unthinkable
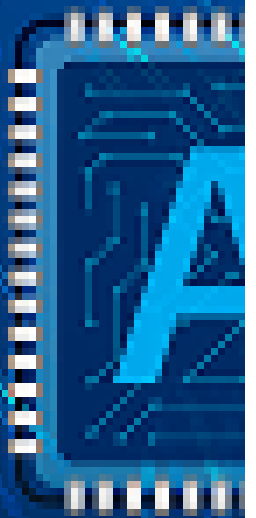
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`AI`   `Agentic AI`   `Testing Automation`

Revolutionizing Software Testing with Agentic AI

Explore how using agentic AI, Unthinkable is creating autonomous, goal-oriented testing agents

With the digital landscape evolving at rapid speed, businesses across the globe are under a lot of pressure to provide seamless software experience without compromising on time-to-market. Traditional test automation methods due to their rigid, maintenance-heavy, and limited scope

—are struggling to keep pace. At Unthinkable we are evaluating a new approach of automation with the help of Agentic AI. In this article, we would like to showcase our thought process on how we are innovatively using agentic AI to create autonomous, goal-oriented testing agents that explore applications like human users—trying multiple strategies, adapting to changes, and providing rich, actionable insights beyond simple pass/fail results.

Challenges with Traditional Test Automation

• **Brittle Tests**: Even minor changes in UI can lead to test scripts breaking

• **High Maintenance Costs**: Up to 30-40% of testing time is just spent maintaining existing tests

• **Limited Coverage**: Typically, only predefined paths get tested, ignoring critical edge cases

• **Shallow Insights**: No actionable intelligence, just basic pass/fail reporting

• **Slow Adaptation**: Struggle to keep up with agile development cycles

In a conversation with one of our clients, their CTO recently told us: *"In spite of investing millions in test automation, we still miss critical bugs. Our QA team is constantly playing catchup with test maintenance rather than focusing on innovation."*

How we believe Agentic AI Can Revolutionize Testing

Our approach leverages recent advances in LLMs and browser automation, creating truly intelligent testing agents that:

1. **Understand Goals, Not Scripts**: Focusing on what needs to be achieved vs just how to test it

2. **Explore Multiple Strategies**: Automatically try different approaches to accomplish goals

3. **Self-Heal and Adapt**: Navigate through UI changes without breaking

4. **Provide Rich Analysis**: Deliver insights on user experience, not just functional correctness

5. **Learn Continuously**: Improve with each execution across your application portfolio.

How it works:

Our agentic AI testing platform is built on top of five integrated components:

. **Goal understanding engine** translates business objectives into testable goals

. **Multi-strategy navigator which** generates and executes various approaches to achieve goals

. **Adaptive interaction layer** for resilient browser automation that understands context

. **Observation & analysis system** monitors execution and identify issues

. **Experience intelligence** to generates actionable insights beyond simple defects

As our platform runs tests, it records every action, observation, and decision point. Result? A comprehensive record that combines the best aspects of exploratory and automated testing.

Strategic Business Impact, Beyond Testing

The benefits of agentic AI testing extend far beyond the QA:

For CTOs:

• With reduced testing bottlenecks release cycles are accelerated without sacrificing quality

• Optimal resource allocation as engineering talent can be redirected from from test maintenance to innovation

• As the tests evolve with your application they continue to stay relevant and require minimal maintenance effort.

For CEOs:

• Catch UX issues before any customers are impacted.

• Roll out features faster with more confidence, maintaining your competitive advantage.

• Turn testing from a cost center to a strategic advantage.

How to Get Started

In order to adopt agentic AI testing you don't need to completely replace existing testing investments. We have divided our implementation approach into three phases:

. **Assessment & Proof of Value:** In this phase we identify high-maintenance test suites to demonstrate immediate impact

. **Strategic Implementation:** As part of this phase, we integrate agentic AI testing alongside existing automation

. **Capability Transfer:** As part of the final phase, we train your team to extend the approach

The Technology Behind Our Agentic AI

```
// Example of our agentic test definition - notice how it specifies
// the "what" not the "how"

const checkoutTest = new AgenticTest({
 goal: "Complete purchase of highest-rated product in the summer collection",
 successCriteria: {
  mustReach: "/order-confirmation",
  mustContain: "Thank you for your purchase",
  mustHave: {
   orderNumber: true,
   estimatedDelivery: true
  }
 },
 exploration: {
  maxStrategies: 3,
  prioritize: "conversion-rate"
 }
});


// The agent autonomously determines how to:
// 1. Navigate to the summer collection
// 2. Identify and sort products by rating
// 3. Select the highest-rated product
// 4. Add it to cart
// 5. Complete checkout
// All without explicit instructions on how to perform these steps
```

This declarative approach abstracts away the complexity of test automation while providing unparalleled flexibility. The agent autonomously figures out how to navigate through the product selection and complete the purchase—without being told exactly how to do it. This makes test automation not only flexible but also straightforward.

