	Pricing $1.75	Overall Rank	50%
Carrier Name E	Accepts 120	Rejects 28	Pricing $1.99	Overall Rank	50%
Carrier Name F	Accepts 120	Rejects 28	Pricing $1.02	Overall Rank	23%
Carrier Name G	Accepts 120	Rejects 28	Pricing $1.02	Overall Rank	23%

Traffic Coordinator

CaLM Dashbaord — Back | Real Time | Ranking | History | Analytics

CRITICAL LOADS	NOT TENDERED	NOT ACCEPTED	NOT PICK UP	LOADS FOR BID
56	18	11	398	273

LOADS BROADCASTED
Load ID - 64898573909 — Bids: 100 — Accepts: 4
Load ID - 86836587342 — Bids: 235 — Accepts: 0
Load ID - 521466454335 — Bids: 50 — Accepts: 10

TO BE PICKED UP IN NEXT 3 DAYS
Not Picked Up Yesterday 223
Pick Up Today 23
Pick Up Tomorrow 33

DC'S AND GOODS IMPACTED
DC 0963 | Good: Sale | PO: 111111
DC 1754 | Good: Water | PO: 22222

CaLM Load Details: 327498809 — Back | Real Time | Ranking | History | Analytics

LANE DATA INFO		CARRIER LANE/ LOAD RANKING		ORGIN	DESTINATOIN	P/U DATE 7/12/2016
LOAD ID:	32749110	1. JSW	+10%	560	537	MAB DATE 7/14/2016
LOAD TYPE	IRDC	2. DTH	ACCEPT			
LOAD STATUS	Not Accept	3. ANK	ACCEPT			
SOURCE	TRF	4. JSL	ACCEPT			
HAZMAT	UNCHECK	5. WIEL	ACCEPT			
SERVICE FAILURE	NONE	6. USMM	ACCEPT			

OVERALL LANE BROADCAST RESPONSE BREAK DOWN

10% — 90%

● ACCEPT
● REJECT

ACTION | CARRIER RANKING BY LANE | BROADCAST BID | ACCEPT TOP BID

SoapBox # 54 – Health & Wellness App

Business problem

One of the largest healthcare provider in US seeks game changing health and Wellness related ideas to improve user engagement through mobile App. The App should provide truly disruptive ideas to stay at par with its competitors.
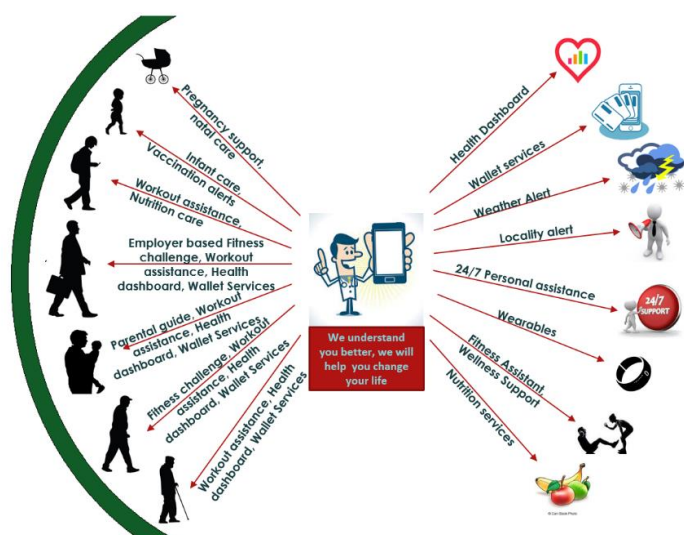
Pain Areas

- Lack of enough and accurate information
  - Not aligning with the client's goal of "improved transparency".
  - Higher customer care call volumes
- Poor Customer Engagement - Impacts brand value (especially within millennials)
- Absence of features that can keep the customer engaged on a daily basis

Solution and Features

Key Features

- New features introduced for tracking FSA/HSA spending
- New Self-Health awareness features with Visual connect to preventive health
- Subscription based alerts – CDC alerts, health warning alerts, Severe weather, Vaccination etc.
- Integration with devices, wearables & gadgets
- Insurance, health data, wellness plan, Nutrition services all in one application
- Wellness challenges with Incentive based programs
- Specialized alerts/guidance during special phases of life like Pregnancy, Infant/child care etc.

Value Proposition

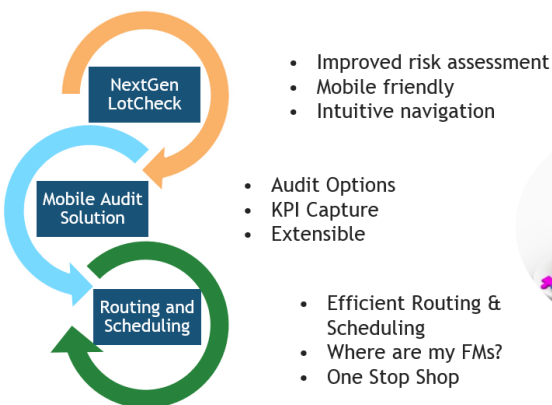| Improved user connect	Increase in customer adoption	Transparency and manage healthcare expense	Preventive Care
New features introduced to engage users on a daily basis Personalized Dashboard Fitness Assistant and wellness support	**Improved Branding** Features like Wellness campaigns and Fitness challenge will result in increased user base and improved branding	**FSA/HSA tracking and claims tracking** Health Wallet Features to track the healthcare expenses and improved transparency with claims submissions	**Healthy member base** Preventive care and location based alerts helps members avoid potential health issues. It's a win-win deal between insurer (client) and insured (members), leading to reduced healthcare expenditures.

