

Keith On ...  
Life

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# Chapter 1

## Foreword

Life is too short to wake up in the morning with regrets. So love the people who treat you right, forget about the ones who don't, and believe that everything happens for a reason. If you get a chance, take it. If it changes your life, let it. Nobody said that it would be easy, they just promised it would be worth it.

-Author unknown

I originally was not going to write this book, because it seemed, somehow, arrogant to me. Numerous students have asked me to put down the advice I gave them, and it became obvious to me that there was a need for the type of advice fathers or uncles used to give, when we first went out into the world. I thought of titling it "Uncle Keith's Guide to Life" but in keeping with my other "Keith on ..." books I decided to continue the tradition. This book is thus designed to be a guide to what I think on a variety of areas of life, from work to home, and play. Hopefully my musing will be helpful.

You will notice some sections are very slim, others are more full. This is usually in response to where I have been answering questions for people that come by. I assume if

others wanted to know about something, so will you. If you find some area in work, family, or play that you think I should include comments on let me know. I will keep adding to it if people are interested.

I wish you all the success in your life.

Keith



**Part I**

**Employment**





# Chapter 2

## Job Hunt

I suggest starting your job hunt 4-6 months before you want the job. This allows you time to figure out the right job and location, then research the companies that fit. You can then look for openings or make one by contacting them directly.

When looking at job descriptions consider your skills, experiences, and goals. Interpret your skills in the broadest sense, by which I mean, you need to see how what you know and have done could fit their needs. No one has done exactly what they advertise. The advertisement is an ideal, you just have to show enough to get past the human resources gauntlet so you can get an interview with the technical people. Usually the biggest barrier will be experience. Some sources of experience that you should count (or if it is early enough that you should do to prepare yourself):

- Summer jobs
- Help desk/ department job (Ken has lots to do)
- Summer research with faculty
- Summer research at another university (UCSB summer research looks great on a resume)

- CSCI 695/595 Independent study/research project
- CSCI 475 Internship
- CSCI 455 Software Engineering (this is a huge project and worthy of listing, I would note that it has been written up in several articles)
- CSCI 303 Computer Engineering design (lots of experience for the CE's)
- Volunteer work (church, charity, or other technical volunteering can look great)
- Working with faculty on a grant
- IT for friends and family
- Any IT actually

Once you have found the jobs that fit it is time to send them a resume and cover letter.

### 2.1 Resume

Everyone has an opinion about what a resume should look like. People fuss with fonts, styles, pretty paper, and all sorts of silly things to get their resume noticed. I did this too when I started out and it didn't work.

What really matters is a clean, easy to read document that highlights what is great about you. Look at your life, skill, experiences, accomplishments, and awards. Lead with that. Work your way down the list, hitting the things that make you stand out. Do you want your paper being noticed or you? When you stand out, you can worry about all the frills to try to make your paper get picked up.

When you make your resume, remember that the first third of the resume is all most people will read so make sure you lead with the best (most impressive) stuff. What should be on your resume:

- Name, number, address, e-mail
- Education degrees, certificates, special courses (GPA only if it is a positive)
- Publications if you have them (they are rare and impressive to most people)
- Work experience (particularly highlighting those that fit with what you are seeking)
- Projects not covered under work experience (such as applicable volunteer work)
- Awards, recognitions, and professional licensing
- Professional societies and service organizations
- Skills, languages, etc.
- References (or the “references available on request” statement”)

Make sure you don’t have any misspellings or grammatical errors, they make you look very bad. Don’t forget the cover letter!

## 2.2 Curriculum Vitea (CV)

So you want to be an academic? It is a different life with a great many rewards. I worked in industry for several years, and had a great job with great people. I have no complaints, but I would not trade my job as a professor for even that great job no matter what the pay raise would be. A Curriculum Vitea, or CV as we all call them, is an academic resume, though it is occasionally used for very experienced workers or technical experts, whose experience and accomplishments do not fit in the standard resume format.

