

# Enhancing Xcode with AI Building Smarter Editor Extensions

CODE AND THEORY

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1

# About Us

We are  
Code and Theory,  
a technology-first  
creative agency.

2

# Changing World Order

# The mobile app market is a juggernaut, a multi-billion-dollar industry that shows no signs of slowing down.

1

## Global mobile app development Market Size

The global mobile app development market is expected to reach **\$700 billion** in 2024.

2

## The US mobile app development Market Size

Expected to reach **\$100 billion** in 2024.

3

## User Behaviours

**Personalisation** is key, with users expecting apps that cater to their unique needs and interests. 89% of marketers in the U.S. found that personalised apps and websites led to increased revenue.

4

## Rising Mobile app Usage

Average American smartphone user now spends **over 4 hours daily** on their mobile device. This statistic underscores the increasing reliance on mobile apps for various tasks and entertainment.

5

## Widespread User Engagement

85% of the time spent on smartphones is spent using apps. This high level of engagement signifies the importance of mobile apps in people's daily lives.

# 3

# Opportunities Ahead

# Generative AI

Insight

\$ 0.96 Trillion  
by 2030

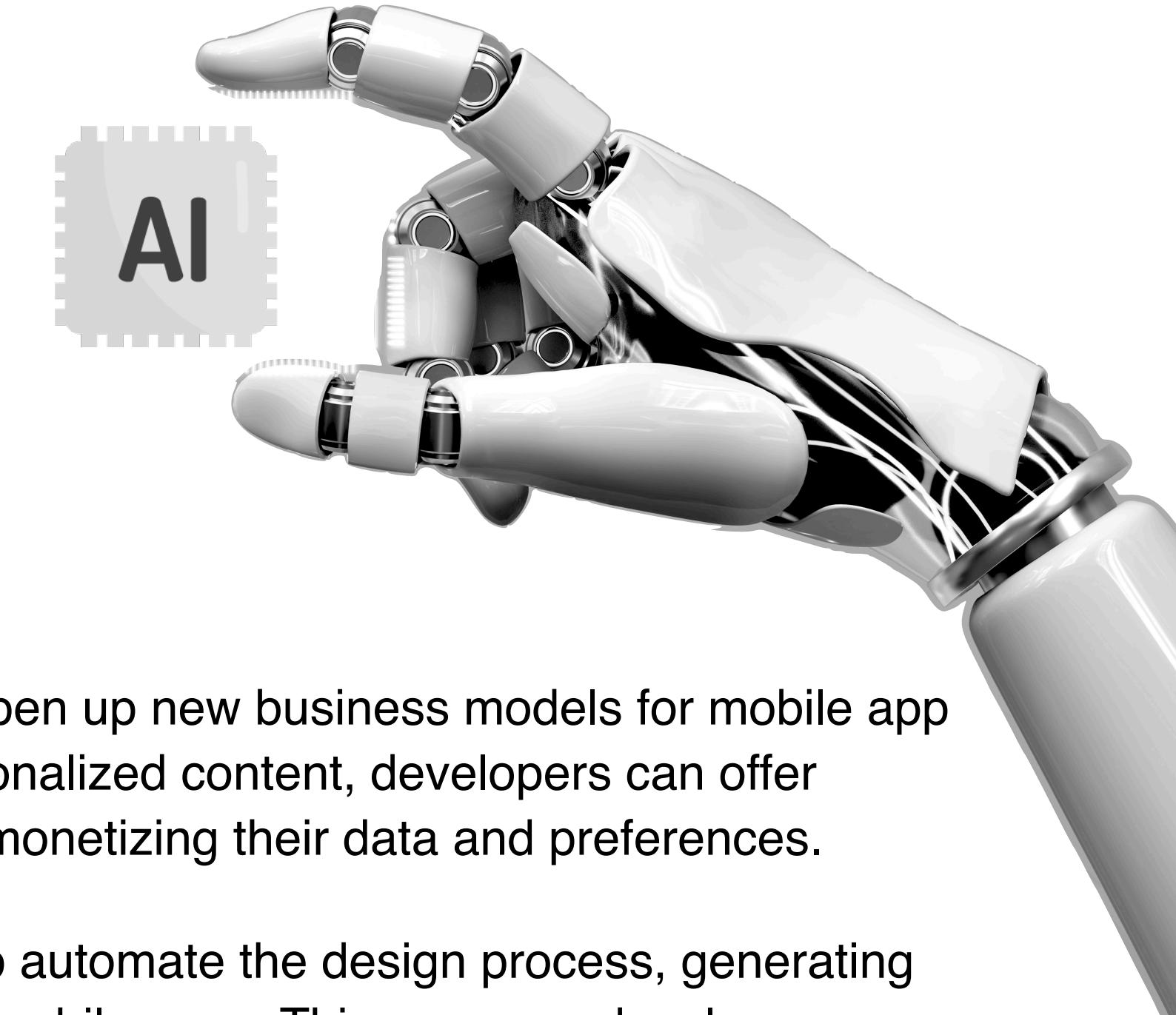
Generative AI is revolutionising app development with large language models that can not only generate content but also orchestrate code building blocks and solve new problems without ever gathering requirements.