Features Mockup
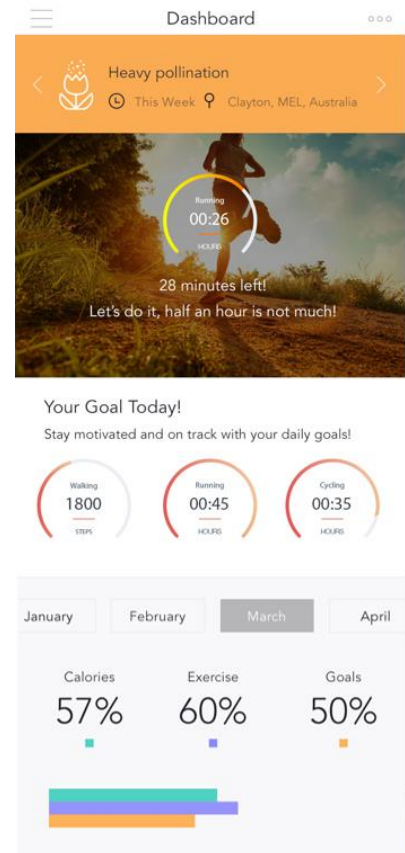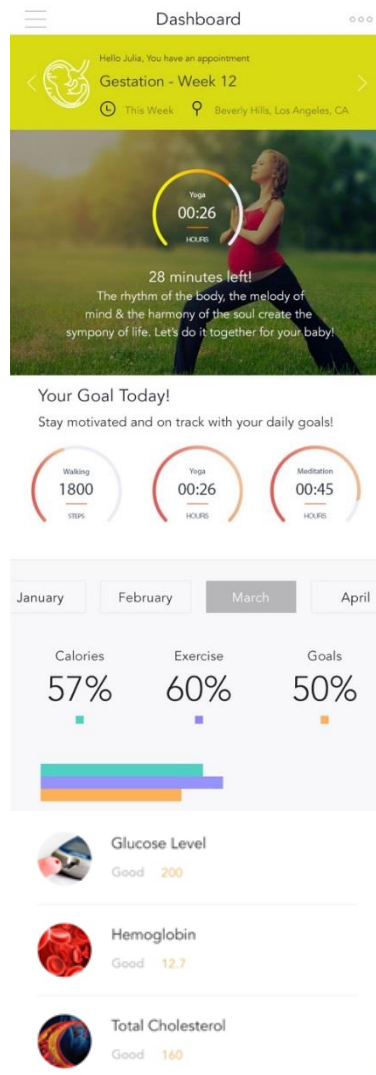
SoapBox # 15 – Lot Check System

Business problem

A Leading provider of Vehicle Auctioning and Remarketing faces a challenge with their current *Lot Check* system that cannot stay as is, because the outdated technology is going out of support by 2018.
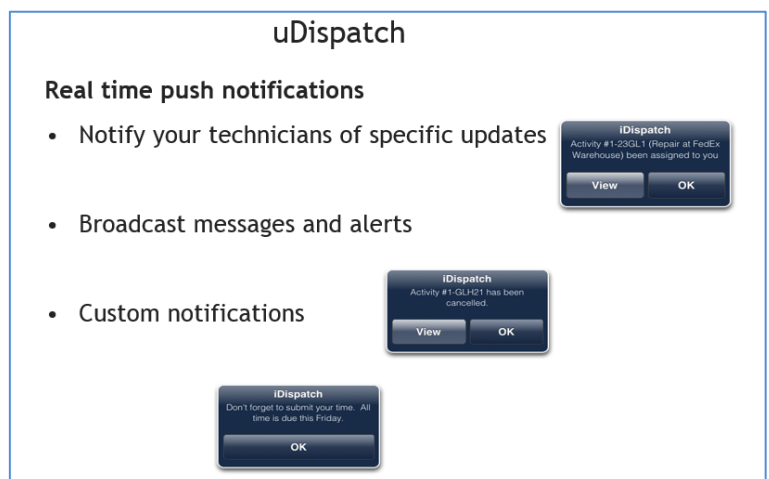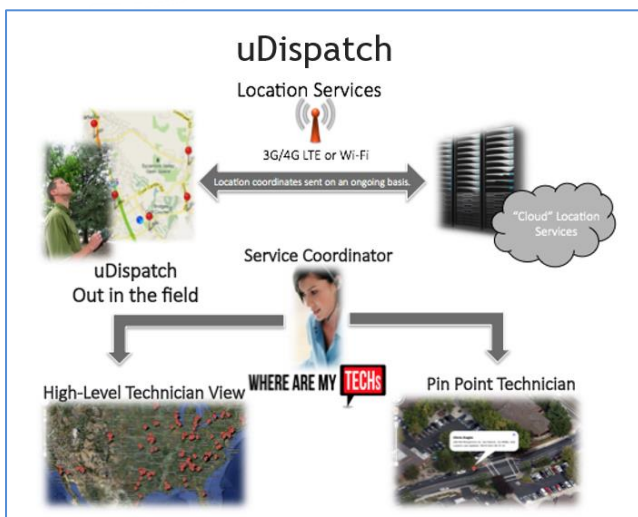
Pain Areas

- Outdated technology stack **–** *Lot Check* website runs on an outdated technology stack. Impacts the business efficiency across the board
- AV2 handheld device and platform - The current handheld device and platform are complex, less efficient and expensive (~$3M every 3 years)
- Scalability - Increase in inspections and inspectors causes scheduling and efficiency issues

