

Autonomous Agent Hackathon
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VirtualCORP

Build **COMPLIANT**
Automated Business



**Imagine a world where building a business takes
a few clicks where you can hire as many agents as
needed at almost a marginal cost, and where
compliance is assured at every step**



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Multi-agent, complex system
simulation

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The problem

When using autonomous agents in production applications where these agents interact with humans and other agents, a critical issue comes to the forefront: compliance

How can we ensure that our autonomous agents engage with humans and other agents while upholding legal, ethical considerations, and even the rules set by their developers

In today's world, businesses face increasing scrutiny, and ensuring compliance isn't just a legal requirement; it's a matter of trust and reputation.

Our Project

VirtualCORP aim:

- **Create automated businesses starting from a seed idea**
- **Make sure that every step is compliant with (legal, ethical, technical, ..)**

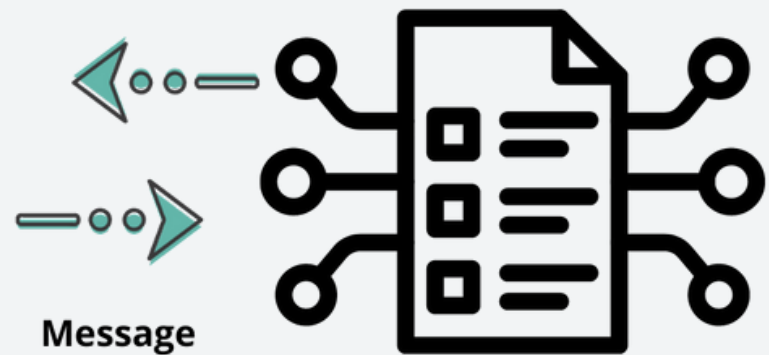
We propose a new agnostic architecture of a multi-agent system to tackle the compliance challenge

Our Solution

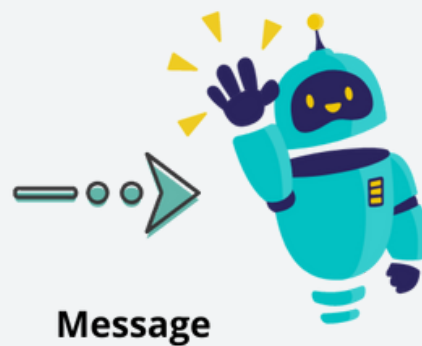
Autonomous agent 1



Smart Contract



Autonomous agent 2



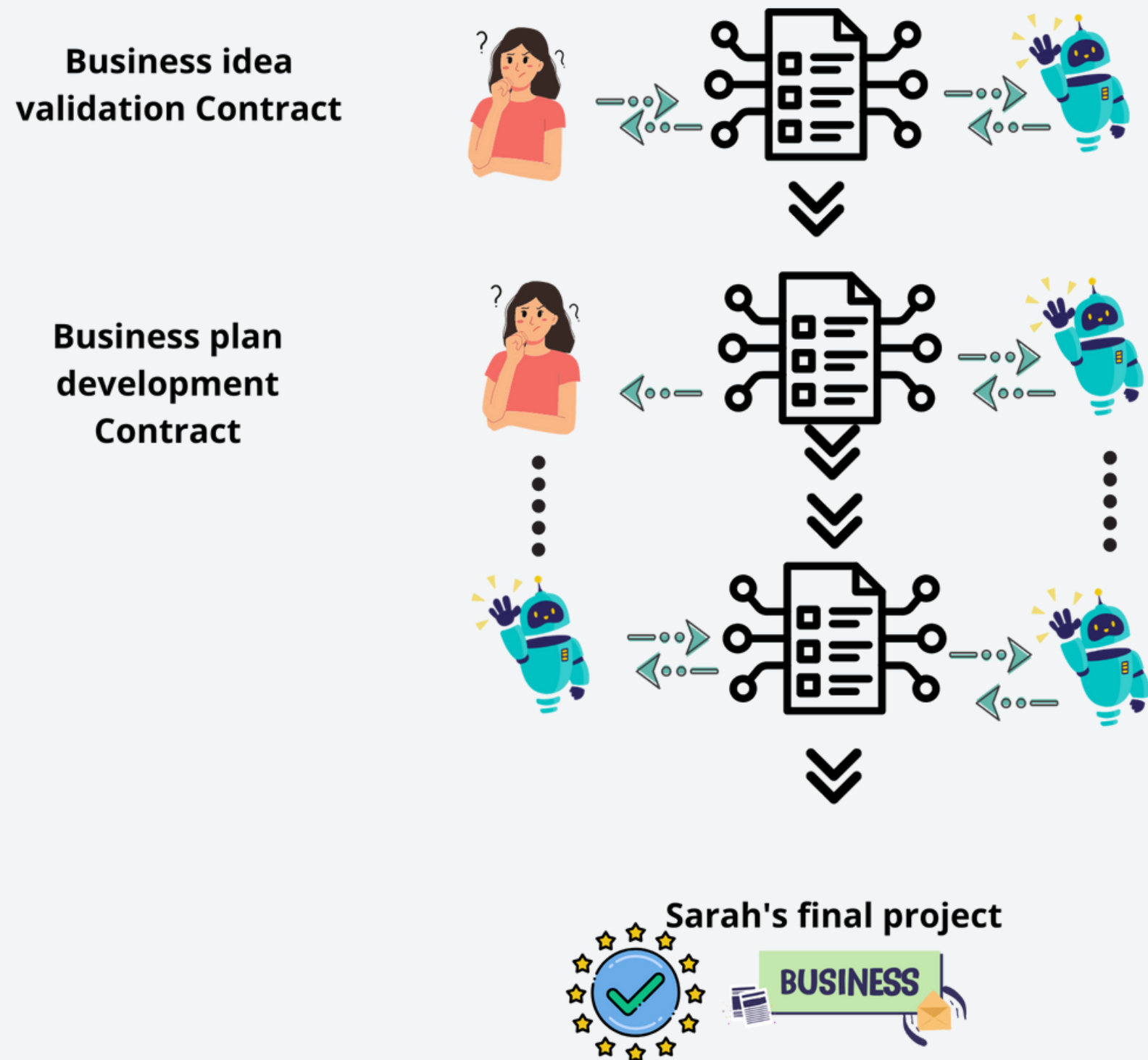
Autonomous agents:

