

# Prototyping Workflow Automation with Snap!

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Snap!Con 2025



# Popular Workflows Automation

- Popular workflow automation tools, such as Make, n8n, Zapier, Microsoft Power Automate, or SAP Build Process Automation, propose the use of "low-code" graphical languages to minimize the barrier to entry.
- Technically, they are based on flowcharts assisted with tools that facilitate their use.

# Make

**From simple automations to complex solutions.**

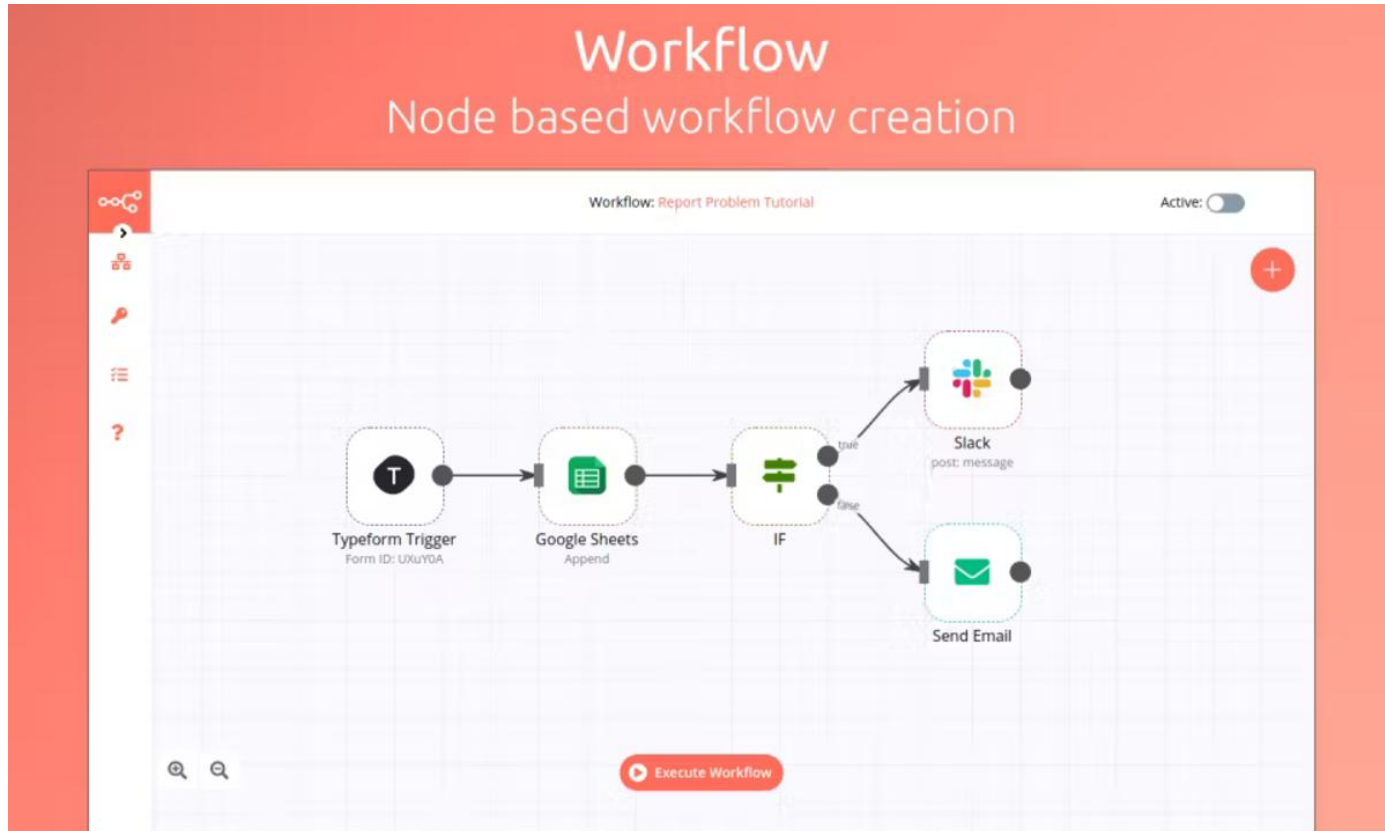
Build like a developer using decision based logic and flow control.