Solution and Features

- Improved risk assessment
- Mobile friendly
- Intuitive navigation

- Audit Options
- KPI Capture
- Extensible

- Efficient Routing & Scheduling
- Where are my FMs?
- One Stop Shop

Key features

- Self-audit by dealers
- Validate co-ordinates and photos with GPS proximity of dealer address
- Print sticker barcode for easier future auditing
- ODB II/GPS Tracking/Virtual Audits
- Dealer/Inspector Ranking system
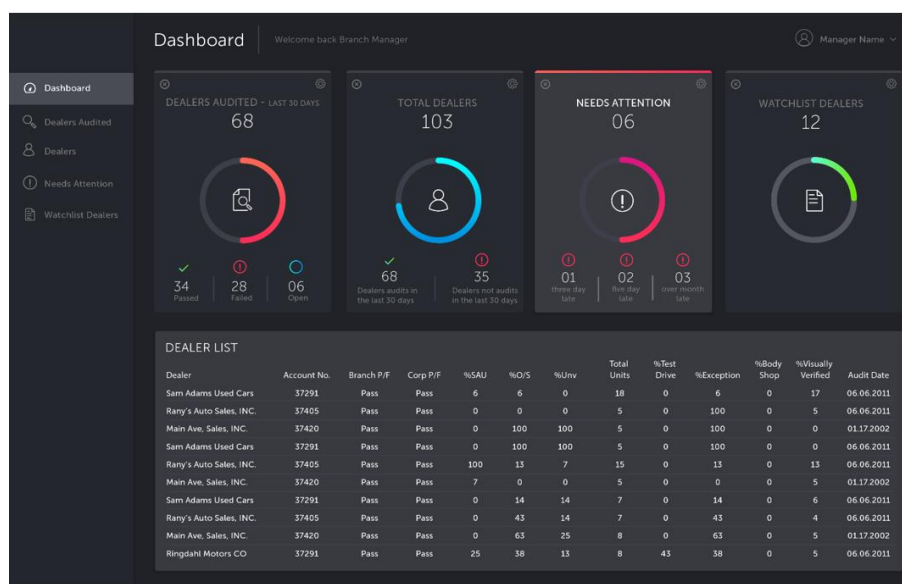- Tracking devices like Tile /TrackR

uDispatch

Real time push notifications

- Notify your technicians of specific updates

- Broadcast messages and alerts

- Custom notifications

Value Proposition

Solution can save $4M - $10M annually based on assumptions and estimates

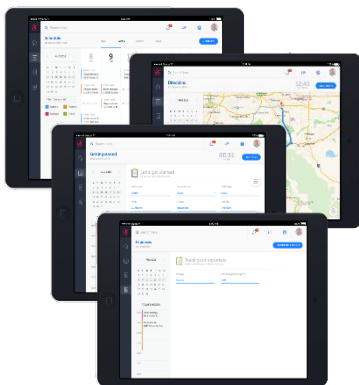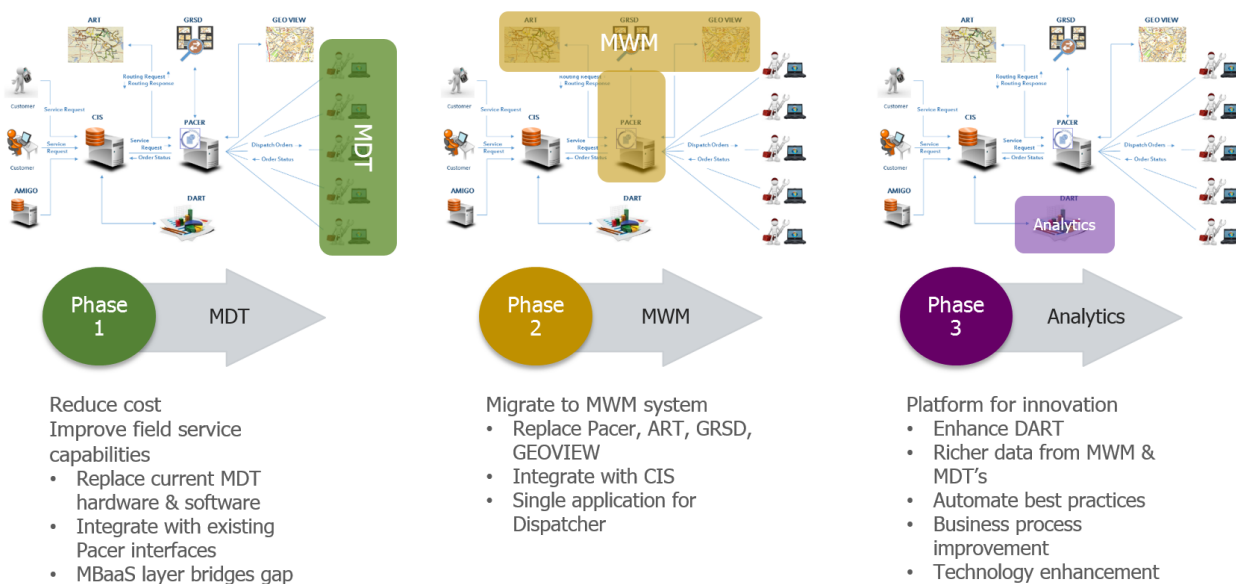| Efficiency Gains	Cost Savings	Business Growth and Opportunities
• KPI Measurements – Analytics • Efficient routing and tracking • Intuitive design and features for faster auditing	• Virtual Audits – Estimates % of physical audits • Self Audits by dealership – Audit location verification • AV2 handheld to customer based devices	• Identify additional financing opportunities by auditor • Self load new vehicle data by dealers • Better risk assessment – virtual audits for high end vehicles • Better risk assessment – Additional data collection from audits

Mockup screens

SoapBox # 16 – MDT system upgrade

Business problem

One of the largest Gas Company in US has an outdated field service management system which negatively impacts their operational costs.

