Application of Robotic Process Automation (RPA) in Hospital Systems
...what is RPA?

**Robotic process automation is:**

- Configurations that automate manual and repetitive tasks
- Virtual ‘robots’ that integrate with existing software
- Replication of desktop actions
- Driven by simple rules and business logic

**Robotic process automation is not:**

- A humanoid robot
- Something that can entirely replace humans
- Something that replicates human cognitive functions... yet
- Purely just another cost player
...what is RPA?

If your process meets any of the following criteria, it is most likely suitable for robotic process automation.

- Many (stable) applications
- High volume and handle time
- Process adherence is important
- Manual and rule-based
- Standardised and mature
- Prone to errors

If a process requires the following actions in high volumes, it is most likely suitable for robotic process automation.

- Mouse Selection
- Screen Navigation
- Field Entry
- Copy & Paste
- Web Services Invocation & DB Queries
- Log-in/out of applications
benefits of RPA

- **Accuracy**: Extreme accuracy and uniformity – much less prone to error or typos
- **Improved Employee Morale**: Workers can dedicate more time to engaging, interesting work
- **Low Technical Barrier**: No programming skills necessary to configure a bot
- **Productivity**: Process cycles times are much faster compared to manual process approaches
- **Compliance**: Bots follow regulatory compliance rules to a tee and provide an audit trail history
- **Reliability**: Bots tirelessly work 24/7 without interruption
- **Non-Invasive Technology**: No disruption to underlying legacy systems, reducing the burden on IT
- **Consistency**: Routine tasks are performed the same way each and every time
…future of RPA

Increasingly Intelligent RPA

RPA
Data entry, extraction, aggregation and integration with websites, portals, documents and systems

Intelligent RPA
Automatic processing of unstructured data—acquisition, understanding and integration
- RPA+
- CDA
- BPM
- AI
- Process Mining

True Cognitive RPA
Deep human-like understanding and decisioning of complex situations

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Holistic View of Integrated Digital Technologies

AI Quadrant

- **RPA**
  - Achieving automation or suggesting best action for one or more steps business processes based on deterministic rules/behavior

- **OCR**
  - Reliable object recognition in images. Converting semi-structured to structured and intelligent OCR

- **Process oriented AI**
  - Automate human action using AI techniques to support efficient business processes

- **Decision oriented AI**
  - Assisting in or performing automated decision-making based on enterprise and or industry data for a business function

- **Expert oriented AI**
  - Provide insights and result set based on continuously learning from interactions with users and the environment

- **Knowledge oriented AI**
  - Assist in discovering, visualization and exploration of relationships amongst business elements

Select capabilities in each AI Quadrant:

- Classification
- Recommendation
- Anomaly Detection
- Named Entity Recognition
- Information Extraction
- Prediction
- Unstructured Data Queries
- Semantic Search
- Summarization
...RPA software
What are Hospital Professionals thinking about?

“How will RPA work with my existing IT Ecosystem?”
“How will RPA work with my other Technology Partners to reduce Cost of Ownership”
“How will RPA impact staff and levels of care?”

“How do I use RPA to improve Population Health outcomes?”
“How do I use RPA to improve patient and physician accountability?”
“How do I use RPA to improve reporting”

“How do I use RPA to improve my inventory costs?”
“How do I use RPA to reduce bad debt and accelerate cash?”
“How do I use RPA to improve?”

“How do I use RPA to reduce computer time and increase patient time?”
“How do I use RPA to triage a patient faster?”
“How do I use RPA to fast track patient access?”
Key Automation Opportunity exists when there is:

- Rule and Validation based processing
- Platform Swivel
- Data Entry
- Data Mining
- Configuration and Testing
- Web based research
- Form creation
- External and Internal Communication campaigns
- Document Intake and Management
...use case – automating prior auth

1. Prior Authorization task is triggered by rule or request depending on reason
2. Use RPA to identify patient insurance and log into Prior Authorization portal in Payor website.
3. Use RPA to extract patient information based on form rules and enter it into the portal.
4. Use RPA to attach any required documentation as identified by form rules in the RPA bot and submit.
5. Use RPA to record any transaction number into EMR and monitor/report status of PA.

Fast track patient access and reduce follow up time
...use case – online pre-check in

1. Use **RPA** to trigger outbound Check in communication to patient based on appointment calendar (Txt, Visual IVR, Email)

2. Patient is authenticated and answers questions on insurance and payment. **RPA** monitors response and provides next step

3. If change in insurance, information provided is uploaded into EMR through **RPA** for pre insurance verification

4. If copay is required, **RPA** will initiate process against MOP on file upon request of patient.

5. Use **RPA** to provide check in details in EMR so front desk avoids duplicate processing

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*Reduce administration time and Improve patient experience*
...use case – underpayments review

1. Use RPA to initiate report of potential payment variances from contract analysis system

2. RPA logs into payer systems and payment details via EOB review

3. RPA verifies patient eligibility on DOS

4. If a true variance exists, RPA files appeal is either (queues to file dependent on payer specific requirements).

5. If exceptions or questionable data elements are observed, RPA pushed work to a queue for staff member to evaluate.

Automate mundane / repetitive tasks and improve revenue cycle collection efforts
use case – billing claims
...takeaways

• Choose your RPA Software Vendor Carefully

• Commit as an Organization to Integrate RPA into Current Processes

• Commit the Necessary Resources - Business Analyst, RPA Programmer, IT Support

• Document, Document, Document

• Test, Test, Test

• Prioritize Projects based on Impact to your Business