

BUS5001 – Cloud Platforms and Analytics



Week 04 – Workflow Automation

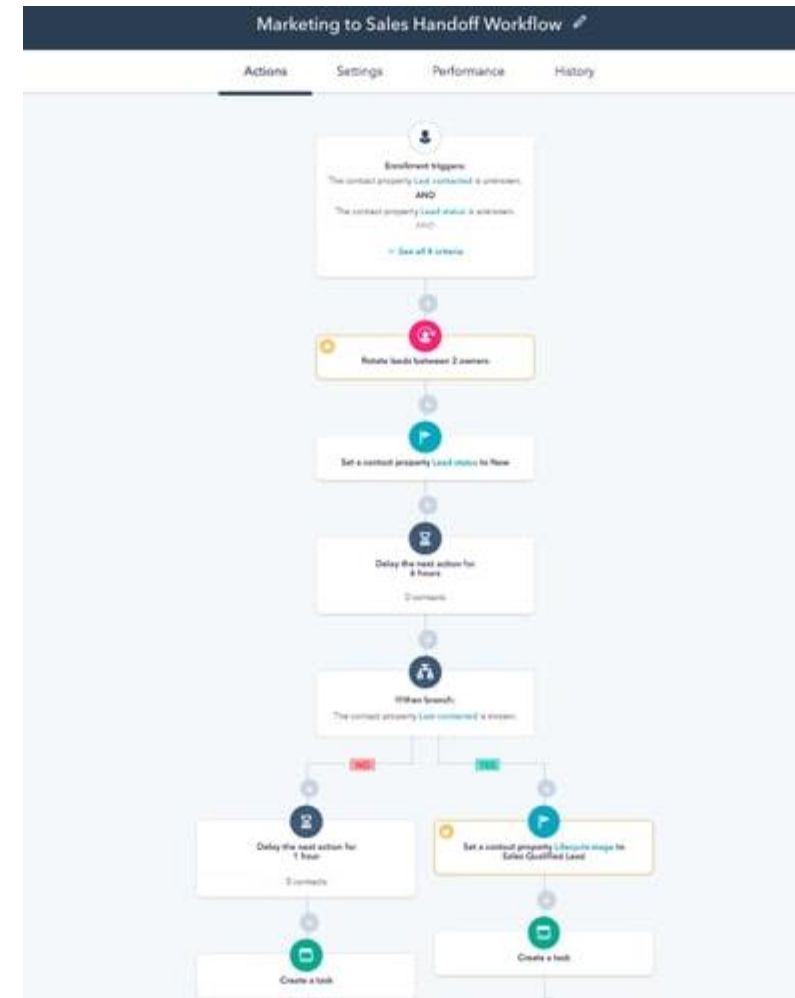
Centre for Data Analytics and Cognition
La Trobe University, Australia

Workflow Automation

- Automating manual tasks with software that executes all or part of a process.
 - Optimizes processes by replacing manual tasks with software
 - Automation tools generally would have low-code, drag-and-drop editor environments which the user can use to tailor the process
- Automation tools that allow users to integrate applications, services, and data sources to create customized workflows and processes.
- Robotic Process Automation (RPA):
 - Automates repetitive, manual tasks
 - Mimics human interaction with software apps and user interfaces e.g. Power Automate, UiPath, Automation Anywhere
- Business Process Management Tools:
 - Nintex, Pega, PowerApps

Example

- A website visitor submits a form.
- The action automatically enrolls the visitor in a drip campaign. It creates a new deal and sets the status to "New."
- The first email of the drip campaign is sent to the lead, requesting to schedule a meeting.
- The lead clicks through to the meeting scheduler and creates an appointment.
- A thank you email is sent to the lead, confirming the date and time.
- The CRM creates a new task and assigns it to a sales rep.
- The sales rep then reaches out personally, ending the automated workflow.