## Use Cases

- **New Business Models:** Generative AI can open up new business models for mobile app developers. For example, by generating personalized content, developers can offer premium features and experiences to users, monetizing their data and preferences.
- **Automated Designs:** Generative AI can help automate the design process, generating layouts, wireframes, and visual elements for mobile apps. This can save developers a significant amount of time and effort, allowing them to focus on other aspects of the app development process.

## Technology Needs

- **Generative Coding :** Leverage GPT-4, Gemini & CodeBERT.
- **Coding Automation :** Harness the power of TensorFlow, Google AutoML & IBM Watson.
- **Tailored User Experiences :** Enhance user experiences with Hugging Face's Transformers & Azure's Personaliser.
- **Efficient Design Processes :** Streamline design processes using Autodesk Dreamcatcher & Figma's Auto Layout.
- **Model Optimisation :** Faster inference and reduced resource usage.
- **Virtual Agents :** Improved customer service and engagement.
- **MultiModal AI :** Enhances user interaction by connecting multiple modals.



# 4

# Challenges & Solutions

# Challenges & Solutions

The adoption and implementation of Generative AI in various sectors come with a set of challenges, but each of these challenges can be met with strategic solution

1

## Data Privacy & Security

Robust anonymization and federated learning to comply with GDPR and CCPA while maintaining data privacy

2

## Intellectual Property concerns

Clear guidelines & use cases for AI-generated content, ensuring compliance with copyright laws. Employ technology to track and manage copyrights effectively.

3

## Quality & Control

Layered validation & moderation systems to review AI-generated content. Enhance training procedures to include anomaly detection and correction feedback loops.

4

## Integration with Existing Systems

Phased approach to implementation, starting with pilot projects to identify potential integration issues. Use modular AI systems that can be easily adapted or expanded.