Pain Areas

- MDT devices are expensive, ~$2M every 5 years
- Outdated system/technology – The core runs on a 30 year old system. Concerns from customer on the aged system that can cause catastrophic business failure
- Operational cost – Manual dispatch to address critical A1, A2 & same day orders cost higher
- Limits Improvement - business process closely tied to outdated system makes it difficult to change/improve current process
- Lack of integration between applications - Dispatchers end up using multiple applications to perform single task causing inefficiency
- Gaps in office automation - Re-assign workflow & Routing capability is still a manual process

Solution and Features

Phase 1 – MDT

Reduce cost
Improve field service capabilities
- Replace current MDT hardware & software
- Integrate with existing Pacer interfaces
- MBaaS layer bridges gap

Phase 2 – MWM

Migrate to MWM system
- Replace Pacer, ART, GRSD, GEOVIEW
- Integrate with CIS
- Single application for Dispatcher

Phase 3 – Analytics

Platform for innovation
- Enhance DART
- Richer data from MWM & MDT's
- Automate best practices
- Business process improvement
- Technology enhancement

Key features

- Reduce dependency on MDT - features migrated to mobile apps, saving cost
- Introduce MWM to replace outdated systems
- Improved Data Analytics
- Create process for continuous improvement

Value Proposition

Time to Market	Improved Efficiency and Customer satisfaction	Cost savings	Operational Efficiency
Improved technology stack assists easier extension of capabilities and quicker time to market The solution can be Cloud based and can be rolled out faster	Automatic scheduling of A1,A2, same day orders Automated customer call/text ahead based on technician's current location Video collaboration – technician to technician, technician to back office	Move to consumer device will result in 48% cost savings	Solution can be cloud based which benefits reduction in operation staffing & infrastructure costs

Mockup screens
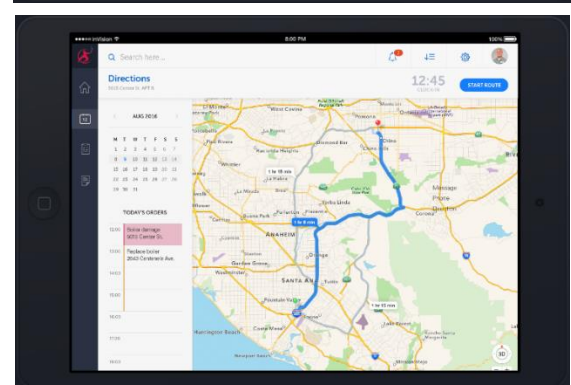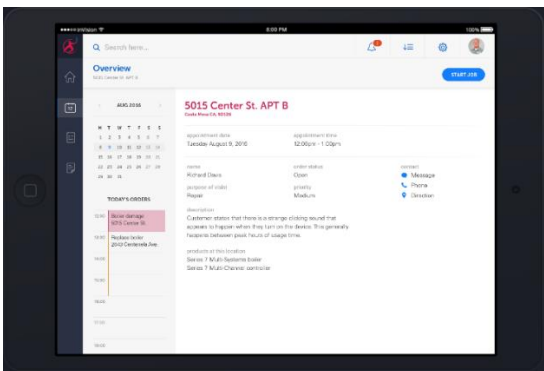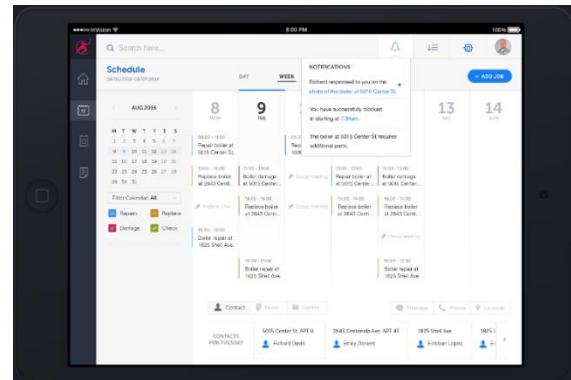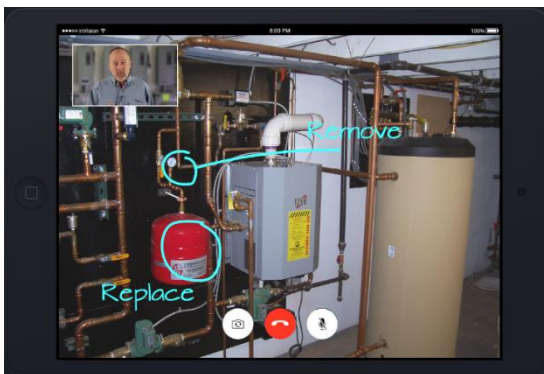
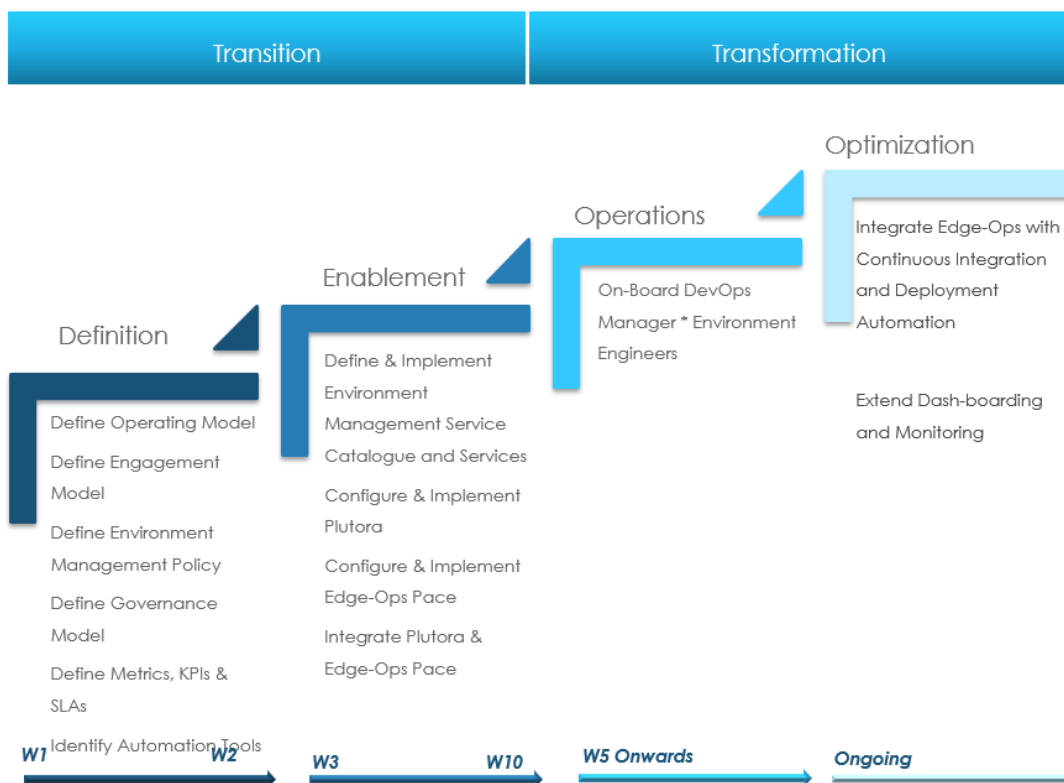# SoapBox # 50 – Environment Management