Further Examples

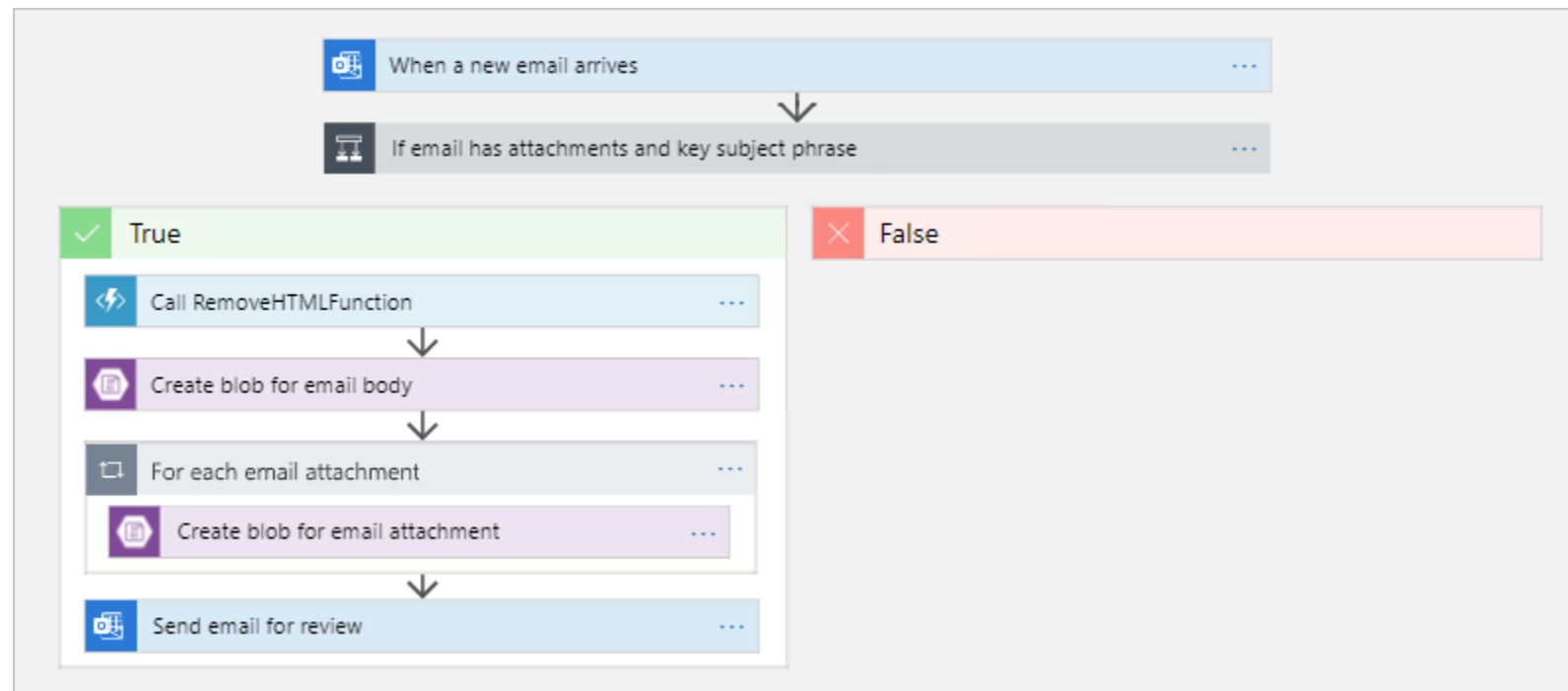
- Placing each lead at a different stage of the pipeline when they take a certain action.
- Creating a new ticket in the system when someone reaches out through social media or email.
- Deleting duplicates once they have been detected or merging two properties if they're the same.
- Removing candidates from the database if they've been inactive for a period of time.

A few examples in various time periods

- 1990s: IBM FlowMark, Excel Macros
- Yahoo Pipes (2007): Yahoo Pipes was a web application that allowed users to aggregate, manipulate, and mash up content from various web sources, such as RSS feeds, APIs, and web pages. Discontinued in 2015.
- IFTTT (2010): IFTTT enables users to create custom applets that connect different web applications and services using conditional statements.
- Zapier (2011): Workflows are called "Zaps," that integrate various web applications and services.
 - Support for multi-step workflows
- Microsoft Flow (2016), now known as Power Automate (2019): Microsoft Flow, rebranded as Power Automate, is a cloud-based service that allows users to create automated workflows between various applications and services.
- Many others now, automate.io, pipefy,