What Does The Future of Software Quality Look Like?

At Unthinkable, we firmly believe that agentic AI represents the next stage of evolution in software quality assurance—a radical shift from scripted testing to goal-oriented exploration and analysis.

Businesses that adopt this approach early on aren't just likely to reduce costs; they'll also gain competitive advantage through:

• Faster Time-to-Market

• Enhanced User Experience
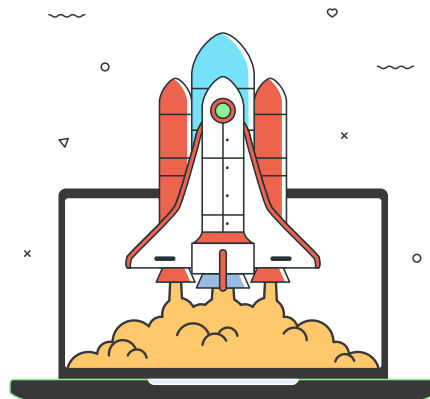
• Continuous Intelligence

Conclusion

As the competition in digital landscapes grows, businesses which will take the leap and transform their approach to quality assurance will stand to gain a significant edge. Our agentic AI testing platform is about fundamentally changing how businesses approach software quality vs just catching bugs. Digital experiences are becoming increasingly complex and user expectations continue to rise. Traditional testing approaches will not be able to match this speed and will fall further behind. Agentic AI testing offers a path forward to maintain high standards while matching the pace of innovation. If you are ready to revolutionize your

approach to software quality, Unthinkable's agentic AI testing platform can help you reduce costs, accelerate delivery, and enhance user experiences.

Unthinkable is a digital product engineering company built for forward-looking businesses. We specialize in building lean, modular, and scalable platforms that drive compounding outcomes — from faster builds to easier iterations and better product-market fit. Our unique approach to software engineering combines deep domain expertise with architectural excellence using declarative programming principles which cuts your code base by half. The result? Systems that are easier to maintain, faster to evolve, and built to grow with your business.

We don't just build software — we build leverage. Whether you're an enterprise modernizing legacy stacks or a high-growth startup launching new products, Unthinkable partners with you to deliver long-term value, not just working code. From ecommerce and healthcare to fintech and SaaS, we bring clarity to complexity and help you outpace your competitors — not by doing more, but by doing it smarter.

Contact us at info@unthinkable.co to schedule a call or book a demo using the form below.

Ready to build something remarkable?

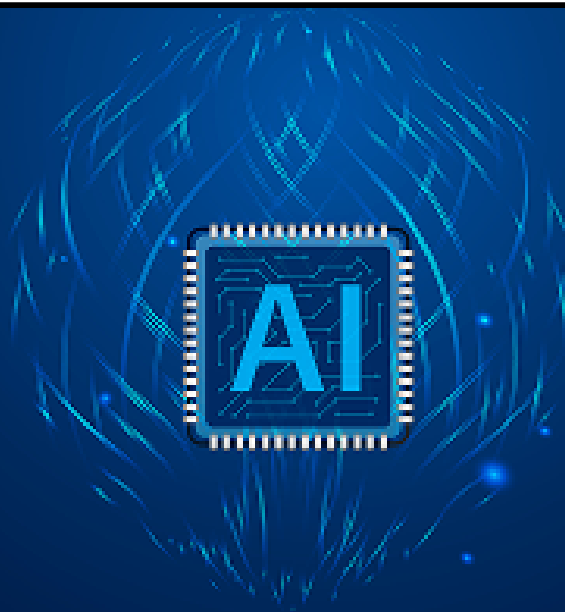Let's discuss how our unique approach can help you create a digital platform that evolves with your users.

First Name*

Last Name*

Email*

Contact no*

Drop us a line with your requirement/challenges

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Our Expert Perspectives on Digital Transformation

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