Business problem
A Leading e-Commerce client in the US faces non-production environment management issues

Pain Areas
- Time consuming maintenance
- No real time visibility of back fill status
- Highly manual operations
- Overhead maintenance
- Manual post-deployment validation

Solution and Features

Implementation Approach for the e-Commerce client

Transition	Transformation

Optimization

Integrate Edge-Ops with Continuous Integration and Deployment Automation

Extend Dash-boarding and Monitoring

Operations

On-Board DevOps Manager * Environment Engineers

Enablement

Define & Implement Environment Management Service Catalogue and Services

Configure & Implement Plutora

Configure & Implement Edge-Ops Pace

Integrate Plutora & Edge-Ops Pace

Definition

Define Operating Model

Define Engagement Model

Define Environment Management Policy

Define Governance Model

Define Metrics, KPIs & SLAs

Identify Automation Tools

W1 — W2 — W3 — W10 — W5 Onwards — Ongoing

This problem requires a tool that helps deliver continuous stream of business value to the customer and EdgeOps is highly recommended.

Value Proposition

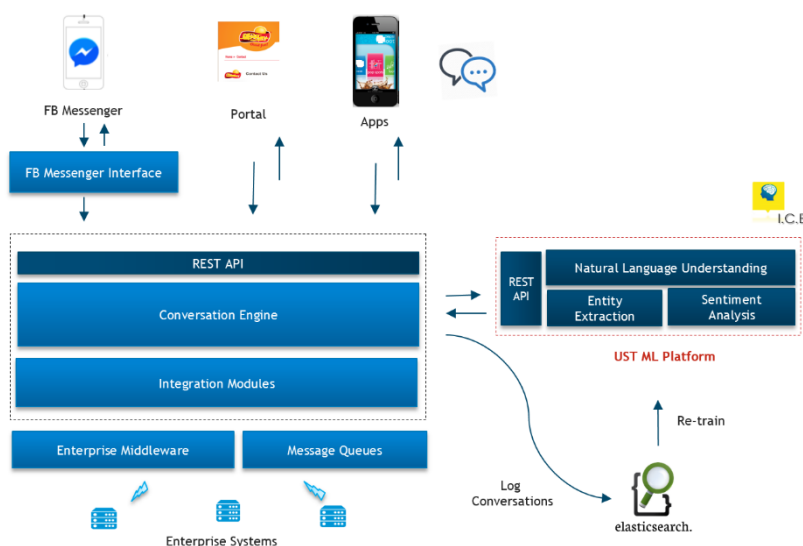| Accelerated Path to DevOps Enablement	Operational Efficiency	Time to Market	Transparency
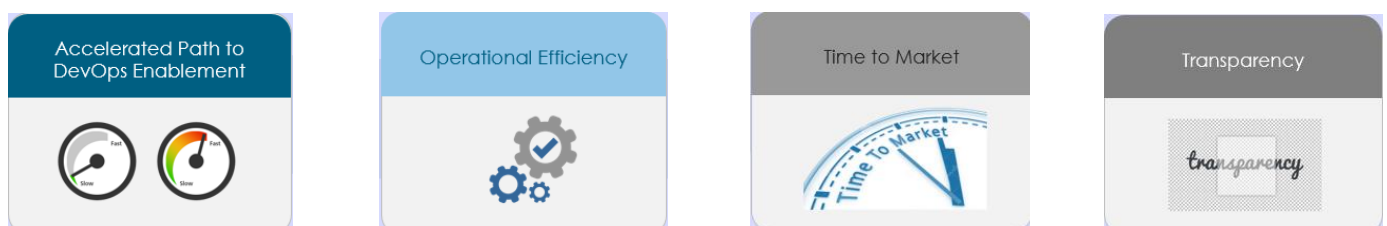
SoapBox # 99 – Customer Chatbot

Business problem

One of the largest Healthcare providers in the US is looking for a disruptive idea for assisting their customer to choose the health care plans best suited for them. Potential solution like Chatbot which takes the demographics information and basic questions regarding past doctor visits from the consumer and provides the best recommended plan.