## 2.3 Cover Letter

I feel the cover letter is the most important part of your application. It is your chance to pitch yourself. A cover letter should stand out, communicating not only your ability and interest, but also who you are. A cover letter should make the reader feel you know them and what they need, and make them feel for you. This is a tall order, so don’t sweat it if you don’t do it perfect, do your best and let your best shine through.

Here is how I suggest you write a cover letter. Get the job description and hi-light key words and phrases that describe the job you are applying for. Get to know what they really want. Go to their website and see what they have been doing. What were their most recent products and projects? If you work with them this is what you will probably be doing, and the more you know the better.

Once you have done your homework and selected the key phrases and terms, which quantify what they want, look over your resume and see what you have done that fits

their needs. This explanation of how you fit their job is what you are primarily doing in the cover letter. Don't beat around the bush, a quick statement of your enthusiasm is nice but then start showing how everything you have been doing makes you their perfect candidate. Don't be shy or self effacing, there are times for this, but a job application is not one of them. In the job application you are letting them know you are their perfect candidate.

Don't make the letter too long. A good letter catches attention, showcases your perfect fit with the job, encourages action, and is done. It is a letter, not an endurance test. If you are too long and wordy, that lets them know you are going to be so after being hired. Do you want to work with someone who never shuts up? Neither do they.

When writing you should just get something down then polish, polish, polish. The just write it advice is to avoid writers block. If you can get going it tends to flow, even if it needs cleanup. If you try to get perfection on your first try, you will probably just stare at a blank page and become frustrated. When reviewing your letter before sending, be brutally honest with yourself. Do you sound desperate or excited? Do you drone on? Is your first sentence (the hook) exciting or boresville? Put yourself in their shoes. Would you want to read this? Would it convince you that this person can do the job and will be nice to work with? Hiring people is scary, just like applying. Make it easy on them and they will make it easy on you.

## 2.4 Other Correspondence

You want to stay in their notice but not be annoying. Don't over-do it or you will drive

them off. After sending in your application you should get an acknowledgement letter. When you receive the acknowledgement, it is a good idea (though not required) to send a brief thank you note with an offer to supply additional information if needed. You won't offend anyone and it is a good way to stay in touch. Should you not receive an acknowledgement after a couple weeks, I would send a very polite note asking if they are lacking anything in your file or application. This wakes them up without being obnoxious, and lets you know that they got it. If you haven't heard anything in a reasonable period of time<sup>1</sup>, then you can send a polite inquiry letter. Other than that don't make yourself a pill. If you do your job right in the material you send then they will be dying to talk to you.

## 2.5 Phone Interviews

The resume and cover letter are to get you the phone interview. Your job now is to wow them and make them want to do the follow up interview<sup>2</sup>. Be enthusiastic, lively, and professional. Don't let the conversation hang, make them feel comfortable. They want to know if you will be good to work with. Let them see the great person you are.

<sup>1</sup>Sorry I can't give a hard time here. This varies by the level of job, type of work, and company doing the hiring. An entry level job in a technical profession should have the decision made in 4-6 weeks tops in most cases. The more important or difficult the job the longer the time, but I would find it hard to believe more than a few months, which is what it takes in academic environments.

<sup>2</sup>For some entry positions you might be trying to get the hire offer off this. I have heard of some companies that do only one interview, but I am always suspicious of them. This implies to me they either have few applicants and are desperate, or it could imply they aren't that concerned about who is filling the spot. Either way, I have to ask why. Doesn't mean they are bad, it is just a warning flag to me.

You should be expecting a call, so have the information on each job readily available, with a quick notes scheme. You want to continue highlighting how you fit their exact needs in this conversation, so you need to have something that reminds you what they need. Keep a folder for each job application with a quick summary<sup>3</sup> of key points for the job on top (easy to find). You should have the rest of the application material in the same folder should you need to quickly reference something. Don't let your material distract you, they are only for reference if you freeze. I would advise looking them over occasionally so you won't even need to look at them when the call comes. It is reassuring to have them if you need them though. Think of what they might want to know and how you should answer them. Think of some questions for them, particularly interest in the company and what they are doing. The web is a great place for this. It lets them know you have done your homework on them and that you really care. Both are good things.

