



# Practical Software Side Hustles

Zhimin Zhan

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# Preface

Let me begin by explaining the title of this book.

- **Side Hustles**

A side hustle is a job you do to earn extra money in addition to your main job. I use the plural form, “side hustles,” because a person can run several different side hustles at the same time, as I have been doing since 2006.

Side hustles are growing rapidly. A [November 2025 study by Westpac](#)<sup>1</sup> (a major Australian bank) found that “more than half (55%) of Australians are either currently earning income from a side hustle or actively considering starting one, as the nation embraces multiple income streams to ease financial pressures.”

- **Software**

Among all types of side hustles, software-related projects stand out as especially promising. Software now affects almost every industry. Advances in software technology and the widespread use of smartphones mean that billions of people now use apps every day. Distance and language barriers are much smaller than before, creating huge opportunities for side hustlers. With the rise of AI, even people with little or no programming experience can start software-related side projects.

At the same time, the emergence of AI coding tools has created uncertainty in the software industry. You have probably seen articles claiming that “AI will replace programmers”. For this reason, having an additional source of income through side hustles is becoming almost essential for many software professionals.

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<sup>1</sup><https://www.westpac.com.au/about-westpac/media/media-releases/2025/12-November>

- **Practical**

Building a software side hustle is not easy. It requires consistent effort in your spare time, after a full day of work. The failure rate for first-time projects is very high.

Even before the term “*side hustle*” became popular, many software contractors tried to build their own apps. Few expected to become the next Mark Zuckerberg, but many hoped to gain financial freedom or change their lifestyle: escaping the typical 9-to-5 routine. Unfortunately, most of these projects failed.

In this book, I share the lessons, practical methods, advice, and mistakes I have learned from nearly 20 years of working on different types of side hustles. My goal is to help you avoid common pitfalls and increase your chances of success.

## Am I qualified?

I imagine a reader picking up a book like this might wonder: ‘*Is the author qualified?*’ That is a fair question.

Here, I provide a brief overview of my side hustle work, each one is verifiable.

### Books

I have published [16 books](#)<sup>2</sup> (see the full list in Resources) on E2E test automation, CI/CD, and programming. This is my 17th book, covering a new topic.

### Blogging

I started blogging on [Medium](#)<sup>3</sup> in January 2021, and moved to [Substack](#)<sup>4</sup> in 2023. I’ve published over 800 articles so far, with 154 featured in various software testing

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<sup>2</sup><https://leanpub.com/u/zhiminzhan>

<sup>3</sup><https://zhiminzhan.medium.com/>

<sup>4</sup><https://agileway.substack.com/>

newsletters. Roughly half of my content is behind a paywall, which has also generated some passive income.

### **App development, solo**

My main side hustle is app development, done in my spare time alongside my work as a contractor software developer and test automation engineer.

### **Active Commercial Software and Apps:**

- **TestWise**<sup>5</sup> (2006 - present), next-gen functional testing IDE, a desktop app on Windows, macOS and Linux platforms. (2010 Fukuoka International Ruby Award Finalist)
- **BuildWise**<sup>6</sup> (2014-present), a Continuous Testing solution, consisting of a BuildWise server and BuildWise agents. (2018 Fukuoka International Ruby Award Winner, 2nd prize<sup>7</sup>)
- **WhenWise**<sup>8</sup> (2018 – present), an online service booking app, a Progressive Web App (PWA) that works on smartphones and browsers.

### **Semi-Active, but no longer commercially available:**

- **ClinicWise**<sup>9</sup> (2013 – 2025), a clinical practice management software  
Deprecated for WhenWise, it still running as demanded by two loyal customers.
- **SiteWise CMS**<sup>10</sup> (2012 – 2022), a content management system  
Served a dozen commercial customers. All my product websites, along with a few personal and family sites, are hosted on SiteWise.

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<sup>5</sup><https://agileway.com.au/testwise>

<sup>6</sup><https://agileway.com.a/buildwise>

<sup>7</sup><https://agileway.com.au/blog/posts/buildwise-won-runner-up-prize-at-10th-ruby-award>

<sup>8</sup><https://whenwise.com>

<sup>9</sup><http://clinicwise.net/>

<sup>10</sup><https://sitewise.agileway.net/>

**Own Use:**

- **SupportWise**<sup>11</sup> (2014 -present), my internal system to provide support to our customers.