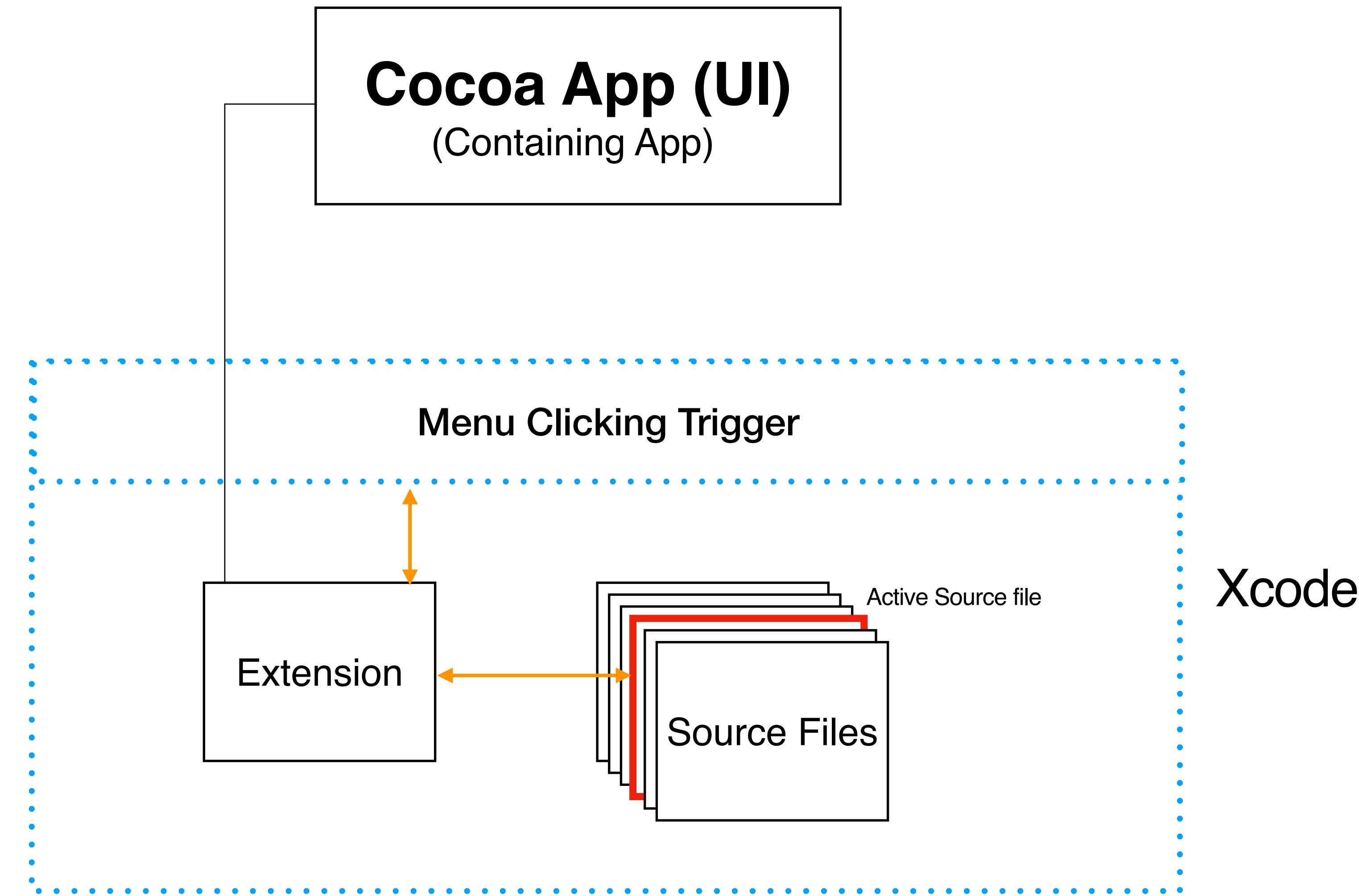
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# Xcode Source Editor Extensions

# Deep Dive

- 
1. Overview
  2. Sample App Setup
  3. Customising
  4. Integration with OpenAI
  5. Limitations
  6. Distribution
-

# Overview



# Coding Time

# Limitations

- 1** A sandboxed instance deals with the current active source (one) file
- 2** Only trigger by menu item clicking
- 3** No UI in extension, but not limits its logic capabilities

# Distribution

**1** | Source Code Compilation

**2** | DMG package

**3** | App Store

# Q&A

# Thank You.



For questions and further information, please contact:

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# References

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2. Xcode Kit and Xcode Source Editor Extensions
3. Xcode Extension 1/5 — Starting Guide
4. Creating a Source Editor Extension