## 2.6 Site Interviews

This is the deal closer. Do extra research on the company, it never hurts. Prepare in advance and relax up close. You want to look confident, polished, prepared, and effortlessly comfortable. Emphasize you are a hard working, team player - wouldn't you want that in someone you hired. Tie in your education and experience to your answers as support of your abilities. Always be positive, happy, and friendly. Do not bad mouth past employers or colleagues. It will come back to get you. Remember the interviewer's names

<sup>3</sup>I mean quick, a long one will make you read and the conversation will hang. Bulleted points with words or short phrases works best. Keep the bullets short too.

and use them casually (though not so much it looks forced).

You will probably have both group (panel) and individual interviews. They feel very different, and it is a good idea to try to prep for these, for instance by doing mock interviews with friends or faculty, by reading books on the subject, by making up polished answers to different questions and situations, and by putting yourself in the interviewer's position and evaluating responses (probably the most useful). One of the most important interviews though is the lunch (or dinner). Have good manners, and interpersonal skills. Be ready to have polite conversation in a variety of areas. This is not as hard as it seems. Use the old rule of improv - never deny, take it on and make it your own by redirecting. This is much like judo... Anyway, the informal meal interview is often the most important, because people decide if they like you enough to work with you. They would like to work with someone pleasant, who they can talk with about things.

You will likely get a bunch of generic questions. What are your strengths and weaknesses? Where do you see yourself in five years? What do you expect from a job here? They are on one level seemingly easy questions, but interviewers will read a lot into them. Think about your answers and be truthful but not foolish in what you say and how you say it. The latter is much more important than the former.

I would read up on any key skill they are interested in. You will get technical questions, like 'how do you program such and such' or 'what does this circuit do'. These tend to be a more major components of smaller shop's interviews, as they want a versatile person out of the box. Write a program in the languages they care about, as they are likely to ask some coding question. Do

a small example of whatever area they are working in. Look over notes from relevant classes. In short be ready.

Don't forget that you need to ask questions of them. It makes you look serious and well thought to have questions that are reasonable and well formed.

Then the day before you go, don't do anything related to your job search, just have fun and go to bed early. Get there a few minutes early. Dress nicely, a good rule being to dress for your prospective boss's job. Some of this is corporate culture, which you will have a feel for if you have done your homework. Most places this means formal business wear (read business suit or equivalent). You should look clean, crisp, professional, and with a fun sense of style. Sounds impossible? Most of it is how you act and feel, a warm smile and confident style is the most noticeable thing you wear.

You are not only selling your skills, you are selling you as a colleague so be someone you would want to work with. Be proactive in the interview. Don't just sit there saying short answers. Use your answers as opportunities to discuss relevant information and ideas. Particularly for engineers, but it helps others too, be ready to have a design discussion. Talk with them about their previous work and how they did it. Be ready with ideas and insights, while showing you can listen. You want them to imagine you are already fitting in the team. Make each person you speak with feel respected and valued. Any enemy can kill your job chances, conversely a bunch of friends will ensure your offer.

## 2.7 Negotiating

To be honest this is my worst area, and I don't want to improve it. My philosophy goes like this. If you really want to work with me you will be fair. I should let you know what I need, and we can come rapidly to a fair arrangement. I try not to give too much info out early in this process, so I don't undersell or overprice myself. This is a feel it out maneuver. It is rare to get a major correction in pay or benefits once you are hired, so if you really need something then you have to say it, just keep it real friendly and nice. Look for win-win arrangements. Everyone should be happy when this is over.

How do you know what is fair? Well you have several sources. I would check the internet first because it is easy, though often it is not the most accurate. Salaries surveys done by IEEE or similar professional organizations will give a good break down by job, area, and experience. Since they are volunteer surveys, they have potential skews due to those who want to share (I never have). Few surveys say it, but salary also depends on your company, usually bigger companies have more money to pay, so a good small company tries to put in more intangibles (environment, growth potential, etc.). Don't forget to look at the whole package, not just the bottom line. Another source is your peers that you stay in touch with, such as through Linked-In<sup>4</sup>.

