How to Pitch a Project

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You've all heard about the elevator pitch..

- Pitch your idea in 5 seconds (fast elevator)
- … in 30 seconds (slow elevator)
- … in 5 minutes
- … in 30 minutes
- But what do you need to get across in that time?

Six principles

1. What's the demo?
2. Why hasn't it been done before?
3. Make me believe it will work.
4. Be your own harshest critic.
5. Think broadly.
6. Be passionate!

#1 What's the Demo?

- If you succeed beautifully in everything you propose to do, what will you have?
- What can you show me that I haven't seen before?
- Imagine if….

#1 What's the Demo?

- You should be able to generate excitement about your expected outcome within five seconds.
    - If you can't do this yet, go back and think. Sometimes it takes time to understand your idea well enough to boil it down to five seconds.
    - If you still can't do this, ask yourself "Why am I spending my valuable creativity and energy on an idea with no clear punchline?"

#1 What's the Demo?
5 second pitch examples

Discovering DNA	"I'm researching how human cells reproduce"
Defragmenting hard drives	"It makes computers run more efficiently"
Inventing light bulbs	"It's a way to make light from electricity."
Writing a brilliant novel	"The story explores twenty something angst in the digital age"
Improving anti-lock brake algorithms	"It improves automobile safety"

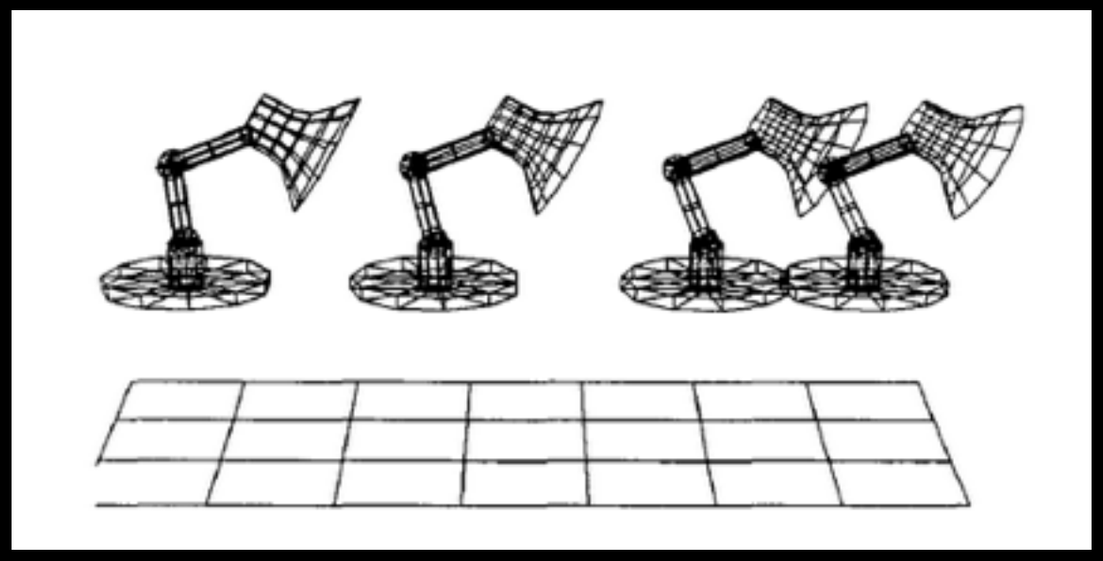
http://scottberkun.com/essays/38-how-to-pitch-an-idea/