**In-progress**

- **TestWisely** (2022 - present), a cloud-based continuous testing platform (functional, performance and load testing). TestWisely is a SaaS (software as a service). Currently paused, as its commercial potential seems not meet my initial expectations.

**Deprecated:**

- **LoadWise** (2010 – 2013) for load-testing web apps. I deprecated it because this traditional protocol-based load-testing tool does not support dynamic websites. Some of its load testing features later added to BuildWise.
- **StoryWise** (2014 - 2019), an extension of RedMine to generate a requirement traceability matrix. In 2020, I incorporated some of StoryWise's features into BuildWise).

I listed these apps to illustrate:

- Some are successful, with commercial customers.
- Some have commercial customers, but maintenance effort outweighs the modest revenue.
- Some never reached public release.
- Some no longer fit due to technical changes.

Had I had a book like this at the time, I might have avoided making some mistakes.

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<sup>11</sup><https://agileway.net>

## Training / Coaching

I have also developed several highly effective [training programs](#)<sup>12</sup> on E2E test automation and Continuous Testing. In addition, I offer commercial [coaching and mentoring services](#)<sup>13</sup>.

## Test Automation Scripting Service

In Chapter 3, I recommend E2E test automation as a premier Tier-2 side hustle. Beyond being highly rewarding in its own right, it serves as a critical foundation for transitioning into Tier-1 (generating passive income) app development.

A common concern for newcomers to E2E automation side hustles is the “delivery gap”. They learn the basics and land their first contract, only to find the project harder to complete than expected. My test automation script service, [just \\$1 per step](#)<sup>14</sup>, offers practical support and confidence to get the job done.

## What’s unique about this book?

The defining word for this book series is **practical**. I’ve spent nearly 30 years working full-time as a software engineer and test automation engineer, while also exploring a wide range of side hustles for almost two decades. This book draws directly from that hands-on experience, offering real-world insights you can apply immediately.

## Who should read this book?

This book is for anyone looking to break free from the 9–5 grind, work smarter, and live more freely, or simply to earn extra income in today’s unpredictable job

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<sup>12</sup><https://agileway.com.au/services/training>

<sup>13</sup><https://agileway.com.au/services/coaching>

<sup>14</sup><https://agileway.com.au/services/scripting>

market. You don't need strong programming skills unless you're aiming to build side apps yourself. There are also plenty of side hustle opportunities that require little technical skill (but determination and action are certainly required), as you'll discover in this book.

## **Send me feedback**

I'd love to hear from you! Your comments, suggestions, or reports of any errors in the book are all welcome. You can share your feedback through the book's website.

*Zhimin Zhan*

Brisbane, Australia

# Part I: Introduction

# 1: Introduction to Side Hustle

Side Hustle: “a piece of work or a job that you get paid for doing in addition to doing your main job”. (Cambridge Dictionary). Frankly, I don’t like the term with the uncommon word “Hustle”. I think “Gig Work” is better.

## 1.1: Side Hustle is “Hot”

The term Side Hustle has become more popular in recent years. According to research, around half of American employees do some level of Side Hustle.

A December survey from LendingTree of nearly 2,100 US consumers found **44%** of Americans have a side gig in addition to full-time work, a jump of 13% since 2020. And that number is even higher among Gen Z employees, 62% of whom said they have a side hustle. – Source: [Business Insider, 2023-05](#)<sup>1</sup>

### 1.1.1: Gen Z prefer Gig work than working in factories

[A China Daily report in 2020](#)<sup>2</sup>: “Among the post-2000 generation who have taken part-time jobs to deliver food, 26 percent of them have bachelor’s degree or above, and 47 percent have some higher education.” This is a pre-COVID figure, the nowadays numbers will be even bigger.

I have seen a few reports with interviews, a common view that those college graduate doing food delivery work:

<sup>1</sup><https://www.businessinsider.com/side-hustle-can-make-workers-better-at-day-jobs-2023-5>

<sup>2</sup><https://www.chinadaily.com.cn/a/202007/22/WS5f1806cba31083481725b66c.html>

- don't like over-time (often free) forced upon them on office works
- the company don't value loyalty anyway, post-35 age become likely target to sack
- don't like human politic at the office
- like freedom of gig work.