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<sup>4</sup>I prefer Linked-In to Facebook because Linked-In is more serious and businesslike.



## Chapter 3

# Ladder Climbing

### 3.1 The Ladder

Before you start climbing the ladder of success, you had better determine if you have the right ladder. There are many ways to be successful. Do you want to go into management? Do you want to do research? Do you want to do design? Do you like customer interaction? Do you want to work for yourself or a company? Do you like teaching? You must figure out what you enjoy.

The typical business progression is to go from technical positions into management. For many people this is natural and even desirable. For me it would be death. The last thing I want to do is give up my research and teaching to push papers. I am very happy there are those who wish to do this. I am just not one of them. This was a big motivator to me in deciding to become a professor.

Another route I strongly considered was the technical specialist route. I was working at Northrop-Grumman when I decided to go back to get my Ph.D., and like many large companies, they had a route for those who wanted to get promotions and pay raises without becoming a manager. They called it the technical specialist. After you progressed through the usual assistant engineer, associate engineer, engineer path, your pro-

gression could either go to group leader, or for those rare few who were techies to the core they could follow the tech specialist. This route was very appealing to me, in that you become the tech guru, assisting on a variety of projects. You would get to do a bunch of different things, and see them go through to completion. Not just managing people, working out the big ideas and problems, while letting others carry them out. In the end I didn't choose to do this, not because of a problem with this route, but rather due to the even cooler (to me of course) route of becoming a professor.

My point in all this is that there are different routes. You might not like the academic route. Perhaps management is in your future. Or maybe you would like to be a tech specialist. Perhaps you would rather stay in the rank and file implementing things (most do stay for one reason or another). No matter what you do, you should do it deliberately.

### 3.2 Worthwhile Work

Few things in life are as satisfying as doing a job well that really matters and you like. Work is important to your well-being. This does not mean you should be only concerned

about your work, rather your work should be something that you are proud of, and you should work so that you can be proud of what you do.

### 3.3 Peers

A big part of a satisfying job is working with people you like. I would not stay long term at a job I didn't enjoy the people I worked with. I would find a new job and then leave. Notice I did not mention pay, because pay is irrelevant if you are unhappy. No amount of money makes up for a lousy life. You have to have a certain amount of money to live, hence why I could find a new job then leave<sup>1</sup>.

Even if the job is unsatisfying, if you are working with a great group of people, then it is usually still good. You might still long for a more fulfilling job, but while you are looking for it, you will be happy with your friends.

### 3.4 Godfathers

One of the most important skills of successful people is the ability to get a godfather (or godmother) at their place of work. When you first start out, you won't know the ropes. Nobody does. What you need is a well positioned and knowledgeable mentor and protector. When I worked at Grumman Aerospace (before it became Northrop-Grumman), such a person was called a godfather (Grumman was a New York company, and the joking mob reference was deliberate).

<sup>1</sup>While it is glamorous to say "take this job and shove it" and walk out without a net, this is impractical. Swallowing the annoyance for a short time allows you to get a job, then you can leave. I wouldn't even say "shove it" then as you might want a job reference in the future. It is better not to burn those bridges.

Godfathers can open doors of opportunity, introduce you to the movers in the company, show you the ropes, and help you when you screw up. In short, they are invaluable. While some companies help you find them, most who have mentoring pair you with another fairly new person. This person may or may not have the ability to do all that a godfather should. They are certainly helpful, and should be rightly appreciated and listened to, but don't fail to look for a godfather. No mentor should be upset if their mentee has other supporters.

### 3.5 Bosses

A good boss is a rare find. I have had some great ones and some really bad ones. The two best I had were at Northrop-Grumman: Steve Gavin and Ken Crane. They had a few things in common, which you can use to find such bosses or even be one.

- They knew me. They knew what I could do, and what I was like. They knew those who worked hard and those who slaked. They knew those who were clever and those who were traditional. They could then use this in assigning tasks and overseeing the work.
- They gave me the room I needed to get the job done. They expected regular updates, but weren't watching me every second. They knew I could be trusted to get the job done.
- They kept us informed. They had brief, regular meetings (once a week) in which they let us know what work was going on and what was coming up. Each person would give a statement on their progress. We knew what was happening and what we could do to help.