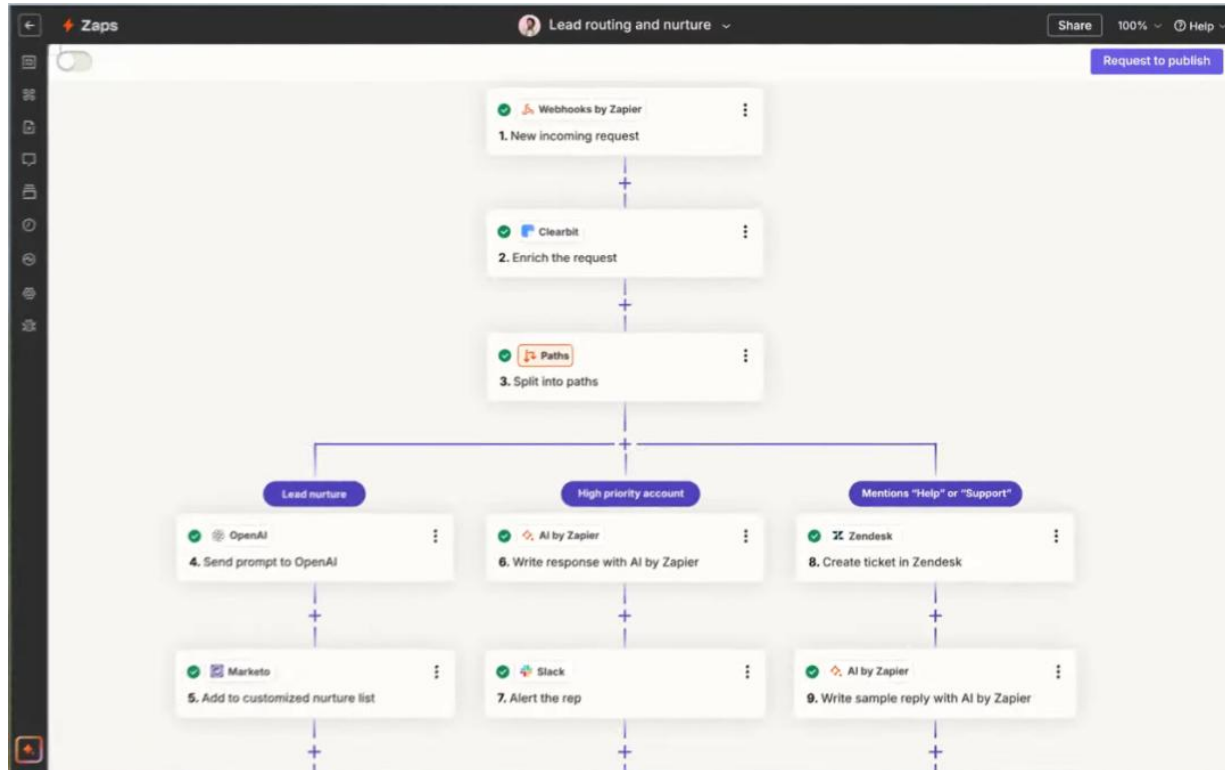
# n8n

## Workflow

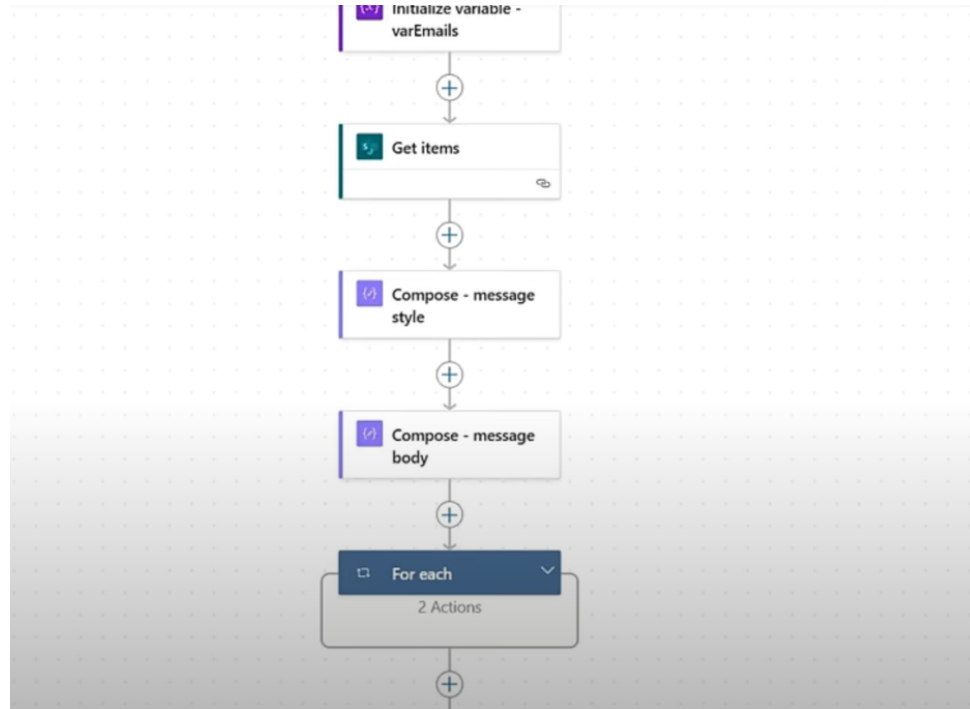
Node based workflow creation



# Zapier



# Microsoft Power Automate



# SAP Build Process Automation

The screenshot displays the SAP Build Process Automation interface for a process named "Sales Order Create". The main workspace shows a process flow diagram with the following steps:

- Trigger:** Invoice Request Created
- External Approval** (Decision point):
  - Approve** (Path)
  - Reject** (Path)
- Send Email**
- End**

The right-hand panel provides a detailed view of the "Generate in Process" step:

### Generate in Process

Explain this process  
AI summarises the process in natural language

**AI Generated**

#### External Approval and Notification Process

**Objective**

The objective of this process is to obtain external approval for a given subject and subsequently notify the relevant parties via email based on the approval decision.

**Steps**

- Start Event**
  - Description:** The process begins with a start event that triggers the sequence of actions.
  - Outcome:** Initiates the process flow.
- External Approval**
  - Description:** A form task is assigned to an external user (in this case, "eve") to approve or reject the subject.
  - Outcomes:**
    - Approve:** If the decision is to approve, the process continues to the next step.
    - Reject:** If the decision is to reject, the process could be designed to handle this outcome differently (not specified in the given process).
- Send Email**
  - Description:** An email is sent to notify the relevant parties about the approval decision.
  - Attributes:**
    - To:** The recipient's email address is derived from the context of the start event.

# Algorithmic Foundations



## Notes on structured programming

**Citation for published version (APA):**  
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- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

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THE NETHERLANDS  
DEPARTMENT OF MATHEMATICS

NOTES ON STRUCTURED PROGRAMMING

by

Prof.dr. Edsger W. Dijkstra

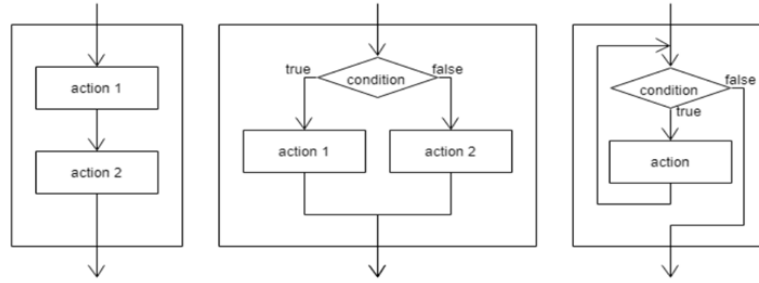
T.S.-Report 70-WSK-03

Second edition April 1970



# Algorithmic Structures

Flowchart



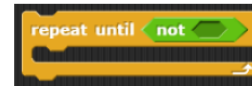
Pseudocode

```
...  
action 1  
action 2  
...
```

```
...  
if condition then  
  action 1  
else  
  action 2  
endif  
...
```

```
...  
while condition do  
  action  
endwhile  
...
```

Snap!