Key Components of Workflow Automation Tools

- Workflow: Sequence of actions / activities each has input and an output with a process that runs on it
- Triggers: Events or conditions that initiate a workflow
- Actions: Tasks executed as part of the workflow
- Connectors: Pre-built integrations for communication between web applications and services



Key Components of Workflow Automation Tools

- Design

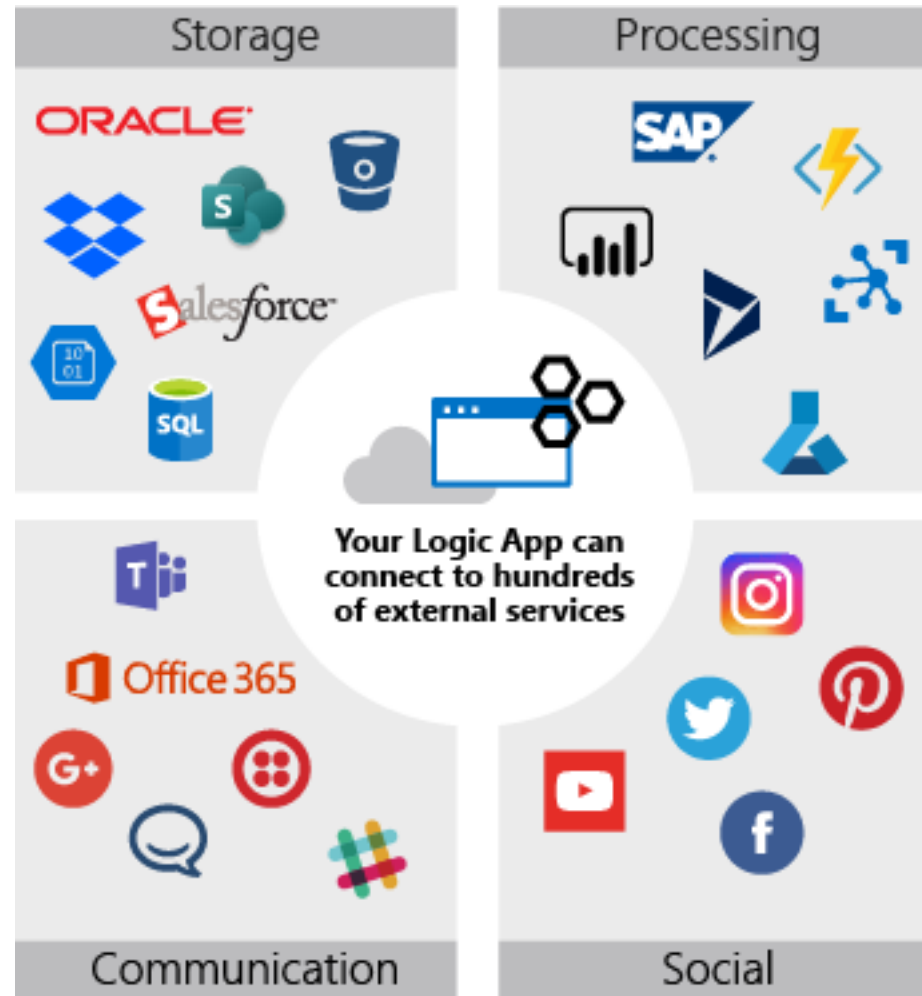
- Workflow editor/designer
- Data mapping and transformation
- Branching (Conditional logic)
- Loops