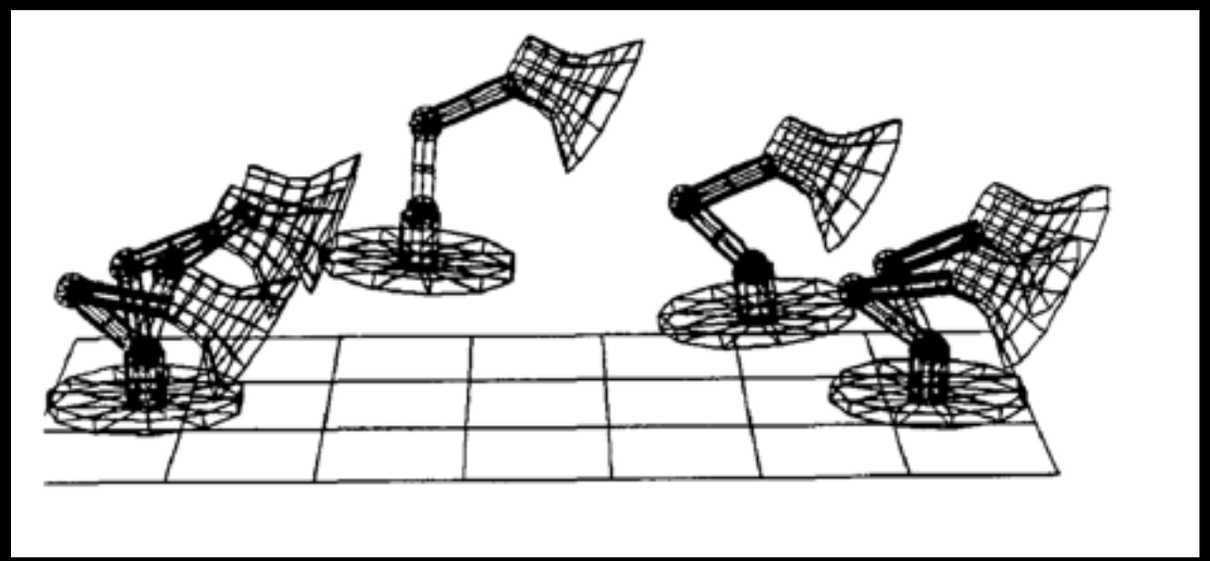
#1 What's the Demo? Examples

Computer Graphics, Volume 22, Number 4, August 1988

Spacetime Constraints

Andrew Witkin
Michael Kass





I am excited about this paper because it shows that energy optimization can be used to generate compelling animation.

#1 What's the Demo? Examples

Eurographics/ ACM SIGGRAPH Symposium on Computer Animation (2012)
P. Kry and J. Lee (Editors)

Contact-Invariant Optimization for Hand Manipulation

Igor Mordatch Zoran Popović Emanuel Todorov

University of Washington

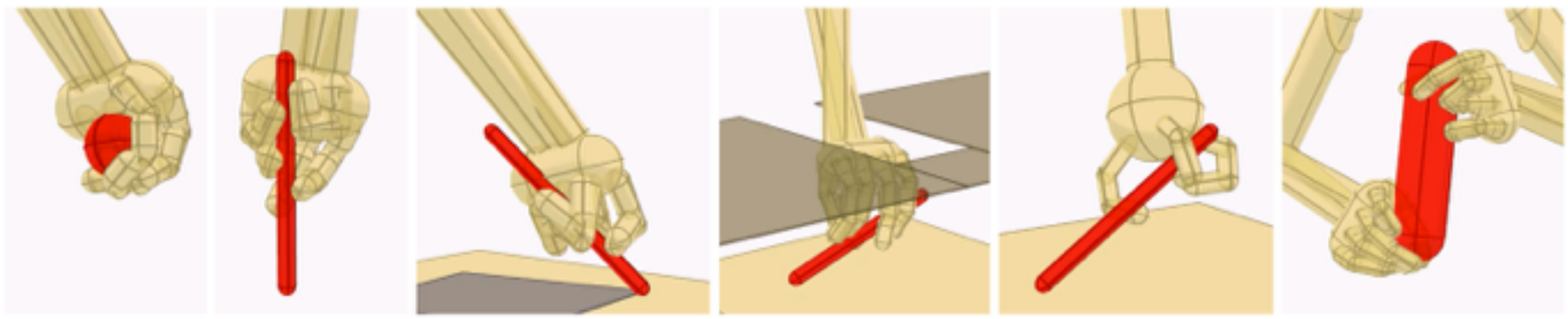


Figure 1: *A selection of grasps and motions synthesized by our method.*

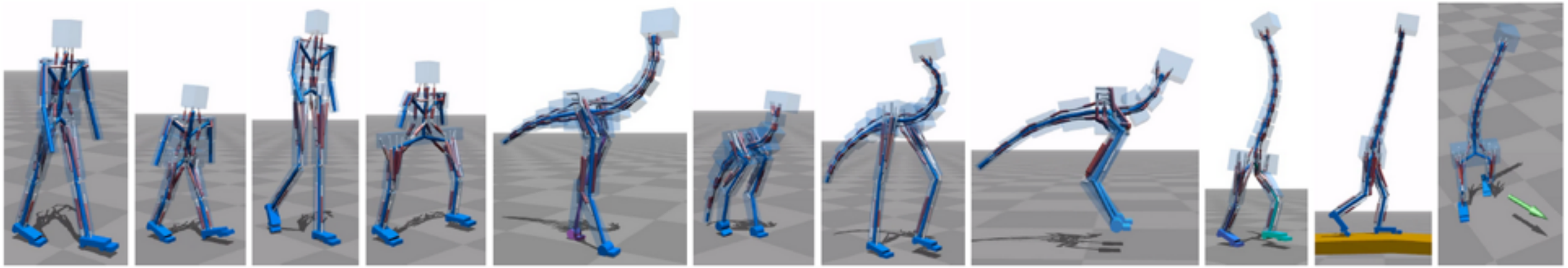
I am excited about this paper because it shows manipulation can be optimized over many / changing contacts.