(from Iteration, composition library)

# Basic Common Elements

- Actions or tasks
- Events or triggers
- Decisions and loops
- Connectors

# Connectors



Gmail



Telegram Bot



Google Sheets



Google Drive



Google Calendar



SAP ECC Agent



OpenAI (ChatGPT,  
Whisper, DALL-E)



WhatsApp Business:  
Cloud



WooCommerce



Microsoft 365  
Calendar



Salesforce



Google Gemini AI



WordPress



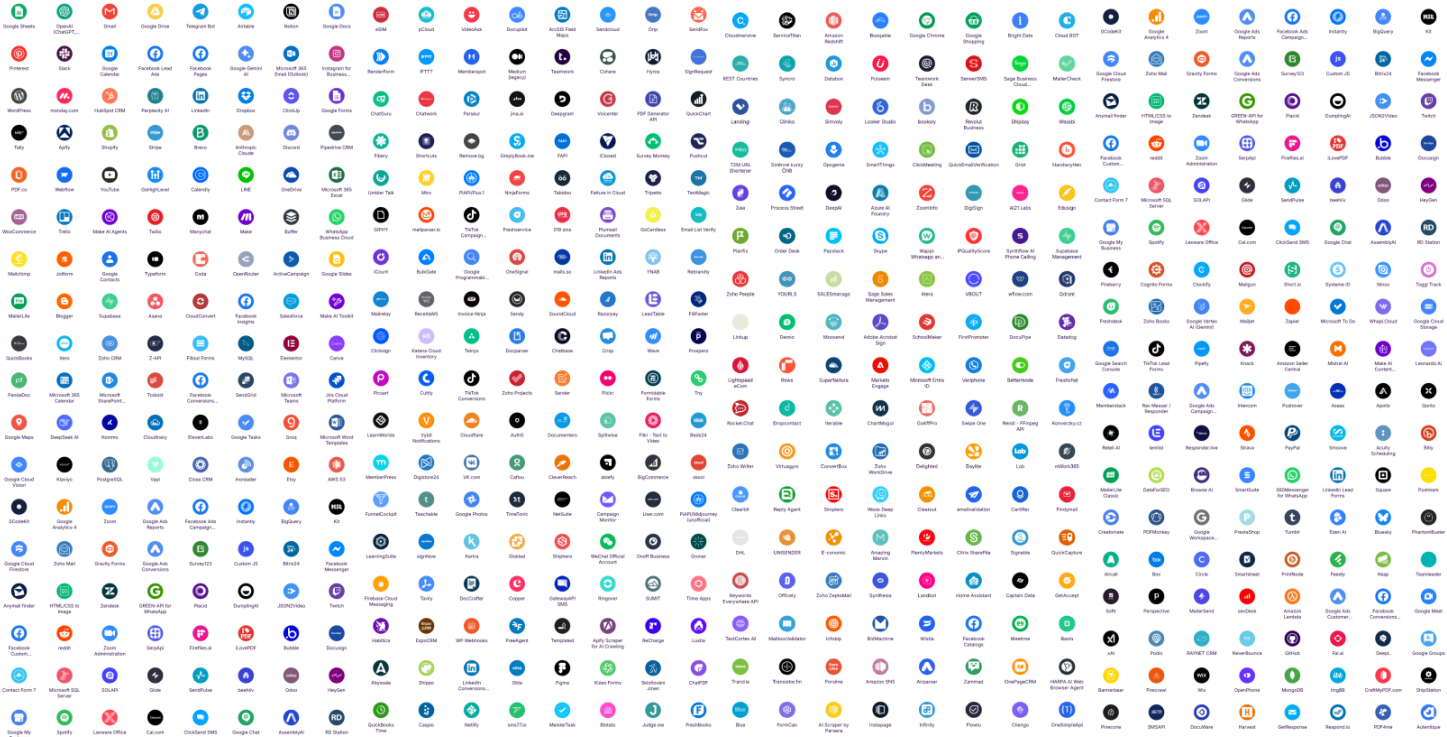
Microsoft Dynamics  
365 - CRM



PostgreSQL

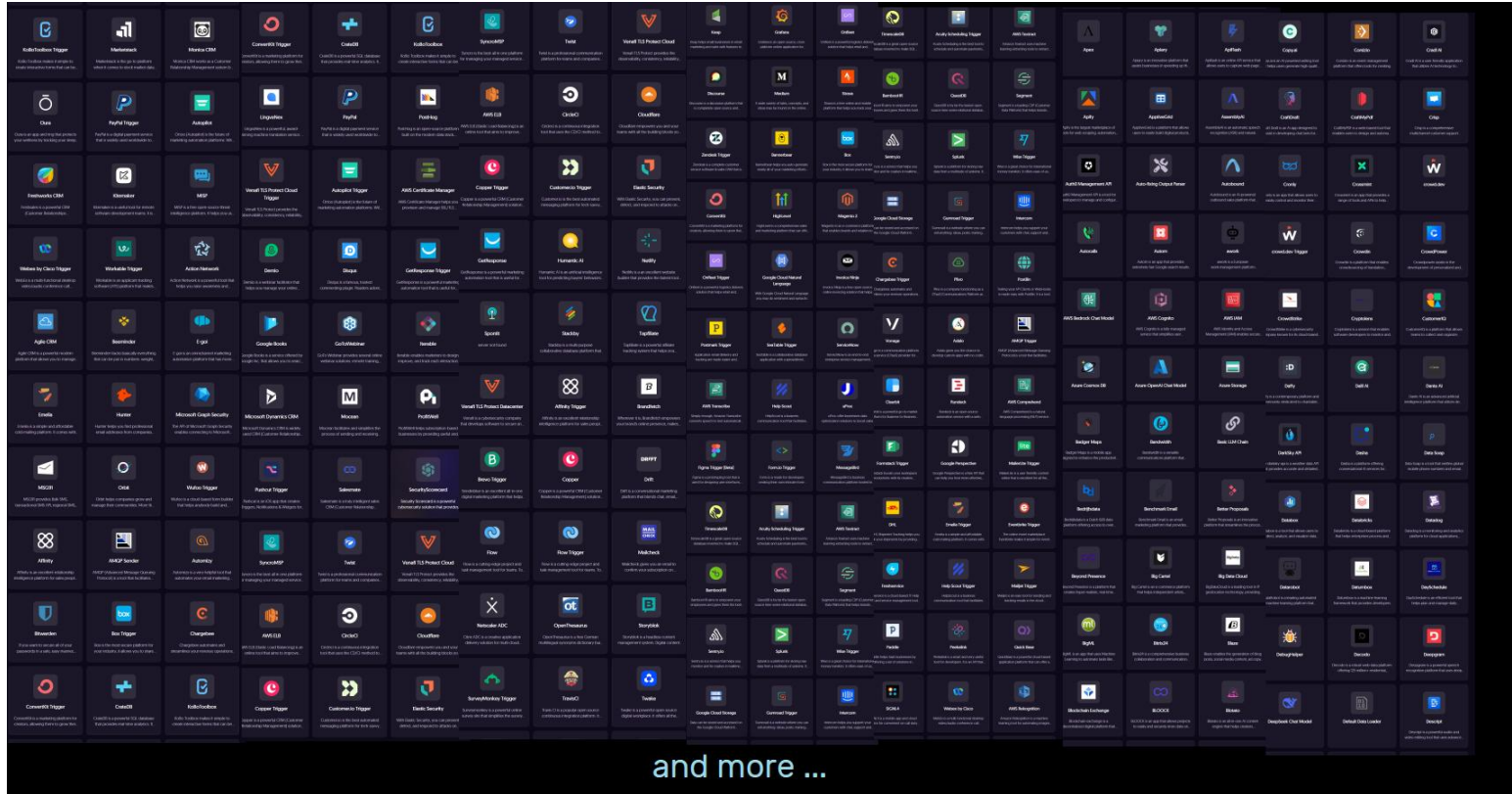
and more than 2800 ...