Maintain

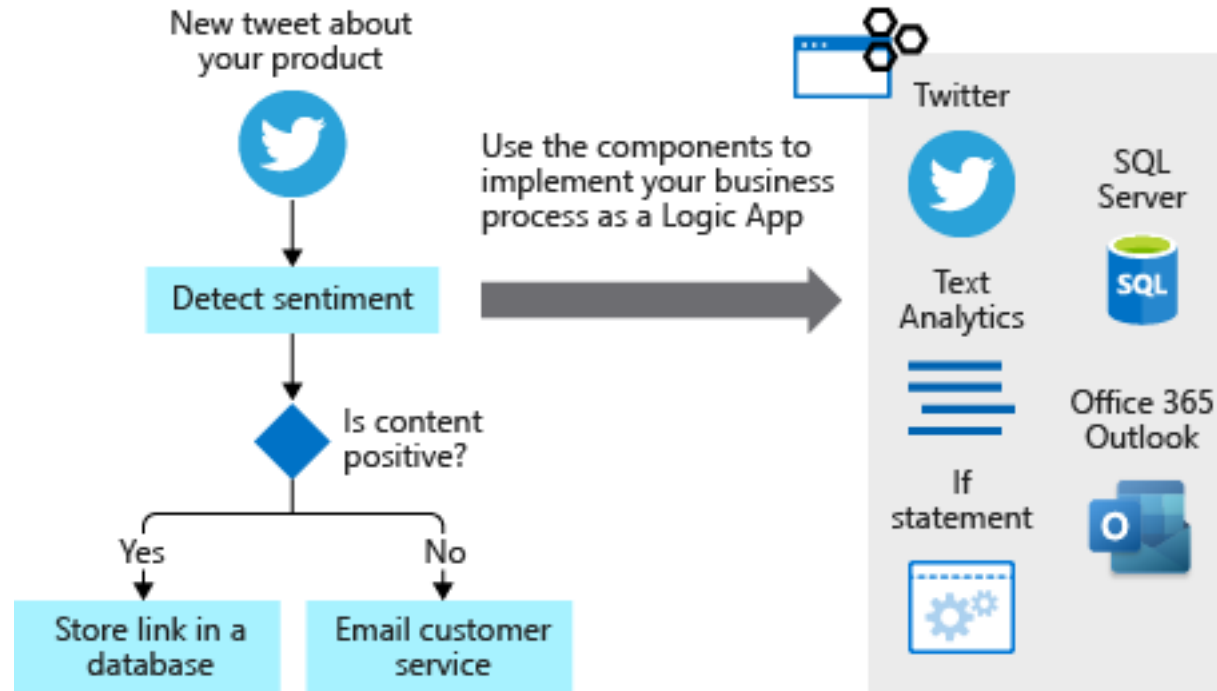
- Error handling and notifications
- Performance tracking
- Bottleneck identification
- Usage pattern insights

Connectors

<https://learn.microsoft.com/en-us/connectors/connector-reference/connector-reference-logicapps-connectors>



Azure Logic Apps Example



Expressions

- <https://learn.microsoft.com/en-us/azure/logic-apps/workflow-definition-language-functions-reference>

Task	Function syntax	Result
Return a string in lowercase format.	<code>toLowerCase('<text>')</code> For example: <code>toLowerCase('Hello')</code>	"hello"
Return a globally unique identifier (GUID).	<code>guid()</code>	"c2ecc88d-88c8-4096-912c-d6f2e2b138ce"

An Example

A timestamp - 2024-06-19T14:25:00Z (ISO 8601)

parseDateTime

Return the timestamp from a string that contains a timestamp.

 Copy

```
parseDateTime('<timestamp>', '<locale>?', '<format>?')
```

 Expand table

Parameter	Required	Type	Description
<i><timestamp></i>	Yes	String	The string that contains the timestamp
<i><locale></i>	No	String	<p>The locale to use.</p> <p>If not specified, the default locale is <code>en-us</code>.</p> <p>If <i>locale</i> isn't a valid value, an error is generated.</p>
<i><format></i>	No	String	<p>A numeric format string that is either a single format specifier or a custom format pattern. The default format for the timestamp is "<code>o</code>" (<code>yyyy-MM-ddTHH:mm:ss.ffffffK</code>), which complies with ISO 8601 and preserves time zone information. If the format isn't specified, attempt parsing with multiple formats that are compatible with the provided locale. If the format isn't a valid value, an error is generated.</p>

Workflow Control Structures

- <https://learn.microsoft.com/en-us/azure/logic-apps/create-workflow-with-trigger-or-action?tabs=consumption>

Thank you



LA TROBE
UNIVERSITY

Centre for
Data Analytics
and Cognition

http



LinkedIn



g Scholar