Pain Areas

- Bottle Neck – drop in efficiency with increased customer calls
- Cost and Inefficiency – current process is inefficient, for example, operator involvement on conversations that are structurally repetitive

Solution and Features

Key Features

- A generic architecture that can support multiple channels like Web Chat, Mobile app's Chat and FaceBook
- I.C.E can categorize complex conversations based on intent, features entity extraction , sentiment analysis
- Opens conversation with operator if ChatBot is unable to respond to user queries
- In case of operator unavailability, promises follow up from an operator when available

Solution involves UST Intelligent Computing Environment (I.C.E), an environment for rapid development of machine learning solutions. I.C.E supports 'Natural Language Understanding' than basic 'Natural Language Processing'.

Value Proposition

| Improved customer connects	Operator overriding and Cost Savings	Operational Efficiency
ChatBots provide personalized and guided experience for customers	Cost Savings through Accelerated process	Reduced bottlenecks and improved Operational Excellence
Call free customer support	Allows Operator overriding feature to respond to complex queries from customer.	Textual methods for conducting structurally repetitive conversations
Support for Multiple channels like WebChat, Mobile App Chat and FaceBook		

SoapBox # 115 – Data Migration Automation

Business problem

This is a challenge on a key application that is considered as one of the top 3 strategic initiatives for one of the largest Healthcare provider in the US. The large group benefits (10,000 contracts and 25,000 variables) have to be in eHub by December 2016. It is impossible to meet the timeline with the current manual mapping approach.

Pain Areas

- Manual effort - took about 6 months to map 800 contracts with 4000 variables for small group
- Reviews are intensive – mappings are manual based and needs intensive reviews
- Concurrent usage challenges to keep track of all business comments, guidelines, scenarios, errors, resolutions / decisions in the past resulting in
    - Duplication of effort with concurrent usage – same benefits mapped on different contracts
    - Mismatch in mappings of same benefit on two different contracts

Solution and Features
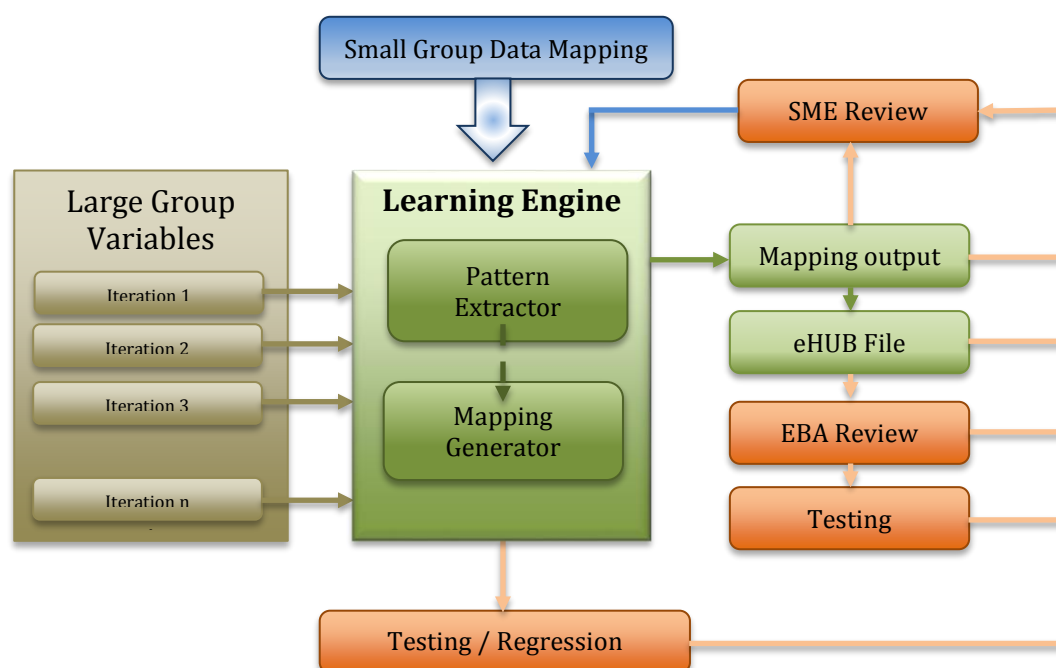
Value Proposition

Time to Market	Improved Efficiency and Quality	Improved traceability	Cost Savings
Automating the manual process results in quick turn around and time to market	Mapping rules can be defined for a set of benefits Avoids Duplicate manual effort and errors on mapping mismatch	The generated mapping can be versioned and allows improved traceability	Reduction in review comments by 50% Defect reduction by 75%

Mockup screens

Mapping rule file

Rules are documented in the format on the mockup and is used as an input the Mapping Generator. This file allows versioning and traceability of rules.

```xml
<WPDSpiderMap>
    <matchDetail>
        <spiderBaseBenefitName>Physician_MedSvcs</spiderBaseBenefitName>
        <matchcriteria>
            <wpdminorheading>PHO CONSULTATIONS</wpdminorheading>
            <default>Consultation</default>
            <levels>
                <level1>
                    <spiderbenefitname>SecondOpinion</spiderbenefitname>
                    <matchparam>
                        <wpdvariable>SECO, SSOP</wpdvariable>
                    </matchparam>
                </level1>
            </levels>
        </matchcriteria>

        <matchcriteria>
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            <levels>
                <level1>
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                    <matchparam>
                        <wpddesc>PHO, RETAIL HEALTH CLINIC, HOME/OFFICE, HM/OFC, VST, OFFICE VISIT</wpddesc>
                    </matchparam>
                </level1>
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                <level3>
```