# Make Connectors



and more and growing ...

# n8n Connectors
































































































































# Zapier Connectors

<b>Klaviyo</b> Zapier's most-used connector. Powering sites for over 100,000 businesses, from e-commerce to web developers.	<b>Twilio</b> Twilio lets you send and receive text if you don't want to use a phone number. From e-commerce to Zapier, it's used by over 100,000 businesses.	<b>Event</b> Event is an all-in-one video and text tool for games, education, and more.	<b>Google Docs</b> Google Docs is an online word processor that lets you create and format documents. Collaborate with...	<b>Intercom</b> Intercom is the Engagement OS, an open channel between customers and business that is in the products, in the users...	<b>OutDrive</b> OutDrive, Microsoft's file sync app formerly known as SkyDrive, lets you share your files online, with Office...
<b>QuickBooks Online</b> <a href="#">View</a> QuickBooks Online is the most common of the popular accounting programs. Zapier lets you connect your QuickBooks Online to a...	<b>Calendly</b> Calendly is an elegant and simple scheduling tool for businesses that automates availability and book, it helps...	<b>Zapier Tables</b> Zapier Tables is a no-code database for automation, analytics, and more.	<b>Salesforce</b> <a href="#">View</a> Salesforce is a leading enterprise customer relationship management (CRM) application.	<b>Tealium</b> Tealium is a leading platform to create, market & sell your online content. Deliver beautiful content in your web site, with...	<b>Google Chat</b> Google Chat is a communication software developed by Google built for teams that provides direct messaging and...
<b>Google Calendar</b> Google Calendar lets you organize your schedule and share events with your contacts and friends. With Zapier's Cal...	<b>MailChimp</b> MailChimp is an email and marketing automation software for growing businesses. Turn email and SMS into...	<b>Mailbox</b> Design and build professional websites with a CMS that's simple and easy to use.	<b>Asana</b> Asana is a leading work management platform that helps teams coordinate their work. Zapier lets you connect...	<b>Circle</b> A modern community platform for creators, brands, and businesses.	<b>Uptime</b> Uptime is a leading page performance tool that helps you connect your website to various tools, apps, and services. It's used...
<b>Notion</b> A new productivity tool for your work and your life. It's the all-in-one workspace for you and your team.	<b>Podio</b> Podio is a collaboration and CRM software for your business. Not every company has a CRM, but every company...	<b>Webflow</b> Design and build professional websites with a CMS that's simple and easy to use.	<b>Monday.com</b> Monday.com helps you manage your projects, workflows, and tasks. It's a simple way to manage your work and your...	<b>OpenPhone</b> OpenPhone is a new phone for business. It comes with powerful calling, messaging, and a lightweight CRM.	<b>Fieldbook</b> <a href="#">View</a> Fieldbook is a new phone for business. It comes with powerful calling, messaging, and a lightweight CRM.
<b>Zendesk</b> <a href="#">View</a> Zendesk is a customer support software that lets you manage your customer support. It's a simple way to manage your customer support.	<b>Chubbly</b> Chubbly is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Justworks</b> Justworks is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>ActiveCampaign</b> ActiveCampaign is a customer relationship management (CRM) platform that helps businesses reach their target...	<b>Yafix Lead Generator</b> Yafix is a lead generation and conversion tool that lets you create custom landing pages for your website. It's a...	<b>Systeme.io</b> Systeme.io offers you a full suite of tools, from email and social media to website creation and automation. It's a...
<b>Google Chat</b> Google Chat is a communication software developed by Google built for teams that provides direct messaging and...	<b>WhatsApp Notifications</b> Receive notifications on WhatsApp.	<b>Sendinblue</b> <a href="#">View</a> Sendinblue is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>SendPulse by Zapier</b> SendPulse is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>PDF.io</b> PDF.io is a set of tools for PDF file and document creation, editing, and more.	<b>Microsoft Office 365</b> Microsoft Office 365 is a complete office suite in the cloud. It provides all the essential office products like...
<b>Google Sheets</b> Google Sheets lets you create spreadsheets online, you can edit Google Sheets, and get advanced insights from your data.	<b>Email</b> Email is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Sheety</b> <a href="#">View</a> Sheety is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Dropbox</b> Dropbox is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Office</b> Office is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Microsoft Office 365</b> Microsoft Office 365 is a complete office suite in the cloud. It provides all the essential office products like...
<b>Filter by Zapier</b> Filter by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Formstack by Zapier</b> Formstack by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Google Ads</b> Google Ads (formerly Google AdWords) is an online advertising platform developed by Google, where...	<b>Spacemouse Forms</b> Spacemouse Forms is a website builder, drag-and-drop, and more.	<b>Wave</b> Wave is a free accounting and invoicing software. It's a simple way to manage your work and your life.	<b>Motion</b> Motion is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.
<b>Webhooks by Zapier</b> <a href="#">View</a> Webhooks are a way to connect your website to other services. Zapier lets you connect your website to other services.	<b>Desk</b> Desk is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Microsoft Excel</b> Microsoft Excel is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>YouTube</b> YouTube is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>URL Shortener by Zapier</b> URL Shortener by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Harvest</b> Harvest is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.
<b>Schedule by Zapier</b> Schedule by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Eventbrite</b> Eventbrite is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Slack</b> Slack is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Taskkit</b> Taskkit is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.
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<b>Google Drive</b> Google Drive is the app you use to store and share your files. Zapier lets you connect your Google Drive to other services.	<b>Mail</b> Mail is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.
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<b>Facebook Lead Ads</b> <a href="#">View</a> Facebook Lead Ads is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.
<b>Microsoft Outlook</b> Microsoft Outlook is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.	<b>Send by Zapier</b> Send by Zapier is a productivity platform that allows you to manage your work and your life. It's a simple way to manage your work and your life.

and more ...

