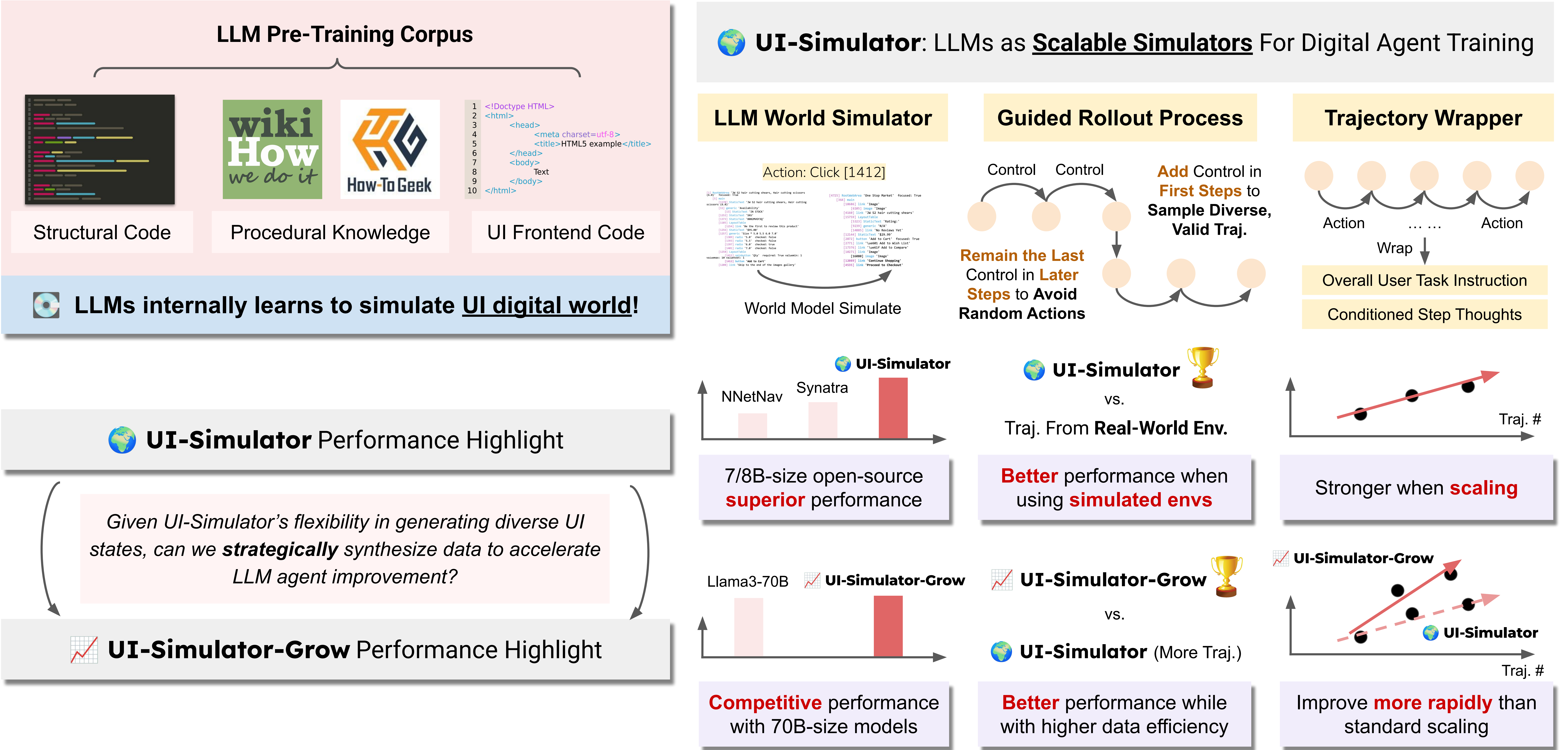
LLM Pre-Training Corpus
wiki How we do it
How-To Geek
1 <!Doctype HTML>
2 <html>
3 <head>
4 <meta charset=utf-8>
5 <title>HTML5 example</title>
6 </head>
7 <body>
8 Text
9 </body>
10 </html>
Structural Code
Procedural Knowledge
UI Frontend Code
LLMs internally learns to simulate UI digital world!
UI-Simulator: LLMs as Scalable Simulators For Digital Agent Training
LLM World Simulator
Guided Rollout Process
Trajectory Wrapper
Action: Click [1412]
World Model Simulate
Control
Control
Remain the Last Control in Later Steps to Avoid Random Actions
Add Control in First Steps to Sample Diverse, Valid Traj.
Action
… …
Action
Wrap
Overall User Task Instruction
Conditioned Step Thoughts
UI-Simulator Performance Highlight
Given UI-Simulator's flexibility in generating diverse UI states, can we strategically synthesize data to accelerate LLM agent improvement?
UI-Simulator-Grow Performance Highlight
NNetNav
Synatra
UI-Simulator
7/8B-size open-source superior performance
UI-Simulator
vs.
Traj. From Real-World Env.
Better performance when using simulated envs
Traj. #
Stronger when scaling
Llama3-70B
UI-Simulator-Grow
Competitive performance with 70B-size models
UI-Simulator-Grow
vs.
UI-Simulator (More Traj.)
Better performance while with higher data efficiency
UI-Simulator-Grow
UI-Simulator
Traj. #
Improve more rapidly than standard scaling