- They were there when I needed help. If I had a question, they had the answer or more often they knew someone who did. The second is really important, because if you are wise, you will learn the people who are the experts from a good boss.
- They utilized my skills. At first they assigned me projects that were in keeping with what they knew my skills were. As I continued to prove myself, they gave me bigger tasks. Eventually when I showed that I was a go-getter and could find work in the company, they let me locate my own tasks. After that they only assigned me work when they needed my expertise, or if they felt I would really enjoy the job. I worked really hard for them, and still think the world of them.
- They shielded us from above. They took whatever junk was coming down from above, and while they would let us know if we messed up, they would not let us catch it from above. We caught it from them alone. This may not sound great until you are there. You need to find out when you are coming up short, you just need to hear it from someone close, but who is in charge. Reprimands from a couple levels up would not be tolerable. A well handled reprimand from your immediate boss can be motivating.
- They gave us credit for the good things we did. The funny thing many bosses don't get is that they look best to everyone when they are giving credit to their people. Far from lessening their prestige it built it<sup>2</sup>, and builds loyalty of their people.

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<sup>2</sup>Many people think if others look good, then they look bad. They feel threatened. This is foolish and wrong, though sadly way too common. An insecure boss will rapidly become an unpleasant experience.



**Part II**

**Money**



# Chapter 4

## Finance

This chapter is intended to give you an overview and understanding of the basics of finance so you will do well in life. Money is not everything so keep it in perspective, but by the same token failing to plan for your future is dumb. You might want to read the chapter on engineering economics in Keith On Engineering Design (KOED) if you are not familiar with economic calculations.

### Disclaimer

I am in no way representing this as a guarantee, nor am I representing myself as a professional financial counselor. I am not responsible for any financial mistakes you make. You are encouraged to seek professional advice before investing.

### 4.1 Budget

The first step to planning your future is to figure out what you need. To do this you ideally should do a budget. A budget is not an accounting of what you spend, it is a plan what you will spend. A full analysis is beyond the scope of our current study, a good site for financial planning (budgets, loan comparisons, etc.) on the web is <http://www.crown.org/tools>. The exam-

ple that follows is from a class I taught when I was at the University of Redlands, many moons ago. I had the students in my class prepare a budget using a spreadsheet. The following descriptions explain how to set up the spreadsheet. Though the numbers are a bit old, the method is still valid. I will post the spreadsheet online.

We will make several assumptions. We will assume you will make \$35,000 dollars to start, and that you will end up paying 20% of your income in tax. We will break our budget into categories, as seen in Table 4.1.

If you stick with this budget you have \$116.67 per month that is available for investing. You also note that housing costs are about 1/3 of the budget, so if you own your house by retirement this will be drastically reduced (just taxes, repairs, etc.). If you have no debt you could switch some or all of that 5% of the budget to investments. If you switched all of it you would double your retirement fund, though this might not be practical.

### 4.2 Investments

Investments are different than savings, which is different than extra money in your checking account. You should have extra money

Table 4.1: Simple Starting Budget

Category	Sug. %	Annual Amount	Monthly Amount
Net Spendable		\$28,000.00	\$2,333.33
Housing:	36%	10,080.00	840.00
Food:	12%	3,360.00	280.00
Auto:	12%	3,360.00	280.00
Insurance:	5%	1,400.00	116.67
Debt:	5%	1,400.00	116.67
Ent/ Rec:	6%	1,680.00	140.00
Clothing:	5%	1,400.00	116.67
Savings:	5%	1,400.00	116.67
Med/Dental:	4%	1,120.00	93.33
Misc:	5%	1,400.00	116.67
Investments:	5%	1,400.00	116.67

in your checking account each month so that you don't incur fees or drop below balance. You should also have a savings account linked to your checking to cover occasional surprises, while still earning some interest, but that is not sufficient to plan for your future.

Investments can be done either pre-tax or post-tax, each has a benefit. Pre-tax gives you more to invest but requires you to pay your taxes in the end, which if you are not careful means at a significantly larger tax rate. Post-tax is the reverse. You should check both ways and see what benefits you the most. It is your money so make sure you get the most out of it.