# Microsoft Power Automate Connectors

 Jeights gen. Document & more (Preview)	 Confluence (Preview)	 Finish Railway Traffic (Independent Publisher) (Preview)	 NCBI Climate Data (Independent Publisher) (Preview)	 Plumail HelpDesk	 RSS
 10to8 Appointment Scheduling (Preview)	 Connect2All	 FINRA (Independent Publisher) (Preview)	 Nederlands Spoorwegen (Independent Publisher) (Preview)	 Pika	 Salesforce
 1DocStop (Preview)	 Connect2All on-premises (Preview)	 FireText	 NEWS (Independent Publisher) (Preview)	 PikeAPI Core (Independent Publisher) (Preview)	 SAP ERP
 1Mc Corporate (Preview)	 Connective eSignatures	 Fiscal Data Service (Independent Publisher) (Preview)	 NetDocuments	 PikeAPI World (Independent Publisher) (Preview)	 SAP OData
 1st (Independent Publisher)	 ConnectWise PSA (Independent Publisher) (Preview)	 FishWatch (Independent Publisher) (Preview)	 NetEvolution (Preview)	 Polaris PSA (Preview)	 Sapling.ai (Independent Publisher) (Preview)
 24 pull request (Independent Publisher)	 compass (Independent Publisher) (Preview)	 Fitbit (Independent Publisher) (Preview)	 Neum (Independent Publisher) (Preview)	 PulsarMail	 SAS Decisioning (Preview)
 365 Training	 ConsensSys Ethereum (Deprecated) [DEPRECATED] (Preview)	 Fic	 New York Times (Independent Publisher)	 Polygon (Independent Publisher) (Preview)	 ScanCloud
 3E Events	 Contacts Pro (Preview)	 Fliplet (Preview)	 NewsData.io (Independent Publisher) (Preview)	 Portfolio and Roadmap	 Schiphol Airport (Independent Publisher) (Preview)
 9A Raptor Document Warehouse	 Content Conversion (Preview)	 Flowform (Preview)	 Nexmo	 PostgreSQL	 SchoolDigger (Independent Publisher) (Preview)
 Abbreviations	 Content Gate	 Flowforma V2	 Nextcom (Preview)	 Postman (Independent Publisher) (Preview)	 ScrapingBee (Independent Publisher) (Preview)
 Abortion Policy (Independent Publisher) (Preview)	 Content Manager Power Connect	 Fluid Connector for Procore (Preview)	 NH360 Portfolio Insights	 Power Teams (Preview)	 Screenshot One (Independent Publisher) (Preview)
 absently (Preview)	 Content Moderator	 Focusmate (Independent Publisher) (Preview)	 NHTSA vPC (Independent Publisher)	 Power Apps for Admins	 Scryll (Independent Publisher) (Preview)
 Abstract Company Enrichment (Independent Publisher) (Preview)	 Contoso Hub	 FORCAM FORCE Bridge (Preview)	 Nifty Gateway (Independent Publisher) (Preview)	 Power Apps for Makers	 SearchAPI - Google Search (Independent Publisher) (Preview)
 Abstract Email Validator (Independent Publisher) (Preview)	 Converter by Power2Apps	 ForceManager CRM (Preview)	 Newflow (Preview)	 Power Apps Notification	 Scrive eSign
 Abstract Exchange Rates (Independent Publisher) (Preview)	 ConvertKit (Independent Publisher)	 Forum (Independent Publisher) (Preview)	 Nintex Workflow (Preview)	 Power Apps Notification V2	 Scryfall (Independent Publisher) (Preview)
 Abstract Holidays (Independent Publisher) (Preview)	 Copilot for Finance (Preview)	 Formstack Documents	 NST NVD (Independent Publisher) (Preview)	 Power Assist (Preview)	 SECIB (Preview)
 Abstract IBAN Validator (Independent Publisher) (Preview)	 Copilot for Sales (Preview)	 Formstack Forms	 Niro	 Power Automate for Admins	 Secret Server (Preview)
 Abstract IP Geolocation (Independent Publisher) (Preview)	 Copilot for Service extension (preview) (Preview)	 FraudLabs Pro (Independent Publisher) (Preview)	 Nitro Sign Enterprise Verified (Preview)	 Power Automate Management	 Secure Code Warrior (Independent Publisher) (Preview)
 Abstract Phone Validator (Independent Publisher) (Preview)	 Copy.ai (Preview)	 FreeAgent (Independent Publisher) (Preview)	 Nodefusion Portal (Preview)	 Power BI	 SeeBotRun - Link (Preview)
 Abstract Timezones (Independent Publisher) (Preview)	 Corda Blockchain [DEPRECATED] (Preview)	 FreshBooks (Preview)	 Nisco	 Power Forms 7	 SeekTable (Preview)
 Abstract VAT Validator (Independent Publisher) (Preview)	 Cornerstone Learning vILT (Preview)		 Notifications	 Power Platform for Admins	 Setonic (Preview)

and more and growing ...

# A Basic Connector Example

The screenshot shows the Snap! AI API interface. The top bar displays the Snap! logo, a file icon, a cloud icon, a settings gear, and the text "AI API en". The left sidebar contains a menu with categories: Motion, Looks, Sound, Pen, Control, Sensing, Operators, and Variables. Below this is a blue button labeled "OpenAI API". Underneath, there is a "Make a block" button and a search icon. A list of blocks is visible, including "prompt" and "clean JSON".

The main workspace shows a script for a "Sprite" object, which is marked as "draggable". The script is composed of several blocks:

- A "prompt" block with the text "Give the first 10 prime numbers". A speech bubble above it contains the text "2, 3, 5, 7, 11, 13, 17, 19, 23, 29".
- A "prompt" block with the text "Give the first 10 prime numbers in a JSON array".
- A "set resp" block followed by a "clean JSON" block and a "prompt" block with the text "Give the first 10 prime numbers in a JSON array".
- A "split" block followed by a "clean JSON" block, a "prompt" block with the text "Give the first 10 prime numbers in a JSON array", and a "by" dropdown menu set to "json".

On the right side of the workspace, there is a vertical list of numbers from 1 to 10, each in a red box. The numbers are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29. Below the list is a plus sign and the text "length: 10".