Mapping Results

| Minor Heading	Variable	Desc	Spider Hierachy
PROFESSIONAL S/A	PSAMMDED	MAJOR MED DEDUCTIBLE WAIVED	Physician_MedSvcs>Counseling>BehavHealth>SubstanceAbuse
OBSTETRICAL BENEFITS	PINPREDEDWVD	INITIAL PRENATAL MM DED WVD	Physician_MedSvcs>ExamVst>Maternity>Prenatal
PHYSICIAN HOME/OFFICE	OPHOPCT	PHO PAY	Physician_MedSvcs>ExamVst
OBSTETRICAL BENEFITS	NFAMCPYACPMX	FAM PLAN PAY AFTER COPAY MAX	Physician_MedSvcs>Counseling>FamPlanning
PHYSICIAN HOME/OFFICE	PPHOPCT	PHO PAY	Physician_MedSvcs>ExamVst
PHYSICIAN HOME/OFFICE	PINJADMDEDWV	INJECTION ADMIN MM DED WAIVED	Physician_MedSvcs>Injection>Immunization>Routine>Administration
PROFESSIONAL SA	NPRFSADLMXDY	PROF SA MAX PER DAY	Physician_MedSvcs>Counseling>BehavHealth>SubstanceAbuse
WELL WOMEN/MEN/ADULT BENEFITS	PWLWNCOPAY	WELL WOMAN COPAY AMOUNT	Physician_MedSvcs>ExamVst>Routine>WellWoman
PHO CONSULTATIONS	DEDWVAOVL	MM DED WAIVED AFTER OV LIMIT	Physician_MedSvcs>Consultation
ADULT PREVENTIVE CARE	ARTRGE8COVIS	ADLT PRV RGE 8 COLORECTL VISUALI	Physician_MedSvcs>ExamVst>Routine>ColorectalExam
PHO CONSULTATIONS	PCONVSTDWV	MM DED WAIVED CONSULT VISIT	Physician_MedSvcs>Consultation
PHYSICIAN HOME/OFFICE	CPHODDWV	DED WAIVED PHO	Physician_MedSvcs>ExamVst
PHO CONSULTATIONS	CONPCT	PHO CONSULT PAY	Physician_MedSvcs>Consultation
WELL BABY & WELL CHILD CARE	AXLABNPAR	CHILD IMMUN XRAYLAB	Physician_MedSvcs>Injection>Immunization
PHYSICIAN HOME/OFFICE	PPHOVISEXMCV	VISION EXAM COVERED	Physician_MedSvcs>ExamVst>Vision
PHYSICIAN HOME/OFFICE	APHOVISYROCC	PHO VISITS PER CY	Physician_MedSvcs>ExamVst
ALCOHOLISM/DRUG ABUSE	PNIPALSAPCT	NON INPATIENT COUNSELING PAY	Physician_MedSvcs>Counseling>BehavHealth>SubstanceAbuse
OBSTETRICAL BENEFITS	NPROFMATPAY	PROFESSIONAL MATERNITY PAY	Physician_MedSvcs>ExamVst>Maternity
SERIOUS MENTAL ILL/BIOLOGICAL BASED	ASRVBBOUTPT	OUTPT SERIOUS MTL/BIOLOGICAL PCT	Physician_MedSvcs>Counseling>BehavHealth>MentalHealth
PROFESSIONAL N/M	PNMOVSPCCOP	PROF N/M OFFICE VISIT SPEC COPAY	Physician_MedSvcs>Counseling>BehavHealth>MentalHealth
OUTP MENTAL DAY CARE	POTPTCARECP	OUTPT CARE COPAY	Physician_MedSvcs>Counseling>BehavHealth>MentalHealth
PREV CARE/HEALTHYCHECK PROGRAM	HCCTR19UPCOV	HLTHYCHK PGM SRV 19 & ABOVE COV	Physician_MedSvcs>Counseling>Routine / Physician_MedSvcs>ExamVst>Routine
PREVENTIVE CARE	PREVDOLMAX	PREV CARE SVCS CY DOL MAX	Physician_MedSvcs>Counseling>Routine / Physician_MedSvcs>ExamVst>Routine
PREVENTIVE CARE	PMMDEDWVDRSS	MM DED WAIVED FOR PTN CARE SVCS	Physician_MedSvcs>Counseling>Routine / Physician_MedSvcs>ExamVst>Routine

SoapBox # 24 – Loss Prevention

Business problem

A leading Pharmacy Retail customer in UK faces a business problem that results in loss of more than 1.6% of top line, due to theft and dishonest employees and also due to supply chain and administrative misses losing products during the warehouse to consumer journey.

Pain Areas

- Cash Outturns - Transactional Fraud Activity on the Till charged versus what is banked
- Voucher Loss – purchases made by voucher versus the payments from voucher company
- Stock Loss (pharmacy and retail) – Anywhere in the Supply Chain, including stores
- Lost Pharmacy Payments – Not claiming for scripts/services that have been provided, expenses fraud, online fraudulent activity, unsanctioned eBay activity

