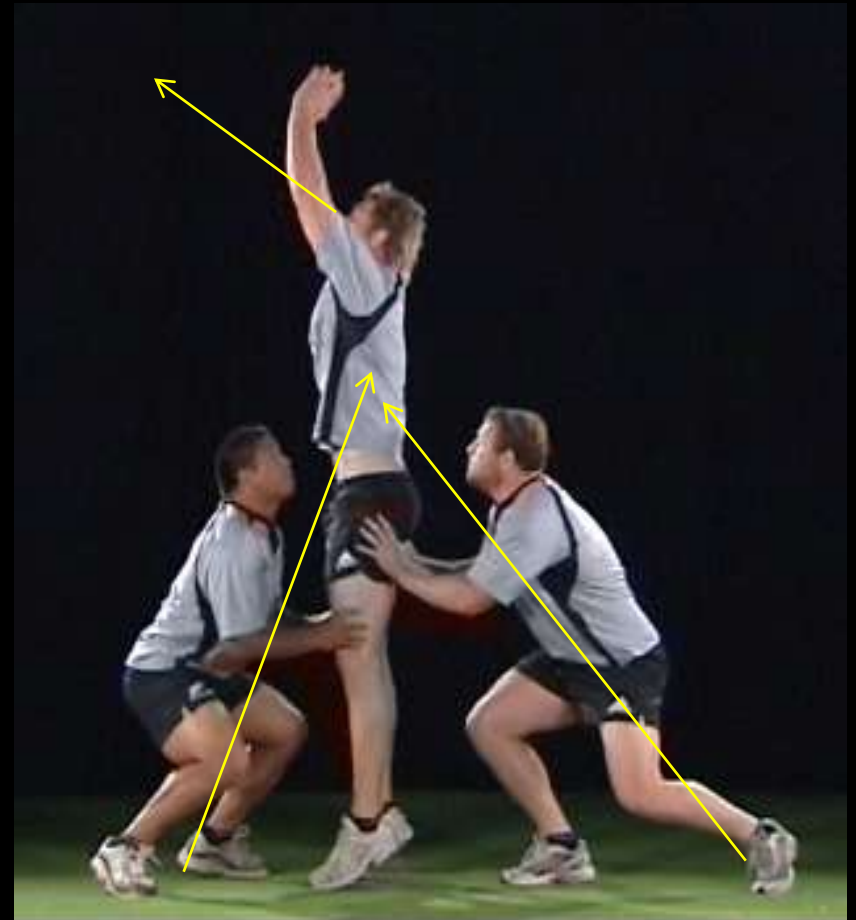


Innovative ways to teach Biomechanics using Video Analysis Software



Introduction

- Who are we
 - Steve Goodlass
 - Ferg d'Ardis
 - Contact details in conference book
- Who here has heard of SC?
- Who here are using SC products?

Overview

- What type of video analysis are we talking about
- Quick review on how to use Pro
- Skill analysis (Rugby)
- Principles of Biomechanics
 - Levers
 - Newton's Laws
- Functional Anatomy
 - Elbow flexion
 - Knee Extension
- TimeWarp

What type of Video Analysis

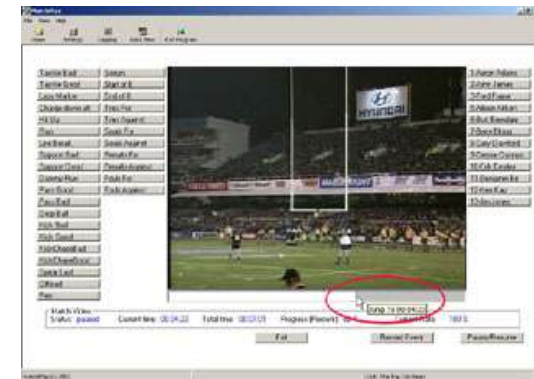
Skill analysis software

- Review one skill at a time in close detail
- Skill acquisition
- Technique assessment



Match analysis software

- How much, how often, statistics
- Tactics
- Tagging, Filtering



What type of Video Analysis

Skill analysis software

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Siliconcoach are providers of SKILL ANALYSIS solutions

What type of Video Analysis

Skill analysis software

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Question:

How many here use, or would like to use, Match Analysis software?