- can any be any type of agent powered by a large language model

A smart contract that:

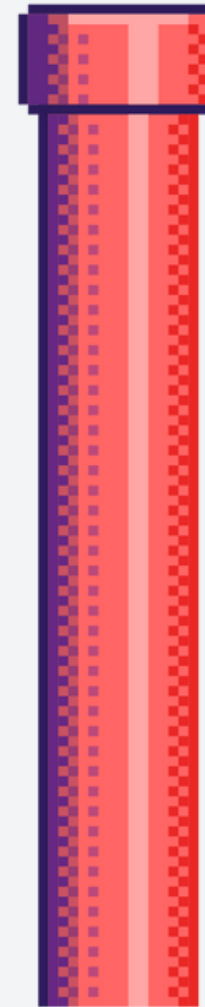
- the backbone of VirtualCORP. They dynamically extract compliance rules from interactions and enforce them, ensuring that every action aligns with regulations and guidelines.

Our Solution



A pipeline:

- pipeline orchestrates the entire process, seamlessly passing information and tasks between contracts. It's the engine that drives efficient business creation.



Example

Sarah has
a business idea

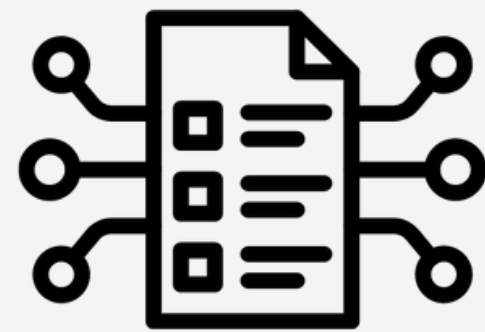


VirtualCORP

Sarah, with a groundbreaking business idea. Using VirtualCORP, Sarah enters her idea, and the journey begins

Example

Sarah has
a business idea



The smart contract checks
if the idea is compliant
and advises Sarah if not

VirtualCORP



Sarah's idea is checked for compliance by the smart contract. If the idea is Non-compliant with legal, ethical or industry specific rules the smart contract advises Sarah to make modifications