#1 What's the Demo? Examples

Flexible Muscle-Based Locomotion for Bipedal Creatures

In *ACM Transactions on Graphics*, Vol. 32, Nr. 6 (Proc. of SIGGRAPH Asia 2013)

Thomas Geijtenbeek, **Michiel van de Panne**, **Frank van der Stappen**



I am excited about this paper because it shows compelling motion dynamics can be generated using muscle models.

#1 What's the Demo?
Examples

What is the 5 second pitch for your project?

#2 Why hasn’t it been done before?

- If your idea is that great, why hasn’t anyone done it already?

#2 Why hasn't it been done before? Examples

- We found this really cool math technique from the 19th century…
- Researchers in computational chemistry have been looking at the problem as follows, but for graphics purposes...
- If we just look at this fundamental characteristic of light, all of a sudden we see…
- Suddenly, computers are fast enough to make X, Y, and Z real time…
- If we can collect enough data, we can…
- We accidentally mixed polka dots and voxels and discovered…
- We thought, what if we make artists essentially write a program for their animation….
- No one has been looking at the influence of Q on realism, but it actually has a tremendous effect…
- It appears infeasible, but we tried it anyways…

#2 Why hasn't it been done before?

- What is your "secret weapon" or "competitive advantage"?
- What makes your great idea possible?

#3 Make me believe you can do it

- You want preliminary results **as early as possible** for proof of concept of your idea.
- Often, these preliminary results do not come out as expected and can cause you to rethink your project.
- Toy examples are great, especially for physics simulation related projects
    - proof of concept
    - tutorial in your paper to aid understanding

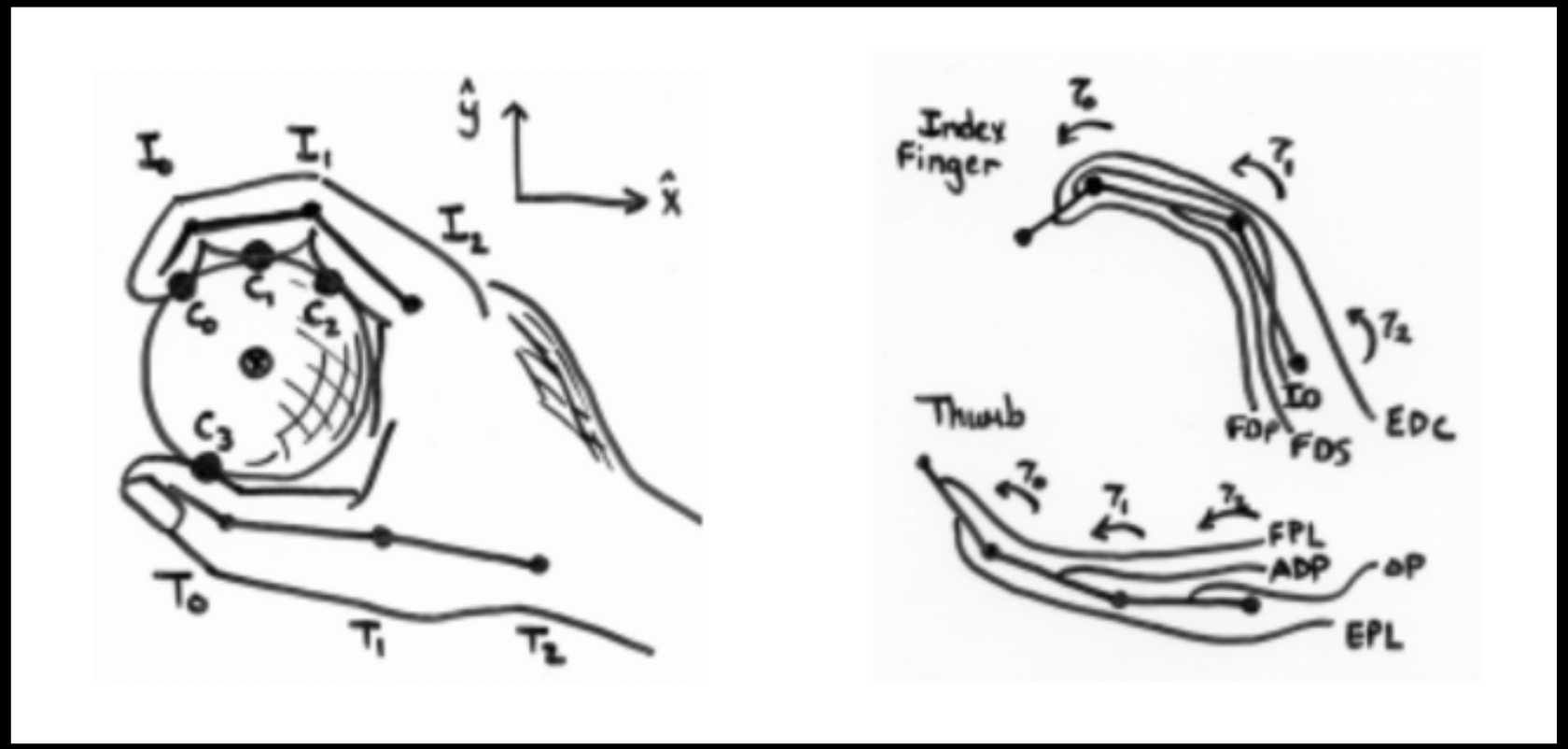
#3 Make me believe you can do it
Example from my CAREER proposal