According to [this chart](#)<sup>3</sup> from a Chinese big data research company, the “**Flexible Employment**”, a fancy term for people without full-time jobs engaging in flexible or freelance work, rapidly grew to 280 million people (around 30% of the workforce in China) by 2025.

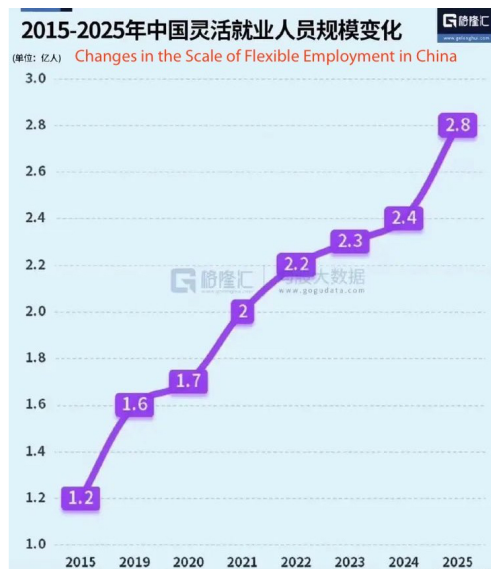


Figure 1. Changes in the Scale of Flexible Employment in China, 2015–2025

<sup>3</sup><https://x.com/Kenntnis22/status/2030792406719668352>

## 1.2: Side Hustle / Gig Work Pyramid

The Side Hustle / Gig Work Pyramid can be divided into three tiers, each representing a different level of effort, scalability, and potential income.

- Tier 1: Earning Passive Income (Scalable)
- Tier 2: Pro-Skill-Based (Semi-Scalable)
- Tier 3: Labour/Time Intensive (Not-Scalable)

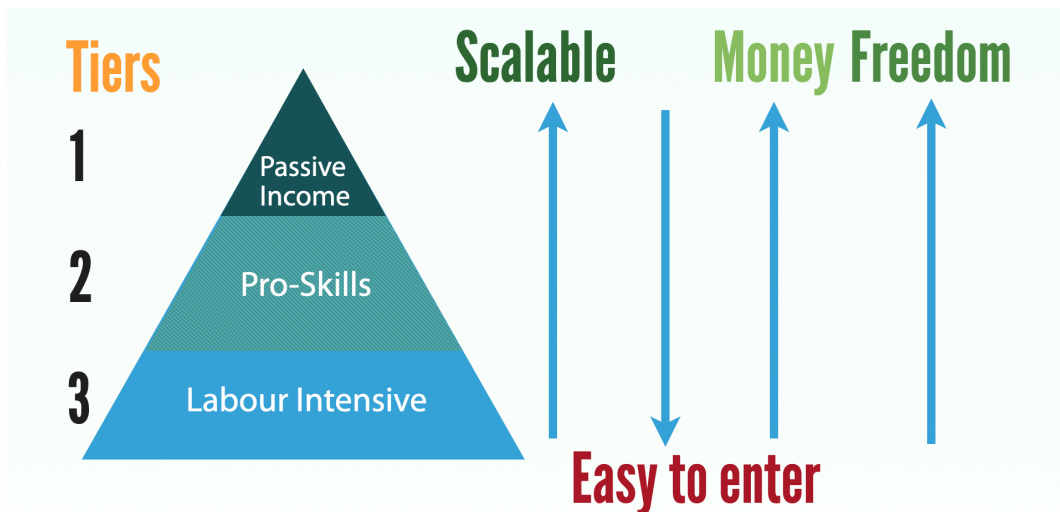


Figure 2. Side Hustle Tiers

Let's explore them in detail.

### 1.2.1: Tier 3: Labour/Time Intensive (Not-Scalable)

At the base of the side hustle pyramid lies Tier 3: Labour/Time Intensive. This is where most people begin their journey into gig work, and for good reason – it is the

most accessible entry point. Anyone with basic skills, internet access, or even just time and effort can participate. However, this tier also demands the most direct trade-off between time and money.

