



# Building AI powered applications with LangChain

March 19, 2024

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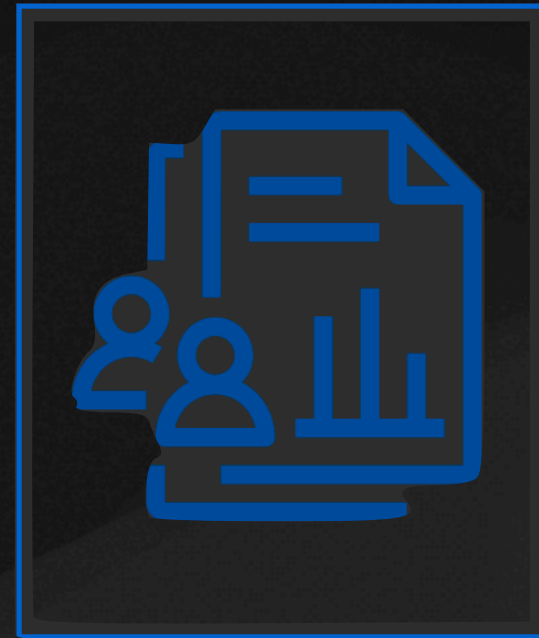


# Juan Peredo - Your guide in this journey

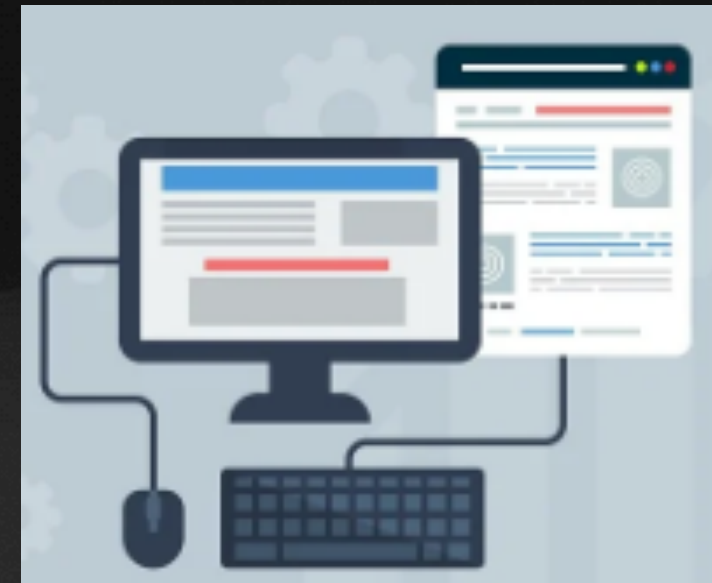
- Architect / consultant / developer & everything in between
- Independent Cloud Application Architect
- LinkedIn: [linkedin.com/in/juanperedotech](https://www.linkedin.com/in/juanperedotech)
- Over 15 years of IT experience in companies like:
  - Bolbeck LLC
  - AWS
  - Strategy& (PWC)
  - Booz & Co



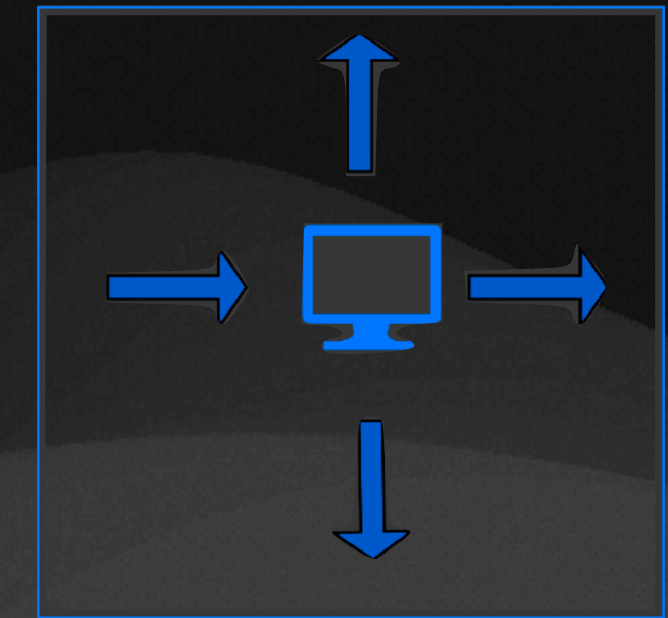
# LangChain is a framework aimed at making your life easier



Creation



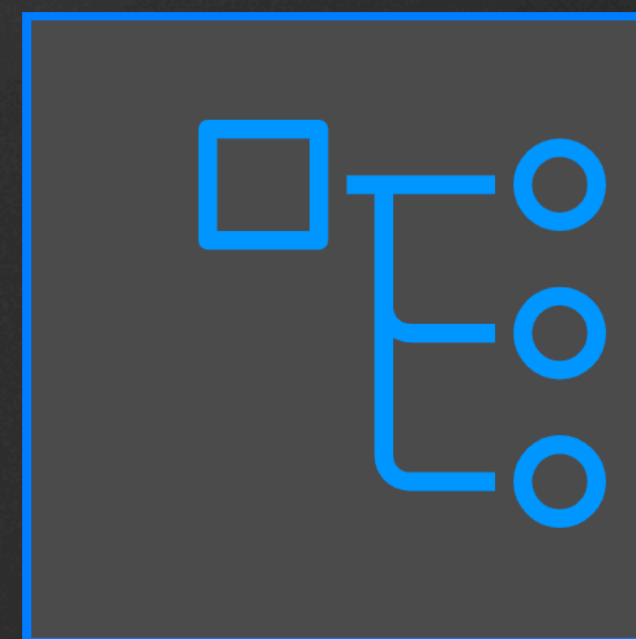
Development &  
Deployment



Integration



Evaluation



Traceability



Monitoring

# LangChain helps accelerate app creation



- App creation
- Testing
- Templates
- Serving (coming soon)



- Prompt manipulation
- LLM integration
- Output parsing
- Agents & tools



- Evaluation
- Monitoring
- Tracing
- Playground



Hundreds of integrations:

- LLM Models
- Data loaders
- Embedding models
- Databases
- And more...

