

Chapter 1 - Is This Book for You?

Before I became a 4D programmer/consultant, I made my living for 19 years in Sales. One thing you learn very quickly in Sales is this:

*Define your **Target Market**. Ask yourself the question: What kinds of people or organizations have the greatest need or want - and are therefore the most likely to buy my product?*

My target market for this product is people like me: people who started programming because they enjoyed it: it was fun, it was rewarding, it was stimulating, it was fulfilling. They woke up in the morning and they couldn't wait to sit down in front of the computer.

Somewhere along the way, they became interested in databases and began *creating programs that actually got things done*: checkbook tracking, inventory control, invoicing. That was it; they were hooked for life.

Gradually, the idea formed that perhaps they could make money from doing this thing that was so much fun. So they started -- probably part-time at first -- writing programs as a way to make a living. They turned their **Fun** into **Profit**.

If that is you, then this book is for you. Whether you just started in the business or whether you have already been at it for several years -- You are my target market.

Formally-trained Computer Science majors may be disappointed with this book, because it may not be technical enough for them. The book offers *some* practical advice on Normalization, Process Flowcharting, Database Analysis, and Structural Design, but it does not delve deeply into the sweet mysteries of Third Normal Form, Concurrency Control, Two-Phase Commits, Legacy Systems, RAD (Rapid Application Development), and the many other buzzwords in the world of database management.

Don't get me wrong; **I am not against formal training**. Some of my best friends are Computer Science majors (smile), and we all need the formal training in order to be truly good at what we do. However, **formal training alone will not guarantee success in database consulting**. In addition to formal training, one needs motivation. Motivation comes from enjoying what one does -- that is, having **Fun** at what you do.

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If you're having Fun at programming, and you discover that you need to learn something more in order to be more productive and more effective, you just go out and learn it. You buy the books, you take the courses, you subscribe to the periodicals -- you do whatever you need to do in order to acquire more skills at this thing that you enjoy so much. Reading this book is a way of acquiring those skills.

You are my target market. This book is designed to assist you in your quest for the **Training** to supplement your **Motivation**. This book will expand your knowledge of some of the *formal* things you need to know (e.g. Normalization) -- and, equally important -- many of the *practical* things that you need to know (e.g. Finding Prospects). This new knowledge will help you to make a smooth transition from just having Fun, to the even more rewarding **Fun & Profit**.

Before we begin, let me say that I Salute You. **We --you and I -- are among the small percentage of people on this planet who actually enjoy their jobs.**

1.1 Out of the Frying Pan...

It was April 1987, Agana, Guam. I was in my office late one afternoon trying to figure out how to recover my data from a crash of my multi-user Double Helix database. I owned a small insurance agency, and my agency depended on the Double Helix application for billing and customer service.

The phone rang. It was Pam Beezley, the chief of Programming Services for Guam's Apple Distributor. She and Bill Michelin were the programming gurus at the Apple distributor. It was not unusual for Pam to call; I was known as a "Power User" of Double Helix. Pam was primarily a Pascal programmer, so when a customer or one of her in-house programmers had a problem with Double Helix, Pam would usually call me. I had written a fairly complex DH application to support my own business, and I was constantly pushing DH to its limits. Whenever Pam called, I could usually help because I usually had already come across the problem before, and had already found a work-around.

1.2 Into the Fire

This time, however, Pam was not calling to ask me for a favor; she was calling to do me a favor. Pam and Bill were offering me an opportunity to participate in an Apple project to beta-test a new database management product. The product was code-named *Silver Surfer*; it was scheduled for release within a few months and, when released, it would be called 4th DIMENSION®. At first I thought that 4D was an Apple product. I later learned that 4D belonged to a French company called ACI. By then, I didn't care who developed it; I had to have that product!

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Thus began my journey into the realm of 4D, and thus began my discovery of a whole new world of work and play: a world in which I do 4D programming and consulting for Fun -- and Profit.

1.3 The Fun Begins

“This is so much fun, I can't believe that they pay me for this!” I have said that to myself many, many times; and, after more than 25 years of making my living by writing applications in 4D, I'm still amazed that anyone would want to pay me for doing something that is so much fun!

Most of the Positive Thinking books tell us that Fun & Profit go hand-in-hand. When you think about it, it makes sense: if you are doing a job that the marketplace truly needs and you are having fun doing it, you will put more effort into your work; you will put more hours into your work; you will put more pride into your work; and eventually, you will get more financial reward from your work. It's just common sense, and we have all seen the *Fun & Profit Principle* at work in business, in entertainment, in sports.