I know two software developers who drive for Uber on nights and weekends to help cover their mortgage and private school fees for their children.

### 1.2.1.1: Examples of Tier 3 Side Hustles:

- **Delivery and Ride-Sharing:** Driving for Uber, Lyft, or food delivery platforms like DoorDash and Uber Eats.
- **End-user testing:** Sign up as a tester (known as a ‘contributor’) on platforms like UserTesting to perform functional and usability testing.
- **Labour Work:** Babysitting, pet sitting, gardening, or house cleaning.
- **Micro-tasks:** Completing surveys, data entry, or small administrative tasks online.

### 1.2.1.2: Pros of Tier 3 Side Hustles

- **Low Barrier to Entry.**  
Easy to start with little training or upfront cost, requiring minimal or no initial investment.
- **Simple and transparent.**  
A Complex and big endeavour can result in no pay if unsuccessful.
- **Limited growth potential.**  
A low barrier to entry means little room for advancement. Also, you can be easily replaced.
- **Quick Cash Flow.**  
Provides immediate income opportunities.

- **No office politics or pressure:** With no direct bosses, you choose how much time to commit, which largely determines your income.

### 1.2.1.3: Cons of Tier 3 Side Hustles

- **Low Income.**

The work typically pays not much.

- **Time-Intensive**

Your income depends entirely on hours worked.

- **Low Scalability.**

Difficult to grow beyond your personal capacity.

- **Competitive Market.**

Many others are offering the same services. It is foreseeable that compensation will decrease, a trend already observed in China.

### 1.2.2: Tier 2: Labour/Time Intensive (Not-Scalable)

The second level of the pyramid is Tier 2: Skill-Based (Semi-Scalable): These are professionals who leverage their expert skills outside of regular working hours. Key attributes include:

- Their daytime full-time work closely aligns with the type of side hustle they pursue.
- Their skill level is significantly higher than the average professional.

Unlike Tier 3, which relies heavily on time-for-money exchanges, Tier 2 introduces specialized skills and partial scalability. Earnings are no longer strictly tied to hours; your expertise and ability to create repeatable value start to matter.

### 1.2.2.1: Examples of Tier 2 Side Hustles

- **Freelance Specialists:** Website design/maintain, software testing, UX design, video editing, or consulting.
- **Tutoring or Coaching:** Teaching English online, helping students with schoolwork, Music (e.g. piano) lessons, or fitness coaching. (*This kind of work bridges between Tier 2 and 3*)
- **Content Creation (small scale):** Blogging, YouTube channels, or podcasting (with growing audience potential).
- **E-Commerce.** Running small online stores or selling through platforms like Etsy.

### 1.2.2.2: Pros of Tier 2 Side Hustles

- **Higher Earnings Potential.**  
Specialized skills command better pay.
- **Some Scalability.**  
Products, content, or digital services can generate revenue repeatedly.
- **Personal Branding:**  
Opportunity to establish expertise and reputation.
- **Growth aspect.**  
Sharpen expertise by spending more time working in the field.

### 1.2.2.3: Cons of Tier 2 Side Hustles

- **Requires Skill Development.**  
Higher entry requirements compared to Tier 3.

- **Delayed Payoff.**

Some ventures (like content creation) take time to monetize. It takes time.

- **Growing Competition.**

More and more individuals seek to establish themselves in these fields.

- **The income aspect is not that great.**

Gig work is becoming increasingly common, and unless your skillset is rare (like E2E test automation), it's difficult to maintain a high rate.

- **For content creators: Past content quickly loses its value.**

Those who have been in the field know this. Take me as an example—despite my reputation and publishing many more articles on Medium, my average monthly income has dropped to just 10% of what it was three years ago.

### 1.2.3: Tier 1: Earning Passive Income (Scalable)

At the top of the pyramid lies Tier 1: Scalable / Passive Income Potential. This level is where true leverage exists. Instead of constantly trading time for money, you create systems, assets, or businesses that generate passive income with minimal ongoing input.