Approximating the future worth of an investment by the rule of 69. The time (in compounding periods) to double the value of an investment is  $\frac{\ln(2)}{\text{rate}}$ . The natural log of two is approximately .69, so if you divide 69 by the interest rate you will get the time to double the investment. So say you were investing in something that gave a 5% return per year, then  $69/5 \approx 14$ , or 14 years to double the value you invest. In 28 years the investment will quadruple, and in 42 years the invest-

ment will be eight times its worth. If you had an investment that returned 10% then it will double around every 7 years ( $7 \approx 69/10$ ), so in that same 42 year period the invest will have grown to  $2^{42/7} = 2^6 = 64$  times its worth. Note the significant gain from this.

### 4.3 Understanding Inflation

Inflation is a confusing area for many people, though it does not need to be. Inflation can be expressed in one of two ways. We either refer to how much higher a price will get (what actually happens) or how much less your buying power is (how it affects you). They are just two different ways of looking at things. First we will consider how much an item will cost in the future.

Let the inflation rate be  $i$ . Since inflation is compounded yearly, we use the yearly compounding formula to find that an item that costs  $P$  today, will cost

$$F = P(1+i)^t \quad (4.1)$$

$t$  years from now. That doesn't seem so bad.

So how much will a \$1 item cost in 10 years at three percent inflation?  $d = 1 + r$ ) we find

$$F = 1(1 + .03)^{10} \quad (4.2)$$

$$\approx 1.34 \quad (4.3)$$

Let's look at the other way, the effective buying power. Say I have a dollar now, which allows me to buy a dollar's worth of stuff. If I hold on to my dollar for ten years, then my dollar is the same but the stuff that costs a dollar today will cost \$1.34 then (assuming 3% inflation). My dollar can not buy the same items because they will cost more. When we speak of effective buying power, we are finding the fraction of a dollar's worth of stuff we will be able to buy in the future with a dollar. We can set this up as a ratio

$$\frac{\$1}{\$(1+i)^t} = \frac{d}{\$1} \quad (4.4)$$

Essentially we see that  $d$ , the present value of a dollar from  $t$  year in the future, will always be less than \$1 if there is inflation. In essence, the dollar is losing value, or being deflated. You could consider this a problem in which  $d$  is the present value, 1 is the future value and the interest rate is  $i$ , and then solve for  $d$ . If we do that we find

$$1 = d(1+i)^t \quad (4.5)$$

$$d = \frac{1}{(1+i)^t} \quad (4.6)$$

We can use this to find out how much a dollar will be worth in a year and then use this to find a rate of depreciation. We can then use this as  $r$ , to find the present value of a future dollar more easily. Proceeding in this way (let  $t = 1$  and try to find an  $r$  such that

$$d = \frac{1}{(1+i)^t} \quad (4.7)$$

$$d = \frac{1}{1+i} \quad (4.8)$$

$$d = \frac{1+i-i}{1+i} \quad (4.9)$$

$$d = \frac{1+i}{1+i} + \frac{-i}{1+i} \quad (4.10)$$

$$d = 1 + \frac{-i}{1+i} \quad (4.11)$$

We thus have the deflation rate of a dollar is given by  $r = \frac{-i}{1+i}$ . Thus  $d = \left(1 - \frac{i}{1+i}\right)^t$ .





# Chapter 5

## House

### 5.1 Selection and Price

Buying a house is one of the best investments you will ever make. Here are some basic guides for helping you make a good choice.

1. The three greatest factors affecting a homes worth are location, location, and location. What school district you are in, how convenient shopping is, the proximity to major streets or industrial areas, the proximity to a park, and the location of the lot with respect to the street (inside corner, outside corner, edge) all greatly impact the homes value.
2. Curb appeal is the first and last impression the buyer gets of the house. Good curb appeal (nicely painted, well maintained yard, cute house, etc.) will tremendously increase buyer interest and thus price. If you want to make money on the deal, buy a house that has potential curb appeal but that needs a little yard work and paint (i.e. the basic house situation and style are nice, it just needs a little work).
3. A home's basic value is what it is worth to an investor. People often pay above this if they love the house, which usually

means it has great curb appeal and good staging. A home is worth 200 times the monthly rent to an investor, that's it. When you look at a house, divide the asking price by 200 and check the local area to see if that is what it could be rented for a month. If it can, the price is good, if it can't, the price is high.