Solution and Features
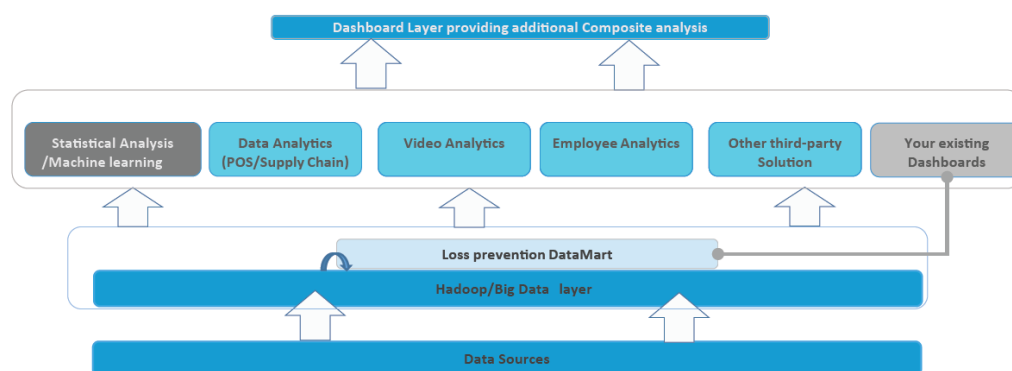
UST Global's Loss Prevention Platform (LP NOW) delivers a dynamic, scalable and highly responsive cutting edge solution that is a culmination of years of experience and expertise.

Key Features

LP NOW Platform helps address various aspects towards loss prevention

- Traditional monitoring and analysis of losses at various points of retail operation including Point of Sales, eCommerce, inventory and supply chain
- Provides Video Analytics monitoring, which combines Video surveillance with POS and instore sensor and Video monitoring to handle object tracking and Shoplifter's face surveillance.
- Addresses Cyber security and Cyber activities threats through Cyber security monitoring that includes user behavior analytics and anomaly detection in entire retail operation
- Cutting edge technology involving BigData, Hadoop, Data Warehousing and real-time analytics.

Value Proposition

Time to Market	Advanced features and analytics	Advanced Shrink management
Integrated solution, continuously adaptive, modular, easy to implement and cost effective	The user interaction is handled through advanced features in workflow, case management, data discovery and data visualization engine with real-time analytics.	The Platform is designed to successfully manage Shrink at every level

SoapBox # 80 – Automate PDF validation

Business problem

One of the largest Healthcare providers in the US faces a challenge where there are 300 plus PDF files to be validated in one of the key application every release. This is being done manually now and often a subset of scenarios only are validated due to time constraints, which might result in issues leaking to production.

Pain Areas

- Manual Validation – Manual validation of 300+ PDF files, every release.
- Time Constraint – 100% validation was a challenge due to time constraint.
- Quality – Issue Leakage to Production was occurring due to bottle neck of manual validation & time constraint.

Solution and Features

The solution was proposed to automate the PDF validation so that 100% validation can be achieved during every release within the time constraints. The key feature of the solution is to disable PDF Form flattening via a change in configuration on the server side. PDF Components were then created to automate the validation of the PDF form fields that are captured programmatically.

Value Proposition

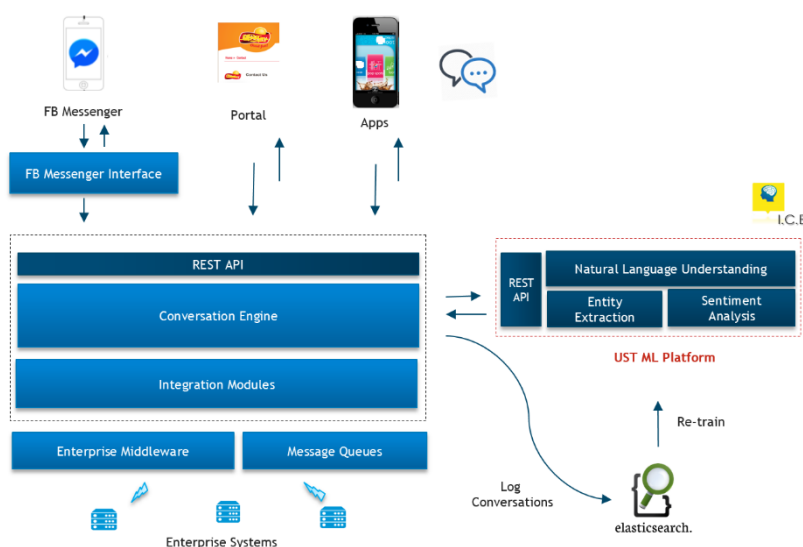| Time to Market	Better quality to production
Automation of PDF Validation helps quicker validation of 300 plus PDF files for each release.	100% validation of files before every production release. Manual errors minimized with Automation of PDF Validation

SoapBox # 123 – Chatbot – Virtual assistant

Business problem

One of the largest Retailers in US faces a challenge to provide better, efficient and low cost customer communications and relationships through multiple channels like Facebook, Twitter, etc.

Pain Areas

- Bottle Neck – drop in efficiency with increased customer calls
- Cost and Inefficiency – current process is inefficient, for example, operator involvement on conversations that are structurally repetitive

Solution and Features

Key Features

- A generic architecture that can support multiple channels like Web Chat, Mobile app's Chat and FaceBook
- I.C.E can categorize complex conversations based on intent, features entity extraction , sentiment analysis
- Opens conversation with operator if ChatBot is unable to respond to user queries
- In case of operator unavailability, promises follow up from an operator when available

Solution involves UST Intelligent Computing Environment (I.C.E), an environment for rapid development of machine learning solutions. I.C.E supports 'Natural Language Understanding' than basic 'Natural Language Processing'.

Value Proposition

Improved customer connect	Operator overriding and Cost Savings	Operational Efficiency
ChatBots provide personalized and guided experience for customers	Cost Savings through Accelerated process	Reduced bottlenecks and improved Operational Excellence
Call free customer support	Allows Operator overriding feature to respond to complex queries from customer.	Textual methods for conducting structurally repetitive conversations
Support for Multiple channels like WebChat, Mobile App Chat and FaceBook		