#### 1.2.3.1: Examples of Tier 1 Side Hustles

- **Software Products & Apps:** Creating and selling software tools, SaaS platforms, or mobile apps.
- **Online Courses & Digital Products:** Recording lessons, selling books and templates.
- **Reselling Software/Insurance:** partnering with small, undiscovered companies with high-potential, passive-income-generating apps or services (e.g. insurance).

- **Large-Scale Content Platforms:** Monetized YouTube channels, podcasts, or blogs with significant followings.
- **Online Businesses:** Affiliate marketing, or subscription-based services.
- **Investing:** Real estate, dividend stocks, or other assets that generate passive income.

### 1.2.3.2: Pros of Tier 1 Side Hustles

- **Scalability.**  
Potential to grow income far beyond personal effort.
- **Leverage.**  
Systems or products work for you, not the other way around.
- **Financial Freedom.**  
Offers the chance to step away from active work.

### 1.2.3.3: Cons of Tier 1 Side Hustles

- **High Initial Effort.**  
Requires upfront investment in time, money, or both.
- **Riskier.**  
Not all projects succeed; some may take years to pay off.
- **Maintenance.**  
Even “passive” income often requires ongoing updates or oversight.

## 1.3: This Book’s Focus: Software Side Hustles

If you’re new to side hustles, you may be impressed and excited by the many opportunities available. While some principles in this book apply to both Tier-1 and Tier-2 hustles, the primary focus here is on **software-related side hustles**.

## 2: Software Side Hustles

With so many side hustle options listed in Chapter 1, a common question is: “**Which one should I choose?**” This book focuses primarily on software-related side hustles, but that doesn’t mean you need to be an expert programmer. Later, I will explain why simply being willing to understand and work with software is enough to get started.

Why focus on software? Because software use is everywhere today. Even a piano tutor, for example, uses software to build a website, manage bookings in an app, and promote lessons on social media. Understanding how software works can open many doors for side hustles, no matter your background.

### 2.1: Advantages of Software Side Hustles

Beyond the widespread use of software in almost every industry, there are several clear reasons to pursue software-related side hustles:

- **Digital Nomad Friendly**

Most software work can be done from anywhere, giving you the freedom to work while traveling.

- **Remote Work**

No need to be tied to a physical office, many software side hustles can be done entirely online.

- **Flexible Hours**

You can choose when to work, making it easier to balance with a full-time job or other commitments.

- **Easily Delegable**

Once processes are established, parts of the work can be outsourced or delegated, freeing up your time.

- **Reusable Work**

Many software projects or tools can be adapted and reused for multiple clients or purposes, increasing efficiency and earning potential.

- **Scalable Income**

With the right approach, software side hustles can grow beyond one-to-one work, opening paths to passive or Tier-1 income.

You've probably heard of AI-like AI-assisted coding or agentic AI. Some reports even suggest that AI could enable millions of one-person businesses in the coming years. And yes, AI is software, too.

## 2.2: Decide Which Tiers

There are Tier-3 (labor-intensive or exchange time directly for money) side hustle work, such as manual user testing. Engaging in Tier-3 side hustles is fine for a short period, but not ideal for the long term. The relatively low income, especially after taxes, rarely justifies the stress or the time taken away from family.

That said, Tier-3 work can serve as an important first step. It helps shift your mindset to spot opportunities beyond a traditional full-time job. While it may not offer the financial freedom of higher-tier hustles, it provides valuable experience, steady income, and the discipline needed to move up the side hustle ladder.

This book focuses on Tier-1 and Tier-2 software side hustles.

### 2.2.1: Who Is Tier 2 Best For?

Tier 2 is essentially an extension of full-time work, an upgraded Tier 3, that allows you to leverage your expertise. A key success factor of a Tier 2 side hustler is the ability to maximize reusability.

This tier suits people who have already built foundational skills or experience and want to transition from purely labour-intensive gigs toward work that scales moderately and offers better long-term rewards.

### **2.2.2: Who Is Tier 1 Best For?**

Tier 1 is best suited for experienced side hustlers, entrepreneurs, or anyone willing to take calculated risks for long-term, scalable income.