4. You can afford a total debt burden of about four times your salary minus any debt you owe, so add that to your down payment and that is all you can afford. Agents will tell you this is not the case, but many of them were fueling the bubble that burst by encouraging people to buy overpriced houses they couldn't afford. They get paid a percentage of the sales price, so the more you pay the more they get. Caveat Emptor!

### 5.2 Loans

1. Be very careful when doing a non-standard loan. Your loan rep will try to talk you into a larger loan or into a funny program like a negative amortization scheme<sup>1</sup>. No matter what they say,

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<sup>1</sup>Negative amortization loans are cheap per month, but the loan amount grows meaning you owe more as time goes on.

remember they get payed more if you get a bigger and worse loan (the loan company makes more money). Be very cautious and check everything. They make mistakes and they never work to your advantage.

2. As a quick guide, you can afford 5 times your annual (pretax) salary in a house provided you have 20% down. Essentially this means your loan should not exceed 4 times your annual (pretax) salary. They will loan you more, and even tell you this rule is out dated and so on. Remember they make their money off the size of your loan. Get what you can afford.
3. If you have less than 20% down (80% loan to value)<sup>2</sup>, you will be charged a monthly private mortgage insurance (PMI), because they are worried you will skip out. This can be quite expensive. PMI is usually calculated as half a percent of the loan amount per year, so if you borrowed \$200,000 with less than 20% down (less than \$50,000 down in this case) then you would have to pay \$1000 per year or \$83.34 a month. PMI is not tax deductible, so it is doubly painful. What can you do?
  - (a) Start saving now. The more you save the smaller the loan and the better your loan to value. That means the less PMI you pay and the shorter time you will have to pay it. Lenders must automatically stop charging PMI to non-high-risk loans when the loan to value hits 78% or you can request them to stop when it hits 80%.
  - (b) Take advantage of first time buyer programs. Many cities have programs to help first time buyers, by giving a help in the down payment. They do this because home values are higher in areas where more people own their homes. Higher values means more taxes, so it can be worthwhile to them.
  - (c) 80-10-10 loans. This is special loan that avoids PMI. The main loan is 80% of the purchase value, and a second loan is taken out at 10% of the purchase value with a higher interest rate. Your down payment is the final 10%. I generally don't like funny programs but it might help you. You have to pay on two loans at once, but it often works out to save in the long run. Think carefully before you do a non-traditional loan like this. On the bright side the interest is deductible, while PMI isn't.
  - (d) Pay a higher interest rate. If you pay a higher rate, or pay points (often bundled into the loan) the bank will sometimes drop the PMI. The interest is deductible from your taxes, but I hate paying interest and so should you. The tax benefits don't outweigh the costs.
  - (e) Pay the PMI. Not fun but you might have no good alternative.
4. There are two basic types of loans: fixed and adjustable. Fixed loans have a fixed interest rate, and adjustable can change a certain rate (stated in the loan documents), and is based on some external

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<sup>2</sup>Unless you are high risk, in which case PMI can be charged till the loan is 50% loan to value. High risk includes such things as reduced documentation loans.

indicator. Adjustable rate loans have lower rates at the start, because investors figure they will make up the difference when rates go up and the loan adjusts up. I don't like adjustable, but they can make sense if rates are very high and predicted to go down in the long run. If you are planing on staying in your new home for a long time and expect loan rates to go up in the next 30 years or want to avoid the uncertainty, then a fixed loan is a good bet.