The “5-second” pitch:

I believe that the key to further progress in automatic synthesis of humanlike grasps is much more detailed consideration of the anatomy of the human hand. In analysis of human grasps, critically important considerations include the amount of contact between finger pads, palm, and object; the ability of muscles to produce or resist task force; and the stabilization roles of fingers and muscles (e.g. [MTS 98]), yet none of these issues have been explored in grasp synthesis research.

#3 Make me believe you can do it
Example from my CAREER proposal

The preliminary results:



We can see from the cumulative results … that the tendon-based approach produces substantially different results than the original approach presented in [Pol96]. Although it is non sensible to literally interpret the results in this simple example, we can provide some anecdotal evidence for the proposed approach: the conventional way to extract yourself from a grasp if someone grabs your wrist is to pull your wrist out between the finger and thumb of the attacker, where their grasp is weakest. … We can see from Figure 8 that the grasp is in fact weak in the [indicated] direction using the tendon-based model, but this weakness does not appear in the contact-only model.

#4 Be your own harshest critic

- What are the risks?
- What could go wrong?
- What is the grumpy reviewer going to criticize?

- fill out the SIGGRAPH review form for your own pitch
- be critical, but then find ways to address those criticisms in advance
- be upfront about limitations of your approach, so that these limitation do not have to be deduced by the reviewers

#4 Be your own harshest critic
Typical Criticisms

- There is no comparison to state of the art
- It was not tested with real users
- No clear advantage of the approach is shown
- I bet it wouldn’t work on concave models / high polygon count models / polygon soup
- The grumpy reviewers will assume that whatever you don’t show doesn’t work. Don’t count on reviewers to give you the benefit of the doubt.

#4 Be your own harshest critic

- This is your opportunity to think through the demonstrations / experiments you need to convince everyone your technique is great!

#5 Think Broadly

- Now that you've derailed the grumpy reviewer, think about all the *extras* you can accomplish with just a little extra energy.

- Lagniappe / window dressing / extra cool things you can do with your approach / that stuff at the very end of the SIGGRAPH video that makes everyone smile.

- What impact could your idea have down the line and who all could benefit from it?

#6 Be Passionate!

- Your excitement should come across in your speaking and in your writing.
- Say only true things that you can back up, but…
- Be justifiably proud of what you have done.

Six principles

1. What's the demo?
2. Why hasn't it been done before?
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Example:
30 Second Pitches

https://www.youtube.com/watch?v=aCSxkfducnw
https://www.youtube.com/watch?v=Rzpr1oJfpIA
https://www.youtube.com/watch?v=4d31yudmqJ8
https://www.youtube.com/watch?v=5sgwv4Xa7Fg
https://www.youtube.com/watch?v=69PWxCgCKf4
https://www.youtube.com/watch?v=XKxx5zp3_S0
https://www.youtube.com/watch?v=JKZK1q8Kklc