So you started programming in 4D because it was fun? Good. You already have half the battle won. But half a battle does not a victory make. The other half of the battle is to make 4D programming **remain** fun after the newness wears off. When you get out into the real world and start trying to make a living with your 4D skills, that's when it can stop being fun. Here are some examples of real-world circumstances that are not fun.

1.4 When It's Not Fun

There are some times when 4D consulting is not fun.

- It's not fun when you can't find enough clients and you' don't know where your next consulting job will come from;
- It's not fun when you are rejected: looking for new business, being turned down time after time;
- It's not fun when you've found a potential client, you're trying to estimate the job, but you have a sinking feeling that you may be way off on your estimate;
- It's not fun when you discover that your estimate *was* way off -- the project is much bigger than you thought -- but the customer expects you to finish it within the original time frame at the original price;
- It's not fun when you've been sitting in front of your computer for 14 solid hours, trying to finish an application to meet a deadline, but now you're so exhausted that you can't see the screen -- let alone think of creative solutions to programming problems!

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- It's not fun when you deliver the program to the customer, install it, and immediately start getting urgent calls because they found bugs;
- It's not fun when you discover that there are people in your client's organization who are actively working and lobbying to have you and your 4D application removed from the premises;
- It's not fun when you are having problems collecting your fees from clients and you need the money to pay the bills;
- It's not fun when you find out that a client has made a decision to stop using your software - you did your best, you gave your all, but they decided to discontinue your project.

Have you become totally discouraged just reading about these things? Well, imagine how discouraging it can be to have them happen to you! In my 25 as a 4D consultant, I have had every one of those things happen to me -- and many others besides. Yet, I am still having fun and making profits. "How can that be?" Read on to find out.

I don't have all the answers - heck, I don't even have all the questions! But I do have some of the questions and some of the answers and I want to pass what I have on to you, in the hopes that you will learn from me -- instead of having to learn from cold, hard experience. If you know what can go wrong and you know how to make it right, you can continue to program in 4D for Fun & Profit.

1.5 How We'll Get There

Because it's as good an approach as any, the six chapters of this e-book will take a Chronological approach to the journey to Fun & Profit in 4D. Here is a preview of the chapters in this book:

Chapter 1 – "Getting Ready"

It has been my personal observation that successful people are lucky. However, I have also observed from watching them in action that they work hard at *preparing* themselves for those lucky situations, and they don't hesitate to take *action* when lady luck calls. In other words, they *earn* their luck. In this chapter, I will tell you the story of my amazing Day that I had after five years as a 4D consultant, and then I will describe to you the 9 steps that I took, over that 5-year period, in order to be prepared for such a lucky day.

There is a saying:

"Luck is that intersection where Preparation meets Opportunity."

— Anonymous

Chapter 2 - Finding Prospects

Make no mistake about it: to become a successful 4D developer/consultant, you have to become a good salesperson: selling your talents and expertise to clients who need what you have to offer. This is true whether you are an in-house developer or an independent consultant. If you are like most 4D developers, you are somewhat introverted; selling skills do not come naturally for you. Nevertheless, you will need to develop selling skills in order to be successful; and the first essential selling skill is Prospecting.

"Seek and ye shall find."

That quote is, of course, from the bible; and it's pretty darn good advice for prospecting. However, there are many unanswered questions here: How do you seek, Where do you seek, and How do you know when you have found? The answers to those questions are the subject matter of this chapter.

Chapter 3 - Estimating the Job

Here's another saying for you:

"Well Begun is Half Done."

— Mary Poppins

That quote is a line from the children's movie, Mary Poppins. I was fascinated with the idea the first time I heard it. It struck me as excellent advice for 4D programmers! The beginning of every custom programming job is the *Estimate* of time-and-materials needed to complete the job. From that point on, everything depends on that estimate: the client's decision to go ahead is based on it; the price of the job is based on it; the expected completion date is based on it; and the developer's income expectations are based on it. Truly, if the estimate is well done, the job is half done.

But estimating is probably the most difficult part of being a 4D developer; it is definitely a make-or-break issue. There are so many question-marks: "Have I gathered enough information?" "Have I talked to the right people?" "How much time should I spend on the analysis?" "How can I get the customer to pay for it?" "How do I build in safeguards against moving-target specifications? How do I present the bid to the potential customer?" "What if I'm wrong?" I will teach you how to find good answers to these questions, and then I will teach you how to eliminate the need for estimates, thus making the questions un-necessary.