Persistence is probably the most required attribute here. For example, all of my commercial (with paying customers) applications—TestWise, ClinicWise, SiteWise, BuildWise, and WhenWise—required continuous effort for more than 1,000 days (I call the “1,000-day rule.”). That said, I also built several other applications, yes, not all side apps were successful.

Content creation, whether on YouTube, Substack, or through books, is another popular Tier-1 side hustle that demands constant, sustained effort. Especially today, competition is intense, and producing new content regular that attracts and retains an audience is not easy.

## **2.3: Skills Required for Software Side Hustles**

When discussing skills for software side hustles, many people immediately think, “But I’m not a programmer.” In reality, programming is only one part of the software world.

In fact, many principal software engineers or senior software contractors I met have attempted to build side applications but nearly all failed. This shows that their software development skills (beyond just coding) is NOT good enough for a software side hustle.

The good news is that many software side hustles require little or no programming at all. Examples include:

- End-to-End Software Testing

- Software Reselling
- Software Tool Training and Coaching

With modern AI tools and the ability to outsource technical tasks, the barrier to entry has never been lower. You don't need to build everything from scratch; you just need to know how to use software to solve problems.

## 2.4: A Successful Example: My Insurance Broker

Many software contractors operate through a company, I founded mine in 2006. To get software contract work, three types of insurances are required:

- Workers' Compensation (WorkCover)
- Professional Indemnity Insurance
- Public Liability Insurance

The latter two are often combined into a single policy.

Frankly, in practice these insurances are rarely used. In my 20 years of contracting, I have never heard of a single case where a software contractor filed an insurance claim. One former lawyer who later became a software contractor once explained to me: *"Since contractors usually work on the client's systems and under the client's supervision, it's extremely difficult for a client to sue a contractor personally for losses caused by mistakes."*

Nevertheless, the paperwork for most contracts requires that you maintain valid insurance.

When I first started contracting, I followed the typical path and went to an insurance broker's office. The policy cost about A\$1,500 per year. Later, a colleague (another contractor) recommended a much cheaper broker, about half the price. Naturally, I switched, because the insurance itself rarely matters in practice, as long as it satisfies the contractual requirement.

The entire process was done on a website, honestly, a poorly designed one that looked like something a first-year IT student might build in a single day. But it worked. It was just a simple form: enter company details, choose the coverage amount, provide a few other pieces of information, and then pay by credit card. A few minutes later, I would receive an email containing two insurance certificates.

I remember one time when the website had an issue, so I contacted the support via email. The reply came from the broker himself, whom I had never met. From the email exchange, it seemed like he was on an overseas holiday, perhaps he always was.

Anyway, I have been using this broker for over 15 years. If his commission was around 30%, that means he earned roughly \$240 per year from me. At one point, I knew at least three contractors on my team who used the same broker. It is quite reasonable to assume that he achieved at least a basic level of financial freedom from this software side hustle.

Now let's examine what it takes to implement such a successful side business:

1. Identify a niche need
2. A simple business model
3. Keep the technology minimal

Technically, all that is required is a small website, just a couple of pages really, integrated with a credit-card payment system and an API from an insurance provider capable of generating insurance certificates instantly.

As you can see, the technical work is minimal. My intuition tells me, based on that single email exchange in 15 years, that the broker himself was probably not a technical person at all.

## **2.5: Wrap-up**

The key takeaway from Chapters 1 and 2 is straightforward:

- Side hustles are becoming increasingly common, somewhat necessary nowadays.
- Software-related side hustles stand out as some of the most viable and scalable options available today.

In the next chapter, we shift from concepts to execution. I'll walk you through concrete strategies to launch your own software side hustle, starting with one particularly strong Tier-2 opportunity that offers high value and strong potential.

## **3: Are You Ready?**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **3.1: “It takes change to make change”**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **3.2: The Reality of Sacrifice: Balancing Family and Ambition**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **3.3: It won't be easy**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **3.4: Don't put your day job at risk before success**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **3.5: The Shortcut: Get a mentor**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **3.6: Wrap-up**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# Part II: Tier 3 and 2 Side Hustles

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **4: Ideal Tier-3 Software Side Hustle**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **4.1: Software Testing is the most common software related side hustle**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **4.2: Why software testing makes a great first side hustle**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **4.3: Practical advice for laymen starting in user testing**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **4.4: Simple E2E test scenarios with high probability of exposing app defects**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

#### **4.4.1: Enter emoji in text boxes**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

#### **4.4.2: Dates across timezones**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

#### **4.4.3: Testing next-day operations at the end of a month**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **4.5: Wrap-up**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 5: Ideal Tier-2 Software Side Hustle

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 5.1: Key attributes of a successful Tier-2 software side hustle

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 5.2: My recommendation Tier-2: E2E Test Automation

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 5.2.1: What is End-to-End Test Automation?