5. Most new home buyer's tend to move to a new area or a bigger home in 5 to 7 years, so hybrid's like a 30 due in 7 (or due in 5, etc.) was created. These loans are adjustable loans, that have a fixed rate for 7 years (or 5, or whatever the due in length is), and it then reverts to an adjustable. Technically, the loan is due at the end of the fixed rate period (balloon payment), but the loan usually contains provisions for an adjustable loan to pick up if you don't pay it off.
6. To estimate your monthly payments, remember that 6% is \$600 a month on a \$100,000 loan, and each eighth will cost you \$8/month. So for a \$250,000 loan at 6.25%, your payment will be approximately:  $(\$600 + 2 * \$8) * 2.5 = \$1540$  (the actual amount is \$1539.29 so it is pretty darn close). Note: the further from 6% you get the worse the approximation becomes. The increase per eighth gets larger as the total rate increases, and conversely the decrease per eighth gets less as the total rate decreases.



**Part III**

**Whole Person**



## Chapter 6

# Finding Joy

You cannot control your environment or those around you, you can only control your response. Put another way, it is going to happen so you can either be happy or sad about it. I want to be happy. No one wants to be around someone who is permanently morose. Your effect on others for the better or worse is directly related to your attitude. Being happy and finding true joy, without hurting others is thus a moral necessity.

Some of you might pick a bone with me over the morality of it, but think of it this way- happy people make the world happier, and thus do good. Is this not an essential part of morality? I am not advocating personal joy at other's expense, I am advocating joy to everyone's benefit. Certainly those who would seek personal advancement at other's expense are wrong, but this is not what I believe. I am further asserting that perpetually unhappy, self-depreciating people tend to do the most ill to those around them and society in general. We should seek to be happy, and better ourselves and those around us.

Each person in the relationship must learn how to understand what the other is expressing, as much as they must try to express to the other in a way that can be understood. Men have trouble trying to express themselves in ways women get, and women have trouble getting what men are trying to communicate. This is a tough process for both sides. The Keirse personality has some good resources on this.

### 6.1 Relationships

Men and women communicate in different ways, as do the various personality types.





# Chapter 7

## Ethics

Ethics are essential to you being a whole person. I have already covered engineering ethics, see “Keith on ... Engineering Design”, but in this chapter I will cover the basis of ethics, and its centrality in all of our life.

1. A person who lacks ethics, lacks depth of character. They could be fun if your entertainment and theirs coincides. Should your wellbeing be at cross purposes to their enjoyment, you will lose. In one sense ethics is thus the internal constraints that keep us from doing things to the detriment of others.
2. The old word integrity basically means you are the same inside and out, thus you don't change your basic identity in different situations. Behaviors appropriate to the situation will be followed but the basics of your character are the same. Put another way, the you of one situation would not condemn the you of another situation. A person with integrity is someone you can count on, they are internally consistent. This consistency will play a key role in developing Kant's Ethics.

### 7.1 Good Will

Kant asserted that the only good a finite being could have is good will<sup>1</sup>. This is a strange assertion, which no doubt many feel is incorrect. Allow me to give a simple example.

Say your aunt was in the hospital and you decided to send her flowers. She had always loved the look of tropical flowers from Hawaii, but had never seen them in person. You decide to spring for a nice bunch to be sent direct from Hawaii. When she gets them, it turns out she is horribly allergic and she dies. Are you an evil murderer?

If the ends are the decider of ethics then it is so. But the ends are not in our control. All we control are our intentions. Kant is pointing out that if we truly intend good things (good will) then we are doing the only good we can do. We don't know everything, nor do we have the ability to do anything we want, so we can't control the results. Kant asserts we are only morally responsible for what we can control - our will.

You may or may not agree with this. Some belief systems deny the freedom of the will.

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<sup>1</sup>Kant does not mean warm mushy feelings, as good will implies today. For a will to be good, it must make all decisions based on moral law, thus a good will would never violate moral law for any reason.

Some systems put our moral responsibility into the realms beyond our complete control. One thing I think most can agree with, is that good intentions are good, though perhaps not good enough.

Kant framed a few moral imperatives that can be used to evaluate an action.

“act only in accordance with that maxim through which you can at the same time will that it become a universal law.”

## **7.2 Duty**

## **7.3 Common Good**

## **7.4 Religion**

## **7.5 Self-Interest**