Example

Sarah has
a business idea



VirtualCORP

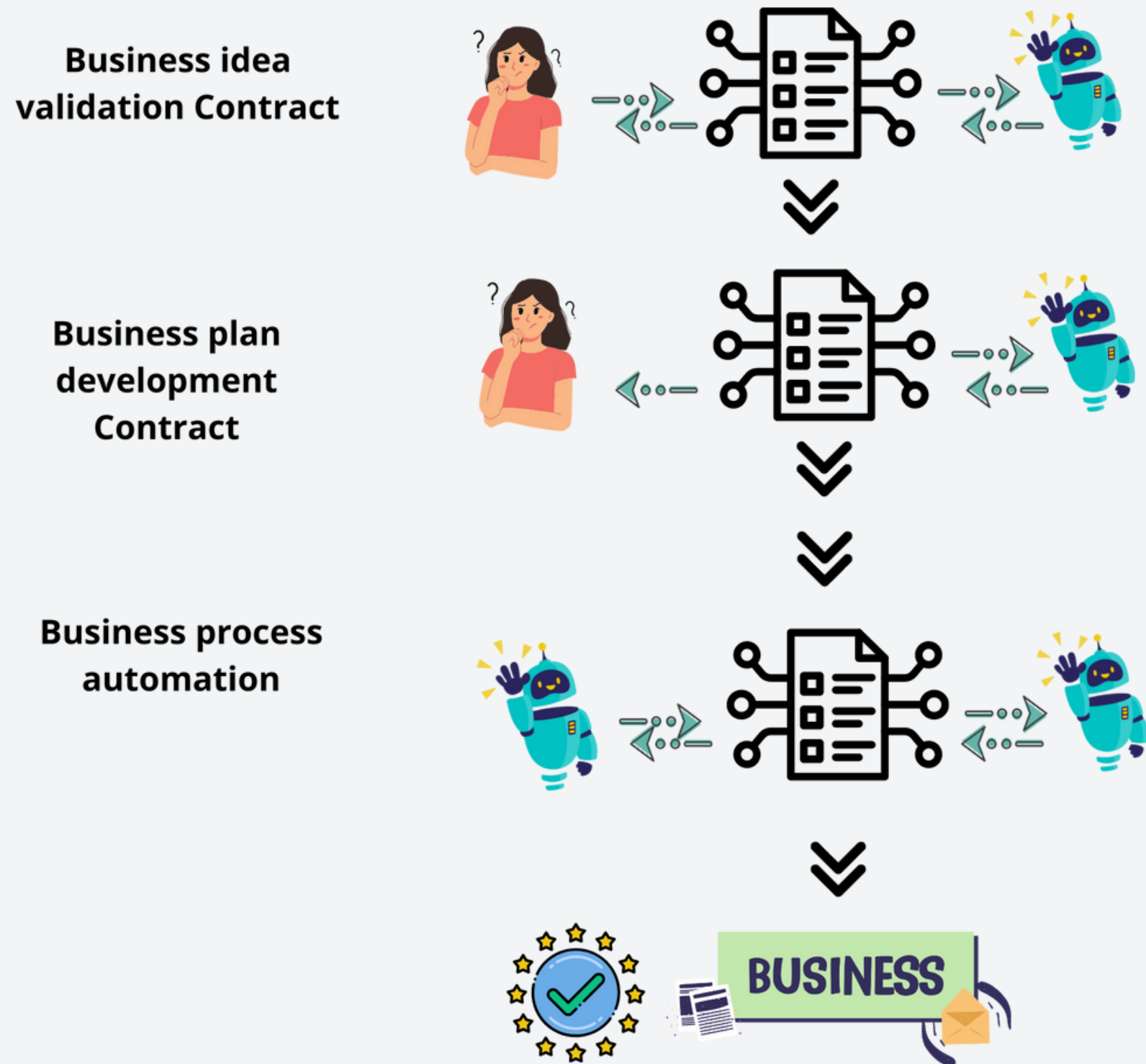


The smart contract checks
if the idea rephrased by the agent
is compliant and submit it
back to Sarah for validation

Once Sarah's idea is compliant it is passed to an autonomous agent for rephrasing it and make it more specific.

Each interaction between Sarah and the agent is checked for compliance

Example



Once Sarah agrees with the specified business idea the contract is terminated the process continues to the next step.

The contracts are chained into a pipeline

Advantages

- **Simple and powerfull architecture:** agent, smart contracts and a pipeline
- **Agnostic:** can be implemented in any framework
- **Customizable:** the contract may have tools to access external ressources (legal databases or industrial specific rules)
- **The contract:** can prompt the agent or the Human back on how to make the step compliant

A first step towards deployment of autonomous agents in production environment

Compliant business

- We developed a simple demo of the process of automated business creation (available on github)
- Each interaction between the human user and the autonomous agents or between two autonomous agents is checked through a smart contract
- We believe that automated business is one of the major applications of autonomous agents (almost a limitless market)
- But since autonomous agents will be allowed to take decisions the problem of compliance (and responsibility) will be one of the main challenges.
- Our contribution offers a promising solution for this problem

Thank you!