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 5.2.2: End-to-End Test Automation is a rare skill set

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **5.2.3: Why E2E Test Automation success is rare?**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

#### **5.2.3.1: Story: One Simple Test Automation Scenario Interview Question that Most Candidates Failed**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

#### **5.2.3.2: Ongoing maintenance is the Main Effort**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

#### **5.2.3.3: Flaky execution**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **5.2.4: E2E Test Automation can be learned and applied gradually**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **5.2.5: Why E2E Test Automation is an ideal side hustle?**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **5.3: Why I don't recommend building apps for clients?**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **5.4: Practical advice for starting an E2E Test Automation side hustle**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **5.5: Wrap-up**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 6: Continuous Testing: E2E Test Automation on Steroids

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 6.1: Regression Testing

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 6.2: Benefits of Executing Automated Tests in a CT Server

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 6.3: Manage Test Execution in CT server is much easier

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 6.4: Potential CI/CD Work

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 6.5: Wrap-up

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 7: Find Your Ideal Software Side Hustle

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.1: High Demand

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.2: Easy to Get in

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.3: 10x+ Productivity Boost Through Upgradable Professional Skills

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.4: Professional Skills Are Rare, But Surprisingly Easy to Learn

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.5: Can Expand to Other opportunities

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.6: Easy Adaptability

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.7: Skills Are Stable and Offer Maximum Reuse

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.8: Complements Day Work

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.9: Multiplying Effect

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 7.10: Lay foundation for Tier-1

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# Part III: Time Management

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 8: Effective Use of Work Time

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 8.1: The Philosophy of Using Work Time Effectively

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 8.2: The Principles

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 8.3: Implementing E2E test automation at work also boosts your side projects

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

#### 8.3.1: The Practices

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 8.4: Be Productive on Tool Use

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 8.5: Learn at Work

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 8.6: Ask for Training

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 8.7: Stories

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 8.7.1: Switched my day work from programming to test automation

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 8.7.2: Refuse to 'upgrade'

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **8.8: How I maximize work time for side projects?**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **8.8.1: Optimizing the “In-Between” Moments**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **8.9: Wrap-up**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 9: Effective Use of Private Time

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 9.1: Avoid 'Overtime'

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 9.2: Create more personal time by working fewer days

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 9.2.1: This is totally different from "4-day work week" policies in some companies

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 9.2.2: How I start "Not working for others on Wednesdays"?

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **9.2.3: The Benefits, ...**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **9.2.4: The Loss is quite minor, relatively**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **9.3: Start working on side hustles in the early morning (e.g., 5 AM)**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **9.4: Don't sacrifice too much family time**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **9.5: Pay small money to save time**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **9.6: Pay professional help from experts, cheaper than doing yourself**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 9.7: Wrap-up

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 10: Automation is Side Hustler's Friend

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 10.1: Automation Assisted Demonstration / ShowCase

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 10.1.1: Solution: Automation-Assist

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 10.1.2: Positive Impact

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 10.2: Automation for Training and Documentation

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 10.2.1: The Steps to Make App-Use Video with the Help of Automation

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **10.3: Test Data Generation**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **10.4: My Simple Approach to App Health Check with Automation**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **10.5: Defect Report**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# Part IV: App Development

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 11: App Development: Prepare

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 11.1: Start side projects that actually matter to you or your family

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 11.2: Choose best stack for side project, not fixated with one used at work

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **12: App Development: Coding**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **12.1: Start side projects that actually matter to you or your family**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **12.2: Choose best stack for side project, not fixated with one used at work**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **12.3: E2E Test Automation Regression Testing: The Safety Net**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 13: App Development: Testing

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 13.1: E2E Test Automation Regression Testing: The Safety Net

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 14: App Development: Deploy

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 14.1: Make Deployments Reliable by Fully Automating Them

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 14.2: KISS Principle for deployment infrastructure

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 14.3: Showcase: Set up a new Ruby on Rails app server < 14 mins

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 14.4: Make App Deployment fast, really fast! in seconds!