# Two Approaches

- Pure Snap! Implementation
  - No dependencies
  - Architecturally and technically limited
- Snap! + External bridge agent support
  - Depends on an external bridge agents that call existing APIs (there are thousands of them).
  - Architecturally unlimited and technically almost unlimited

# Pure Snap! Implementation

- Using Snap! “Web services access (https)” only allows direct calls to some APIs, such as API-KEY-based ones.
- Security issue: API key is visible in the code.
- Many APIs cannot be called directly from browsers for security reasons.

# External Bridge Agents

- Based on independent agent which uses existent implemented APIs.
- Example:
  - Flask Python process
  - Can access to any API (Key based, token based, Oauth 2, etc)
  - Accessed from Snap! via HTTP or MQTT
  - Access to Snap! via MQTT

# External Bridge Agent Example

```
import google.generativeai as genai
import os
from flask import Flask, request
from flask_cors import CORS
import urllib.parse

app = Flask(__name__)
CORS(app)

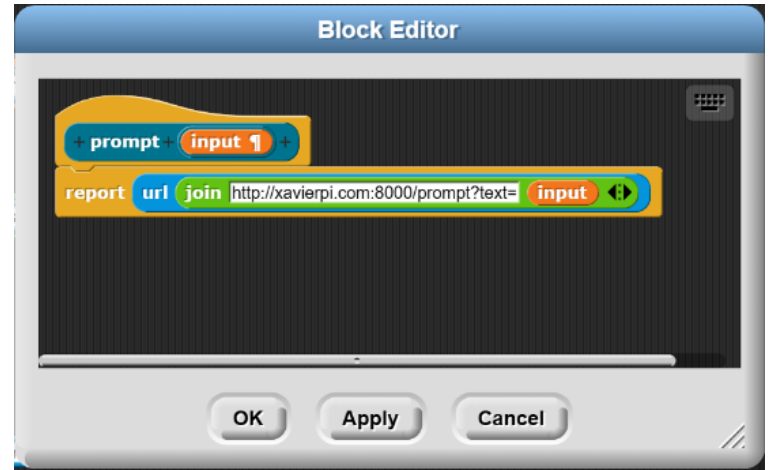
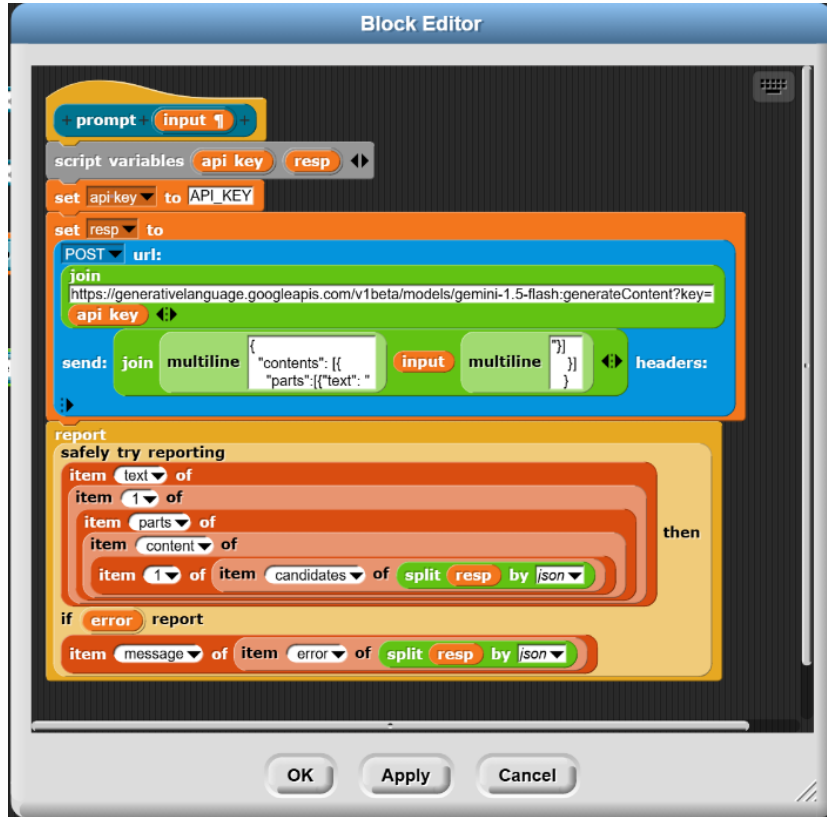
API_KEY = 'xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx'
genai.configure(api_key=API_KEY)

def call_gemini_api(prompt):
    model = genai.GenerativeModel('gemini-1.5-flash')
    response = model.generate_content(prompt)
    return response.text

@app.route('/prompt', methods=['GET'])
def prompt():
    text_prompt = urllib.parse.unquote_plus(request.args.get('text', ''))
    return call_gemini_api(text_prompt)

if __name__ == '__main__':
    app.run(host='0.0.0.0', debug=True, port=8000)
```

# Pure Snap! vs External Bridge Agent



← <https://xavierpi.com/ia>

# Experiences at Barcelona SIL 2025

The screenshot displays the Pulpop Marketplace website interface. At the top, there is a dark navigation bar with the Pulpop logo (tagline: "Take your business global!"), a search bar, and buttons for "Ingresar" and "Registrarse". Below the navigation bar, a main banner features a world map with red location pins and the text: "Pulpop es la PaaS donde las PYMES industriales dejan de ser invisibles y empiezan a liderar". A subtext reads: "Conecta. Escala. Vende. Haz más y mejores negocios, sin fricción y sin perder el control". A yellow button on the banner says "Llévame al siguiente nivel".

Below the banner is a grid of six service cards:

- Smart Hire:** Tecnología que selecciona talento.
- Ready to Import!:** Tu vitrina para conquistar mercados globales.
- Pulpop Referral Partners:** ¡Quiero mis Comisiones!
- Industrial:** Donde tu industria se hace grande y global.
- Precision Prospect:** Prospección B2B IA-Validación Humana.
- TripleShield:** El seguro inteligente que compara por ti.

At the bottom left, there is a "Cookie settings" link.

# Experiences at SIL 2025

The image displays two side-by-side screenshots. The left screenshot shows a Scratch project editor for a character named 'Pulpop'. The project is titled 'SIL\_2025' and is hosted on 'pixavier.github.io/snap/snap.html'. The script area contains the following code blocks: 'init Pulpop', 'when I receive telegram\_photo data', 'switch to costume message text of data from base64', 'create product from photo with data data', and 'clean Pulpop image'. The right screenshot shows a Telegram chat interface for a group named 'SIL group demo'. A 'Send an image' dialog box is open, showing a photo of a blue tractor in a green field. The dialog includes a checked 'Compress the image' option, a caption field containing 'OFERTA Carro @ 30€', and 'Add', 'Cancel', and 'Send' buttons. The chat history shows messages from 'SIL Locally' dated June 14 and June 16, including a PDF file 'order\_LF-AAA-043.pdf' and a confirmation message 'Pedido LF-AAA-043 confirmado'.

