Hardwired for deception means trouble with estimates!
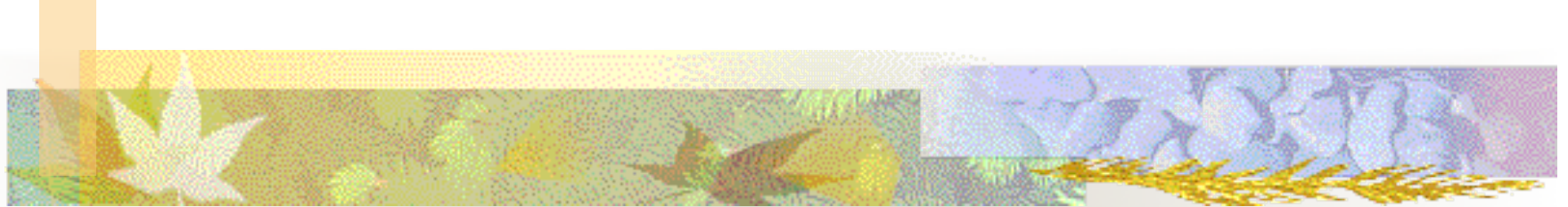
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Disclaimer: This provocative presentation is ideally the beginning of a conversation. It won't take long for me to tell you everything I know about cognitive psychology, although I have been reading in the area for several years now. I'm an amateur who has sufficient interest in weird topics and a strange way of connecting ideas that might or might not be of interest to you. Thank you for your tolerance and understanding of my meanderings and I hope you learn a little that might help you in your life.

This is not an "academic" presentation, but those interested in more information are invited to ask me for references for any part of this talk and I will be happy to make them available.

Deception:
consciously or unconsciously leading another or yourself to believe something that is not true.

My message is: we naturally deceive ourselves and others—constantly.

We deceive ourselves in the estimates we make daily

When confronted with actuarial data for life expectancy, we estimate that we will live ~10 years longer than estimated.

Who at the wedding altar is thinking, "50-50 chance of this working—let's keep our fingers crossed"

We're hardwired to deceive!

We are hardwired to be optimistic

We're hardwired to see what we want to see

Then we "kid" ourselves at the end of the day with a "rational" argument

And, all the while believing we're not biased ☺!

Smarter = better deception!

Once scientists have crafted an hypothesis they are reluctant to let go

A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it. Max Planck

Smarter people can create better "rational" explanations!

Positive or negative first?

In a series of experiments, subjects were given information about a candidate for a job.

Half the subjects were given positive information followed by negative and the other half the same information in the reverse order.

And the answer is….

Those who received the positive information first gave significantly higher predictions of success.

The tendency was exaggerated when subjects were asked to make their judgments against the clock. What does this mean for estimates under pressure?

Deception is rampant!

On average, there are 3 lies in 10 minutes of conversation

In a survey of high school students, all thought they had above average abilities

A survey of college professors revealed that 93% believe they were better than average

90% of on-line dating participants deceive—men tend to exaggerate age, while women tend to exaggerate weight—the older and heavier, the greater the deception

Even lawyers need help!

Advice on detecting lying in jury selection:

http://www.jurisense.com/blog/?p=14

We teach it to our children

They are taught how to deceive in a socially acceptable manner.

They are instructed to feign respect for their elders, to write thank you notes for disappointing presents and to refrain from telling grandma that her breath stinks.

Socially appropriate deception is not merely tolerated, it is mandatory.

Trouble with size estimates!

Our own bodies deceive us

We eat more from larger containers or if given larger portions

We eat more from all-you-can eat buffets and the more we pay the more we eat

We eat more if food is closer or present in greater variety than if it's some distance away or all the same

Names and presentation distort taste

All the while we under-estimate how much we have actually eaten!

Research on estimation

When estimating the body weight of women, participants disregard or ignore height information and focus solely on the width of the model.

When estimating calories, participants who saw small portions guessed the same caloric value as those who saw large portions.

What happened after 9/11?

Large segments of the population estimated that their chances of survival were better in a car than in a plane

Air travel decreased by 20%

Adding half the number of miles gives an increase of 800 passenger/pedestrian deaths

In one year this number is 3x the number killed in the 4 planes on 9/11

We distort risk estimation

Smokers fear flying more than smoking

Avg life expectancy reduction for smoking ~5 years

Avg life expectancy reduction for flying ~1 day

We feel our chances of winning the big lottery ticket (1 in 100,000,000) are greater than having a heart attack (1 in 50)

We're hardwired to fear…

…what our Stone Age ancestors feared

…what we cannot control

…what is immediate

…what is most available in memory

The result of this hardwiring…

…an unavoidable distortion in our ability to clearly and rationally estimate risks that involve these fears

What's the connection with software development?

We tend to believe we're better than we are

"…all the women are strong, all the men are good-looking, and all the children are above average."

As a result we tend to overestimate our ability to do anything: code, test, solve problems, …

Left to our own devices we will overestimate by attributing problems in the past to exceptional conditions.

A strong tendency to ignore previous feedback and persist in overconfidence in their own estimates have been observed in software development…

What about data?

I used to believe that complicated mathematical models and megatons of data from past projects would point the way to better estimates.

But I saw that this was no better than any of the others I had tried. The problem is too complex.

Calculation vs. Estimation

Calculation uses a different part of the brain than estimation (front vs back cortex).

Calculation is an activity where rules and pathways for action are known. It about taking action using those pathways.

Understanding the answer from calculation and estimation require reflection.

Agile to the rescue!

Now I believe that the only way to achieve estimates that are "good enough" is to…

…take small steps. Experiment and learn both from failure as well as success.

You must involve others because you will deceive yourself about your own estimates

The process must incorporate retrospectives and as much openness as possible

Agile is a multi-legged stool

You can't just estimate as you go, on your own without help from others

You can't just give lip service about being open about what happened in the last iteration

You can't fake it

You must include all the elements: small steps, retrospect, sharing, openness, and as much honesty as your deceitful self will allow ☺!

Forecasting & Estimation

The goal is not to predict the future but to find out what you need to take meaningful action in the present.

Create strong decisions but hold them weakly.

The Estimation Goat
http://www.estimategoat.com/

The bright side…

There are definite social advantages to deception

There are sub-groups of people who are brutally honest about the way the world is and about their own abilities

These people are also clinically depressed ☹!!

People who deceive are healthier ☺!

This does not hold for sociopaths!!!!

No one said it was easy to do!

It sounds easy but it is like a lot of easy things—easy to say but very, very difficult to do!

Good luck!! Thanks for listening!!