Easy to use

- Examples
- Templates
- Prompt sharing

Thriving community

# Using LangChain



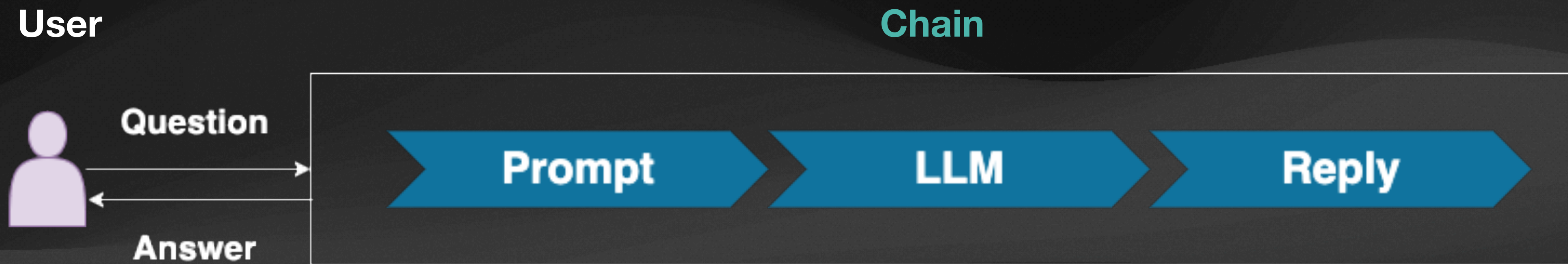
<https://python.langchain.com/>



<https://js.langchain.com>

- Python and Javascript are officially supported
- There are other community implementations (e.g. Go)
- Langchain is Open Source (MIT)

# What are chains?



Chains are a series of steps required to allow interaction  
Human - LLM interaction

# To the code!

```
50 //fires the appear event when appropriate
51 var check = function() {
52     //is the element hidden?
53     if (!t.is(':visible')) {
54         //it became hidden
55         t.appeared = false;
56         return;
57     }
58
59     //is the element inside the visible window?
60     var a = w.scrollLeft();
61     var b = w.scrollTop();
62     var o = t.offset();
63     var x = o.left;
64     var y = o.top;
65
66     var ax = settings.accX;
67     var ay = settings.accY;
68     var th = t.height();
69     var wh = w.height();
70     var tw = t.width();
71     var ww = w.width();
72
73     if (y + th + ay >= b &&
74         y <= b + wh + ay &&
75         x + tw + ax >= a &&
76         x <= a + ww + ax) {
77         //trigger the custom event
78         if (!t.appeared) t.trigger('appear', settings.data);
79     } else {
80         //it scrolled out of view
81         t.appeared = false;
82     }
83 };
84
85 //create a modified fn with some additional logic
86 var modifiedFn = function() {
87     //mark the element as visible
88     t.appeared = true;
89
90     //is this supposed to happen only once?
91     if (settings.one) {
92         //remove the check
93         w.unbind('scroll', check);
94         var i = $.inArray(check, $.fn.appear.checks);
95         if (i >= 0) $.fn.appear.checks.splice(i, 1);
96     }
97
98     //trigger the original fn
99     fn.apply(this, arguments);
100 };
101
102 //bind the modified fn to the element
103 (function one) t.one('appear', settings.data, modifiedFn);
104 settings.data, modifiedFn);
```

<https://github.com/camba1/langChainDemo>

# LangChain has many advantages, but...

- AI is changing fast and so is LangChain
  - Many examples in the web are deprecated
  - LCEL vs Legacy chains
  - Multiple potential implementations
- Like any other frameworks, there are plenty of abstractions

## LCEL Chain

```
chain = chat_prompt | model | output_parser()  
chain.invoke(question)
```

## Legacy Chain

```
chain = ChatOpenAI(temperature=0.0, model=llm_model)  
response = chain.invoke(chat_prompt)  
output_dict = output_parser.parse(response.content)
```

Pseudocode





# Useful resources

- LangSmith Docs: <https://docs.smith.langchain.com/tracing>
- Langserve App templates: <https://templates.langchain.com>
- LangChain Hub: <https://smith.langchain.com/hub>
- LangChain Python docs: <https://python.langchain.com/>
- LangChain JS docs: <https://js.langchain.com>
- Blog: <https://blog.langchain.dev/>
- Discord: <https://discord.gg/cU2adEyC7w>
- Repos for this demo:
  - Backend: <https://github.com/camba1/langChainDemo>
  - Frontend: <https://github.com/camba1/langchainDemoClient>

# Questions ?



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Thanks to **AICamp** for organizing these meetups