# Experiences at SIL 2025






The screenshot shows a web browser window with the URL `marketplace.pulpop.io/vendor.php?dispatch=products.manage`. The interface is for managing products and includes a sidebar with navigation options like Home, Orders, Products, Message center, Product bundles, test, and Settings. The main content area is titled "Products" and features a search bar, filter buttons (Price, Categoria, status, Subcategories, Data de creació, Sort by, Add filter), and a table of products. The table has columns for Name / CODE, Price (€), List price (€), Quantity, eBay, and status. The products listed are VirKO, VirKO Maxi, Oferta del día, VirKO Maxi3, and OFERTA Carro. The interface also includes a top navigation bar with buttons for "Products on moderation", "Create new product", "Disapproved products", "Add several products", "Import", "More", "Save", and "Add product from catalog".

**Products**

Products on moderation | Create new product | Disapproved products | Add several products | Import | More | Save | + Add product from catalog

Tot: VirKO + Searching all products

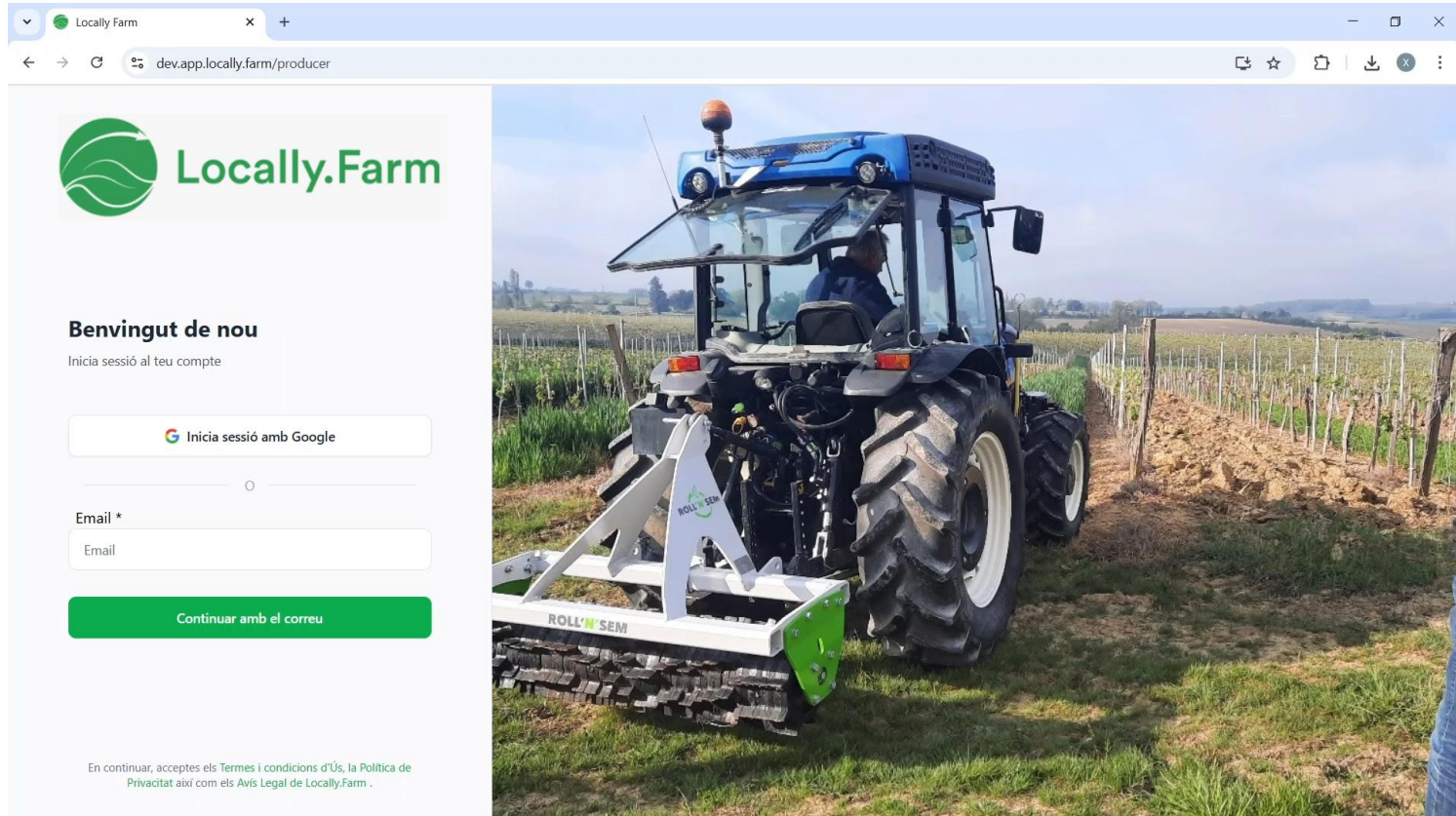
Price (€) | Categoria | status | Subcategories | Data de creació | Sort by | Add filter +

<input type="checkbox"/>	Name / CODE	Price (€)	List price (€)	Quantity	eBay	status
<input type="checkbox"/>	 VirKO	120.00	0.00	1		• Actiu
<input type="checkbox"/>	 VirKO Maxi	200.00	0.00	0		• Actiu
<input type="checkbox"/>	 Oferta del día	10.00	0.00	1		• Actiu
<input type="checkbox"/>	 VirKO Maxi3	200.00	0.00	0		• Actiu
<input type="checkbox"/>	 OFERTA Carro	30.00	0.00	1		• Requires approval

pulpop Storefront Vendor panel



# Experiences at SIL 2025




The image shows a screenshot of a web browser displaying the Locally.Farm application. The browser's address bar shows the URL `dev.app.locally.farm/producer`. The application interface includes the Locally.Farm logo, a welcome message, and a login form with a Google sign-in button and an email input field. A green button labeled "Continuar amb el correu" is positioned below the form. At the bottom, there is a small disclaimer: "En continuar, acceptes els Termes i condicions d'Ús, la Política de Privacitat així com els Avis Legal de Locally.Farm". To the right of the form is a large photograph of a blue tractor with a white roller implement, operating in a vineyard under a clear sky.