Using Pro

How to 'Build' one movie on a single screen


1. Open siliconcoach Pro on your computer
2. Press the **Movies** button
3. Navigate to the desired movies folder
4. Click once on one of the movies
5. Click on the **Quick Present** button
6. Look at the Analyse screen
7. Click on the blue door to exit (lower right)

Using Pro

How to 'Build' two movies on one screen

1. Press the **Screen Setup** button
2. Double click on **Dual Manual Vertical**
3. Press the **Movies** button
4. Navigate to the desired movies folder
5. Double click on one of the movies
6. Double click on another movie
7. Click on the **Play** button (top centre)
8. Look at the Analyse screen
9. Click on the **blue door** to exit (lower right)

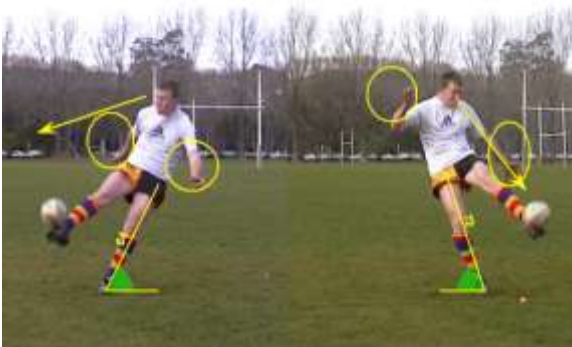
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Skill Analysis

Rugby

- Use the movies *Punt Front left.avi* and *Right Foot Punt Front-.avi* to make up the Screen Setups below.
- Tutors will help on this one



Dual vertical




*Dual vertical with the
left one flipped*



*Dual overlay with the
left one flipped*

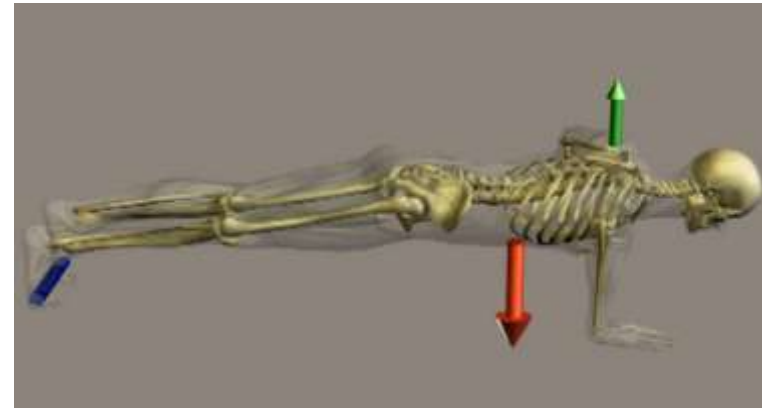
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Principle of Biomechanics

Levers: Second Class Lever

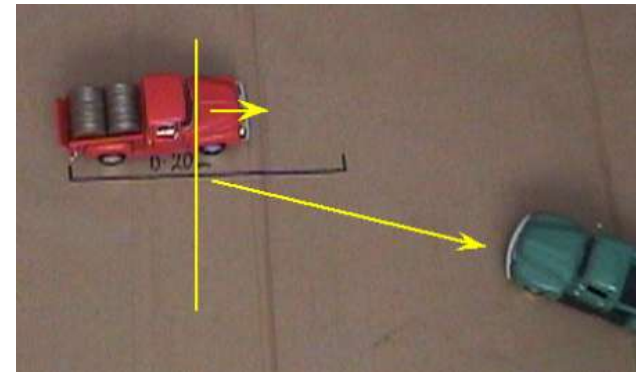
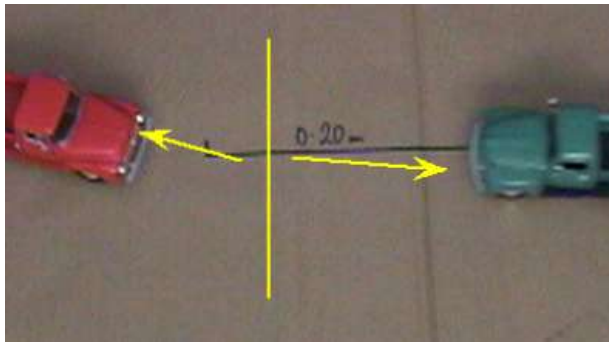
1. Use the movies *Second class lever.avi* and *Press Up side.avi* using a Dual Manual Horizontal Screen Setup in Pro
2. Work through the handout