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 14.5: Cheap Infrastructure

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 14.6: Continuous Testing Lab

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 14.7: Super Quick and Simple Deployment

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 15: App Development: Support

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 15.1: Documentation

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 15.2: Be responsive to your customers

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 15.3: Support ticketing system

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 15.4: Anti-Pattern: Support by Email

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# Part V: Business Development

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 16: Business Development for Tier-3 & 2

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 16.1: Business Revenue Model

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 16.1.1: Consulting / Implementation

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 16.1.2: Training / Coaching

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 16.1.3: Digital Product Sale (Tier-1)

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 16.1.4: Subscription-Based Products (Tier-1)

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### **16.1.5: Hybrid**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **16.2: Business Strategy for Tier-3 Side Hustle Business**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **16.3: Business Strategy for Tier-2 Side Hustle Business**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **16.4: Wrap-up**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

# 17: Business Development for Tier-1

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 17.1: Aiming Passive Income

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 17.1.1: The Joy of Small Passive Income

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 17.1.2: A story: A sale of a TestWise License, during an overseas holiday

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

### 17.1.3: Continuous passive income is even better

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **17.2: Prospect**

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## **17.3: Aiming for a high customer retention rate**

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## **17.4: Aiming a niche market avoid excessive competition**

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## **17.5: Be ready for competition**

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## **17.6: Get a mentor**

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# 18: Software Reselling and Outsourced Development

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## 18.1: Software Reselling

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## 18.2: Outsourage development

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 18.3: AI Coding

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# 19: Grow Business

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## 19.1: One-Person business Does not Mean Don't Collaborate with Others

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## 19.2: Business Partnership

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## 19.3: Marketing

This content is not available in the sample book. The book can be purchased on Leanpub at <https://leanpub.com/practical-software-side-hustles>.

## 19.4: Marketing Partnership

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# Afterword

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# Resources

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## Books

- **Practical Web Test Automation**<sup>1</sup> by Zhimin Zhan

Solving individual selenium challenges (what this book is for) is far from achieving test automation success. *Practical Web Test Automation* is the book to guide you to the test automation success.

- **Practical Continuous Testing**<sup>2</sup> by Zhimin Zhan

The second book of “Practical” series, focuses on how to effectively execute automated functional tests in a Continuous Testing server.

- **Selenium WebDriver Recipes in Ruby**<sup>3</sup> by Zhimin Zhan

The problem-solving guide to Selenium WebDriver with over 150 ready to run recipe test scripts.

- **API Testing Recipes in Ruby**<sup>4</sup> by Zhimin Zhan

The problem-solving guide to testing API such as SOAP and REST web services.

- **Learn Ruby Programming by Examples**<sup>5</sup> by Zhimin Zhan and Courtney Zhan

Master Ruby programming to empower you to write test scripts.

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<sup>1</sup><https://leanpub.com/practical-web-test-automation>

<sup>2</sup><https://leanpub.com/practical-continuous-testing>

<sup>3</sup><https://leanpub.com/selenium-recipes-in-ruby>

<sup>4</sup><https://leanpub.com/api-testing-recipes-in-ruby>

<sup>5</sup><https://leanpub.com/learn-ruby-programming-by-examples-en>

- **End-to-end Test Automation Anti-Patterns**<sup>6</sup> by Zhimin Zhan.  
Lessons from real-world E2E test automation failures.
- **CI/CD Anti-Patterns**<sup>7</sup> by Zhimin Zhan.  
Exposes 62 common pitfalls and shows how to turn slow, error-prone pipelines into fast, reliable delivery loops that actually work.

## Tools

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## Blog

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<sup>6</sup><https://leanpub.com/end-to-end-test-automation-anti-patterns>

<sup>7</sup><https://leanpub.com/ci-cd-anti-patterns>