Chapter 4 - Doing the Job -- On Time

This chapter is not just about how to program in 4D; this chapter is about *time* and the effective use of *time*. Before you can learn how to program quickly and

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efficiently in 4D, you need to know why it is so important to do so. Therefore, we will start out Chapter 4 with a discussion of the role that *time* plays in our lives.

Time is the *Universal Equalizer*; we all have the same 24 hours in each day. We all have multiple demands on our time: family, sports, reading, professional study, friends, commuting, recreation, and so on. The more time we spend on a 4D project, the less time we will have for those other, equally important, parts of our lives. Here is a quote for you:

"Dost thou love life? Then do not squander time, for that is the stuff life is made of."

— Benjamin Franklin

Everyone has something to gain if the project is finished on time: you, your family, your friends, your client, your client's employees. In this chapter, you will learn the general principles of Time Management, and then you will learn to apply those principles so that you still do excellent work, but you finish projects in the shortest possible time. You will learn how to make it a habit to *deliver the job to the client - on time*.

Chapter 5 - Installing and Supporting 4D Applications

Application Support can either be profitable and fun, or it can be unprofitable and drudgery. I have experienced both extremes. At one time, I was single-handedly supporting 27 separate installations of my software! I never want to do that again...

(That was that harrowing experience that motivated me to write my first 4D book, the 4D Database Administrator's Handbook. I don't support 27 clients anymore, and I don't keep the book up to date anymore; but at the time, it saved me from being buried under support problems!)

My "support nightmare" turned out to be a blessing in disguise. I learned more about Customer Support in one year, than I might have otherwise learned in 5 years. In this chapter, I will pass along that knowledge to you so you won't have to learn the way I did: the hard way.

We will also talk about the fact that *Current Customers can be your Best Prospects for Future Business!* Think about this: in most businesses, Marketing & Sales -- finding people to buy the product and then convincing them to buy it -- consume a large percentage of the resources of the company. The same will be true for you, unless you learn how to support customers so well that you

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consistently get repeat business. If you build up strong relationships with several customers and you learn how to get repeat business, you will often have a backlog of projects waiting for you, and you will reach what I call **4D Consultant Nirvana**: being on Retainer with several customers who like your services so much that they pay you a set monthly fee so that they can be guaranteed that you will be there whenever they need you.

Chapter 6 - Managing Projects

This is a new chapter that I am adding to the book; this chapter was not in the original 1995 version. When I wrote the original book, I was a single developer working alone. Now, however, I have a team of 3 developers working with me, and the plan is to expand the team in the future. Therefore, Project Management has become a major concern for me. In this chapter, I will share with you the lessons I am learning about Project Management: managing multiple developers working on multiple projects.

Chapter 7 - Testing

This, also, is a new chapter that was not in the 1995 version. All the members of my team are new to 4th Dimension, and they are also new to user-interface design. I find that, along with Project Management, "Testing" has become a major part of my job. In this broad category of Testing, I also include "Code Reviews," in which each developer shows his code and explain to the rest of the team how it works. This gives me a chance to enforce the Development Guidelines that I have painstakingly written and implemented in my most recent projects.

By Testing, I do not mean "Unit Testing," in which individual methods are tested. When I say Testing, I mean the type of testing that an end user might do - except that they (end users) seldom have the time or the motivation to do it. Therefore, I have developed my own testing strategies that allow me and my team to do the same type of testing that the users might do. I find that using this strategy, we identify and fix 97% of bugs before the user ever sees them. If the testing is of a new functionality, *I* am the first one to test it, because I want to not only see that it works, but also make sure the user interface is simple and consistent.

I will share all these ideas with you - and give you a Testing component that has some sample tables, forms, and code that you can use to develop your own testing strategies.

Chapter 8 - Fishing Poles 401

In this final chapter, I will share with you a whole bucketful of ideas that are in what I call my “fishing pole tool box.” This name comes from a saying that I heard somewhere (I don't remember where) that went like this:

*“Give people fish, you feed them for a week;
give them fishing poles, you feed them for a year;
teach them how to make their own fishing poles,
you feed them for a lifetime.”*

In this chapter, I will teach you what I have learned about making one's own fishing poles in life. We will talk about how to: deal with failure; overcome fear; develop good attitudes; increase self-motivation; exercise self-control, set effective Goals, and equally important - how to handle Success.