Locally.Farm

## Benvingut de nou

Inicia sessió al teu compte

 Inicia sessió amb Google

Email \*

[Continuar amb el correu](#)

En continuar, acceptes els Termes i condicions d'Ús, la Política de Privacitat així com els Avis Legal de Locally.Farm .

# Experiences at SIL 2025

The image displays two overlapping windows. The left window is the Snap! IDE, showing a script for a bot named 'Locally 1 Test'. The script includes an 'init Locally' block followed by a sequence of actions: 'send message', 'send pdf url', 'ask yes/no question', 'ask buttons list title', 'message text of', 'part of message', 'message text starts with', 'message id of', 'message caption of', 'delete message', 'get orders', 'get last order', 'get orders json', 'send pdf order', 'get orders telegram list', and 'clean Locally image'. The main script starts with 'when I receive telegram answer' and contains several conditional blocks for handling messages like 'confirmar pedido', 'rechazar pedido', and 'enviar si/no'. The right window is a Telegram chat titled 'SIL group demo' with 3 members. The chat history shows a message from XPI: 'XPI created the group «SIL group demo»' on June 13, followed by 'XPI added SIL Pulpop' on June 14, and another message on June 18. A recent message from 'SIL Locally' shows a PDF attachment 'order\_LF-AAA-046.pdf' (15.1 KB) with a caption 'LF-AAA-046 | 17-06-2025 | 200€' and a timestamp of 0:21. Below the attachment is a poll question 'Confirmar?' with 'Yes' and 'No' options, and a timestamp of 0:21.

# Experiences at SIL 2025

The image shows a dual-screen setup. The left screen displays the Snap! workspace for a project named 'SIL\_2025'. The workspace includes a block palette with categories like Motion, Control, Looks, Sound, Pen, Aseguis, Cirquel, Estoko, Locally, MQTT, and Placenet. The main workspace contains a script starting with 'init Locally', followed by 'send message', 'send pdf url', 'ask yes/no question', 'ask buttons list title', 'message text of', 'part of message', 'message text starts with', 'message id of', 'message caption of', 'delete message', 'get orders', 'get last order', 'get orders json', 'send pdf order', 'get orders telegram list', and 'clean Locally image'. A second script starts with 'when I receive telegram', followed by 'if part of message', 'delete message', 'send message', 'ask yes/no question', 'if part of message', 'delete message', 'send message', 'if part of message', 'delete message', 'send message', and 'if part of message'. The right screen shows a web browser with a PDF document titled 'Presupuesto N° LF-AAA-046'. The document header includes the logo of Horta Vilassar SL, its NIF (03466857P), and address (Carrer Zona Industrial, Vilassar de Mar, Barcelona, España). The document is dated 'El 17/06/2025 a las 09:35'. The main content is a table with columns 'Nombre del producto', 'Cantidad', and 'Precio unitario'. The table lists 'Patatas' (1 unit, 100.00 €) and 'Lechuga' (20 units, 5.00 €). The browser's address bar shows 'order\_LF-AAA-046' and the page title is 'Iniciar sesión'. The browser interface includes a search bar, navigation buttons, and a 'Compartir' button.

Todas las herramientas

- Exportar un PDF
- Editar un PDF
- Crear un PDF
- Combinar archivos
- Organizar páginas
- Asistente de IA
- Resumen generativo
- Solicitar firmas electrónicas
- Digitalizar y OCR
- Proteger un PDF
- Censurar un PDF
- Comprimir un PDF
- Preparar formulario

Ver más

**Horta Vilassar SL**  
NIF : 03466857P  
Carrer Zona Industrial  
Vilassar de Mar  
Barcelona  
España

**Supermercat Pre**  
NIF : 03466857P  
Carrer de Joan Priu  
92  
08330 Premià de M  
Barcelona  
España

**PRESUPUESTO N° LF-AAA-046**  
El 17/06/2025 a las 09:35

Nombre del producto	Cantidad	Precio unitario
Patatas Lote n.º: #34526	1	100.00 €
Lechuga Lote n.º: #34221	20	5.00 €

Cost

# Experiences at SIL 2025

The image displays two side-by-side screenshots. The left screenshot shows the Snap! IDE interface for a project named 'SIL\_2025'. The main workspace contains a script titled 'Locally 1 Test' with the following code blocks:

```
delete message (message id of data)
send message (Enviar cancelado)
if (part 1 of message (data) = enviar no)
  delete message (message id of data)
  send message (Enviar cancelado)
if (part 1 of message (data) = consultar pedido)
  delete message (message id of data)
  set order to append
  list part 2 of message (data)
  item part 2 of message (data) of get orders
  send pdf order (order)
  ask yes/no question (confirmar?) value yes
  join (confirmar pedido) item of order value no
  join (rechazar pedido) item of order
when I receive telegram input (data)
  if (message text of data = /pedido)
    ask buttons list title (pedidos) options (get orders telegram list)
  if (message text of data = /pedidos)
    ask buttons list title (pedidos) options (get orders telegram list)
```

The right screenshot shows a Telegram chat window titled 'SIL group demo' with 3 members. A message from 'SIL Locally' contains a list of orders:

Order ID	Date	Amount
LF-AAA-001	10-10-2024	85
LF-AAA-004	14-10-2024	150
LF-AAA-007	17-10-2024	500
LF-AAA-008	20-10-2024	40
LF-AAA-009	22-10-2024	1000
LF-AAA-011	30-10-2024	500
LF-AAA-012	30-10-2024	5000
LF-AAA-016	12-11-2024	30
LF-AAA-023	31-12-2024	100
LF-AAA-028	13-02-2025	50
LF-AAA-038	25-04-2025	86
LF-AAA-039	30-04-2025	60
LF-AAA-040	08-05-2025	6.6
LF-AAA-042	12-05-2025	11
LF-AAA-043	13-05-2025	100
LF-AAA-045	13-06-2025	500

# Recap

- Block-based languages like Snap! are lingua franca for almost the whole new generation; there is no need to create parallel discourses to explain computational thinking (algorithmic thinking, decomposition, abstraction, and pattern recognition).
- Undergraduate programmers can develop connectors based on external bridge agents, easily using AI in most cases, on a cheap VPS or cloud service.
- Snap! is architecturally complete (bidirectional sync and async agents interactions with client-server and PubSub architectures) thanks to “Web services access (https)” and “MQTT” libraries.

Thank you !

Xavier Pi

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