Principle of Biomechanics

Newton's Laws: The law of Inertia

- Look at the movie *Truck crash even mass.avi* in Pro
- Look at the movie *Truck crash uneven mass.avi* in Pro
- Work through the handout



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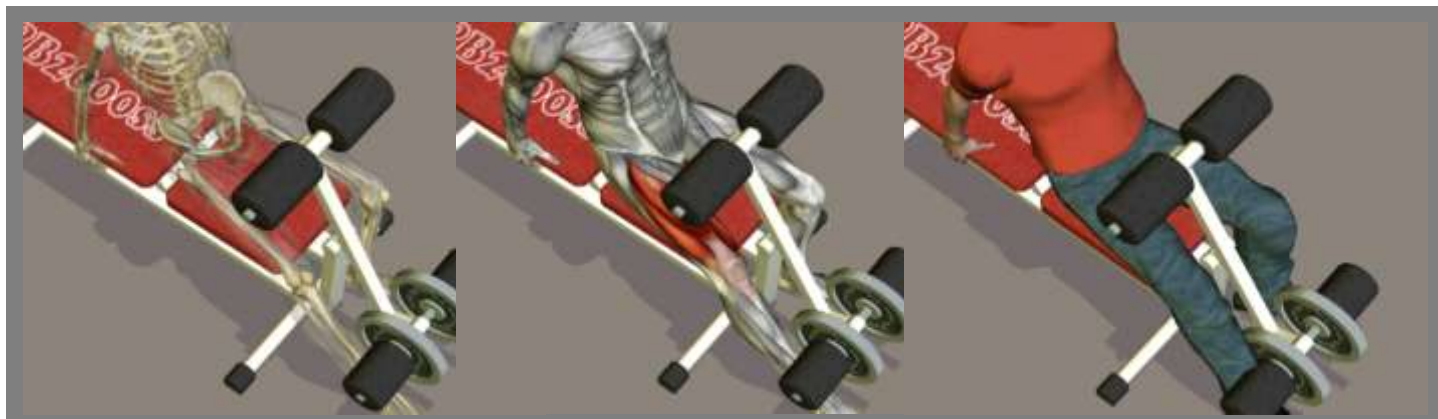
Functional Anatomy

- Elbow flexion
 - Knee Extension
- TimeWarp

Functional Anatomy

Knee Extension: Pretend you are a student

- Look at Clothed movie in Pro and describe the motion
- Look at the Skeleton movie in Pro and given muscles can only pull draw where the muscle must be
- Check your answer against the Muscle movie in Pro
- Now learn its name attachments, action and use in sport



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 TimeWarp

What is TimeWarp?

- Automatic action replay system
- Very simple to use, set and forget
- Powerful feedback tool for improving technique

TimeWARP 3



 sport

 education

 clinical

 retail

 training

Using TimeWarp?

Demo

1. Set the capture duration
2. Set the warp (delay)
3. Press **Start**
4. Do a movement to highlight a biomechanical principle, wait and watch, learn
5. Repeat Step 4

Brainstorming TimeWarp?

Time for your input

- Innovative way to use TimeWarp in Sports/coaching
- Innovative way to use TimeWarp in teaching
- Innovative way to use TimeWarp in fundamental skill assessment

Server version

- Provide us with your details and we'll sign you up for 3 months access to a server version "Pool"

Summary

www.siliconcoach.com

- Resources used here are available now
 - **Pro:** \$1612 for V7 OR \$689 per year inc upgrades. Also has a server version
 - **Student:** A lighter version of Pro. \$387 V7 OR \$141 per year inc upgrades
 - **Movement Resource Pack (MRP):** \$300 for PENZ members. It also has a resources for **NCEA L3.3** Performance Appraisal (Golf, Tennis, Badminton, Volleyball)
- Principles of Biomechanics (in MRP)
 - Cover 8 Principles
- Functional Anatomy (in MRP)
 - Covers 18 movements
- TimeWarp (\$420 for 7 OR \$168 per year inc upgrades)