RPA - Robotic Process Automation

I. Types of RPA

- Supervised RPA = System + Human
- Unsupervised RPA = Only System
- Hybrid RPA = System + Optional Human

II. RPA vs AI

- RPA = hands / legs (take robot out of human)
- AI = brain (put human into robot)

III. Which factors should you consider while selecting a RPA Software?

You should consider the following factors before selecting a tool:

- Desired **Platform Support**: Web, Desktop, Citrix, SAP, etc
- **License Cost** if applicable
- In the case of an outsourcing project, you need to factor customer/Client preference of the automation tool
- The cost involved in **training employees** on the tool
- **Hardware/Software requirements** of the automation tool
- Support and Update policy of the automation tool vendor.

IV. RPA Tools

1. **UiPath**

2. **ZAPTEST - free**

   - **Goal**: who is looking to automate it's back-office operations or software testing processes and to develop a seamless and revolving automation framework.
   - **Features**:
     - Functional and Performance Test Automation
     - RPA (Robotic Process Automation)
     - Seamless Test+RPA Software Automation
     - Cross-Platform (Parallel) Execution
     - DevOps (Mock-ups) Automation
     - API Testing
     - Auto-Documentation
   - **Companies currently use Zaptest**:

Website	Employee Range	City	Region	Country

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Olenick	201-500	Chicago	Illinois	United States
QA Consultants	201-500	Toronto	Ontario	Canada
Inflectra	11-50	Silver Spring	Maryland	United States
ZAP TECHNOLOGIES, INC	1-10	Alpharetta	Georgia	United States
Software Testing Help	11-50	Pune	Maharashtra	India
ZAPTEST	11-50	Atlanta	Georgia	United States
CodingSight	1-10	Mountain View		Kenya
Automated-360	1-10			
TestGuild	1-10	Oakdale	Tennessee	United States
FiveTeams	1-10	Berlin	Berlin	Germany

3. **Eggplant - free/Paid plans**

- Features:
  - End-to-end automation able to interact with multiple systems to complete a task.
  - Universal fusion engine that can test any system from mobile to mainframe.
  - Resolve issues with real-time data analytics
  - Designed for process experts not technical experts or developers.
  - Reduce manual errors by automating repetitive process tasks.

4. **HelpSystems - 30-day-free/Paid plans**

- Features:
  - Over 600 prebuilt automation building blocks
  - Graphical workflow design brings IT and business teams together
  - Ability to integrate with an extensive list of applications
  - Intelligent automation capabilities with advanced conditions and trigger scenarios
  - Industry leading security, auditing, and integration capabilities
  - Centralized visibility, management, and reporting and analytics within distributed networks

5. **JAMS - free/Paid plans**

- Features:
  - Automate IT processes—from simple batch processes and scripts to complex cross-platform workflows

- Centralize scheduling across all platforms, applications, APIs, and scripting languages
- Leverage code-driven automation and apply business logic in jobs
- Rely on event-based scheduling using triggers and user-defined events to increase automation control and efficiency

6. **Kofax - free/Paid plans**

- Features:
    - Helps you to remove errors by Automating Data Gathering and Input
    - Increase Operational Efficiency with Intelligent Software Robots
    - Monitor and Optimize Processes with Robotic Process Intelligence
    - Deploy, manage and execute robots from a centralized server
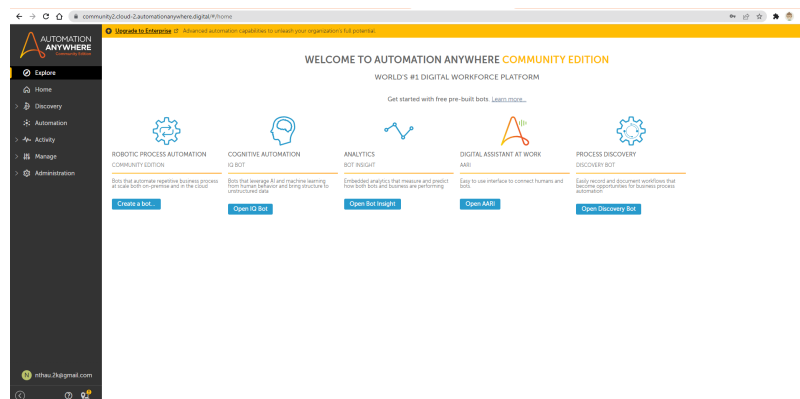   - Built-In Analytics and Process Intelligence

7. **Power Automate**

8. **Automation Anywhere** - **30-day-free/Paid plans** for business; free community edition for students

- **Goal**: RPA software for financial services, healthcare and insurance companies

- ✔:

    - cloud-native and web based AI platform (a Web-Based Management System which uses a Control Room to run the Automated Tasks)
    - create and maintain a digital workforce of software bots that complete end-to-end business processes
    - drag and drop features
    - has hands-on tutorials and webinars, as well as extensive modular training.

- **Features:**

    - Intelligent automation for business and IT tasks
    - Uses SMART Automation Technology
    - Rapidly Automates complex and complicated tasks
    - Create automation tasks like recording keyboard strokes and mouse clicks
    - Distribute tasks to multiple computers
    - Automation Anywhere offers scriptless automation
    - Auto-login runs scheduled tasks on anytime, even when the computer is locked.

- Can be **applicable to**:

    - ***Financial/Accounting:*** Invoice processing, reporting, auditing, etc.
    - ***Sales:*** Creating and printing invoices, add, modify and removing customer data into CRM.
    - ***Marketing:*** Creating lead generation reports and monitoring social sentiment.
    - ***Retail:*** Gather product details from manufacturer's site, updating online inventory and importing website and email sales.
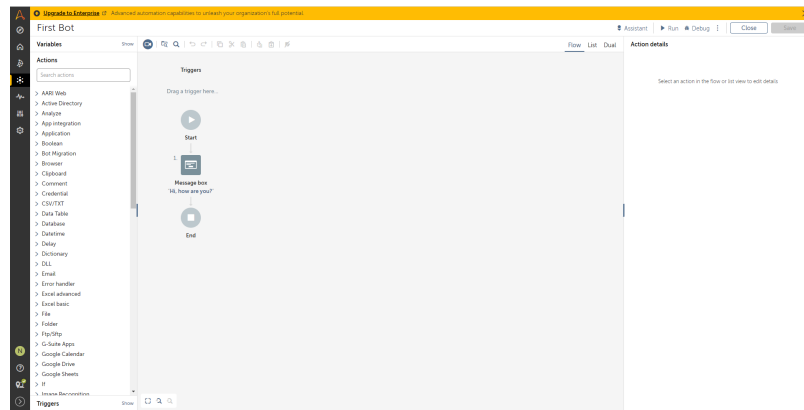
- **Architecture:**

1. **Control Room** - the Server that controls Automation Anywhere bots.

- ▪ Responsibilities:
  - ▪ User management
  - ▪ Source control : code for the bots is managed by the control room. So it becomes easy to share the code across different systems.
  - ▪ Dashboard- It gives complete analytics/results of Automation Anywhere bots. You can see how many bots are runs and how bot failed/passed etc. is controlled.
  - ▪ License Management: The purchased licenses for Automation Anywhere are configured in the Control Room
  - ▪ Dev license: can create a bot, edit bot and run a bot.
  - ▪ Run license: run the bot and,will not make any changes.

2. **Bot Creator:**

_is_Verified_(dev_license) ? "Developers use Desktop based applications to create bots" : ""

3. **Bot Runner**

is_Verified(run_license) ? "bots can be running in parallel and report back the execution logs/pass/fail status back to the control room." : ""
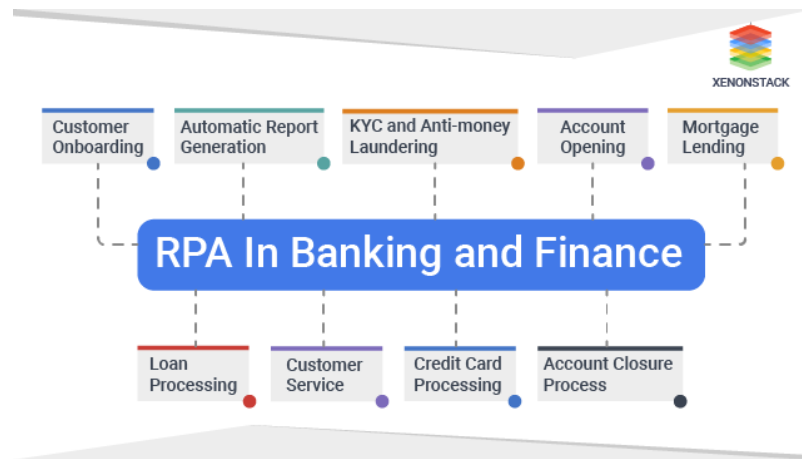
○ **Types of bots:**

1. *Task bot*: automation repetitive tasks based on rules.
2. *Meta bot*: helps next-generation integration scalability.
3. *IQ bot*: learns on it-self and carries on tasks in accordance with his learning.

○ **Companies currently use Automation Anywhere:**

COMPANY NAME	WEBSITE	CITY	COUNTRY	TOP LEVEL INDUSTRY	SUB LEVEL INDUSTRY
Citi	citi.com	New York	US	Finance	Banking
JPMorgan Chase	jpmorganchase.com	New York	US	Finance	Banking
UiPath	uipath.com	New York	US	Technical	Software Manufacturers

V. 📇 RPA Needs in Finance and Accounting

1. **KYC** (Know your client) documentation: professionals make an effort to verify the identity, suitability, and risks involved with maintaining a business relationship
   - Requires lots of data
   - Allow automate the manual process of filling KYC information
2. **Customer on-boarding**: the process - new users go through to get **set up** and **start using your product**, from **initial sign-up** to **product activation** and **first use**.
   - Requires a lot of manual verification documents
   - Teaching new users how to use your product
   - Goal: get users come back to the products
3. **Fraud detection:**
   - Combined with Machine Learning
   - Detect frauds and inform you before they occur
4. **Report Generation:**
   - Eliminates the menial task of generating reports of accounts and activities
   - Allows automatically read the reports and present them in a structured format.
5. **Account opening:**
   - Minimizes the errors that occur while opening an account with a bank or a financial company
   - Opens bank accounts of the customer without taking through a lengthy and manual process
6. **Loan processing & Mortgage Lending:**
   - Demands reliance on several processes from the beginning to the end of the workflow
   - Automatically verifies the records and disburses the amount of money.

List other tools: *How it runs, how it fits our work ? --> report in detail how companies use them*

1. Cost - video demo, tut doc

2. Free - run sample

Tìm hiểu về các tool như UiPath để biết cách thức hoạt động, chức năng, trong tài chính thì apply vô mảng nào, v.v...