Giving Purpose to First-Person Animation

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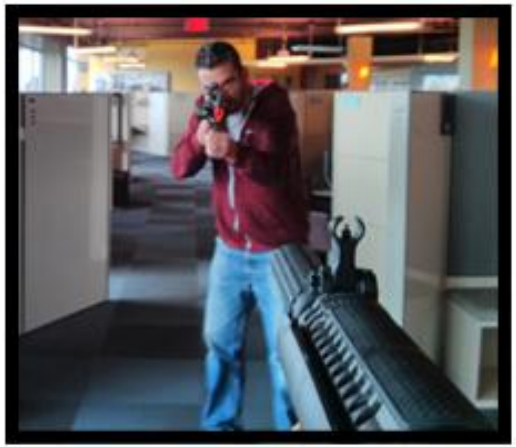
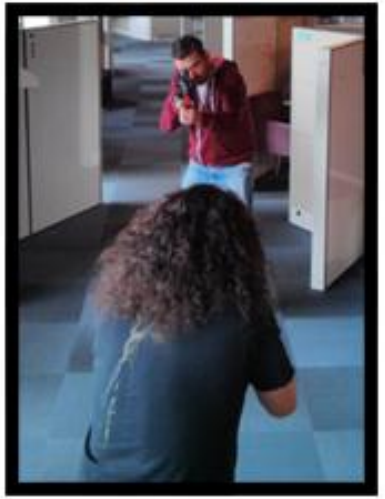
First, second & third person

"I"	"You"	"He/She/It/Them"
First Person	Second-Person	Third-Person





First, second & third person

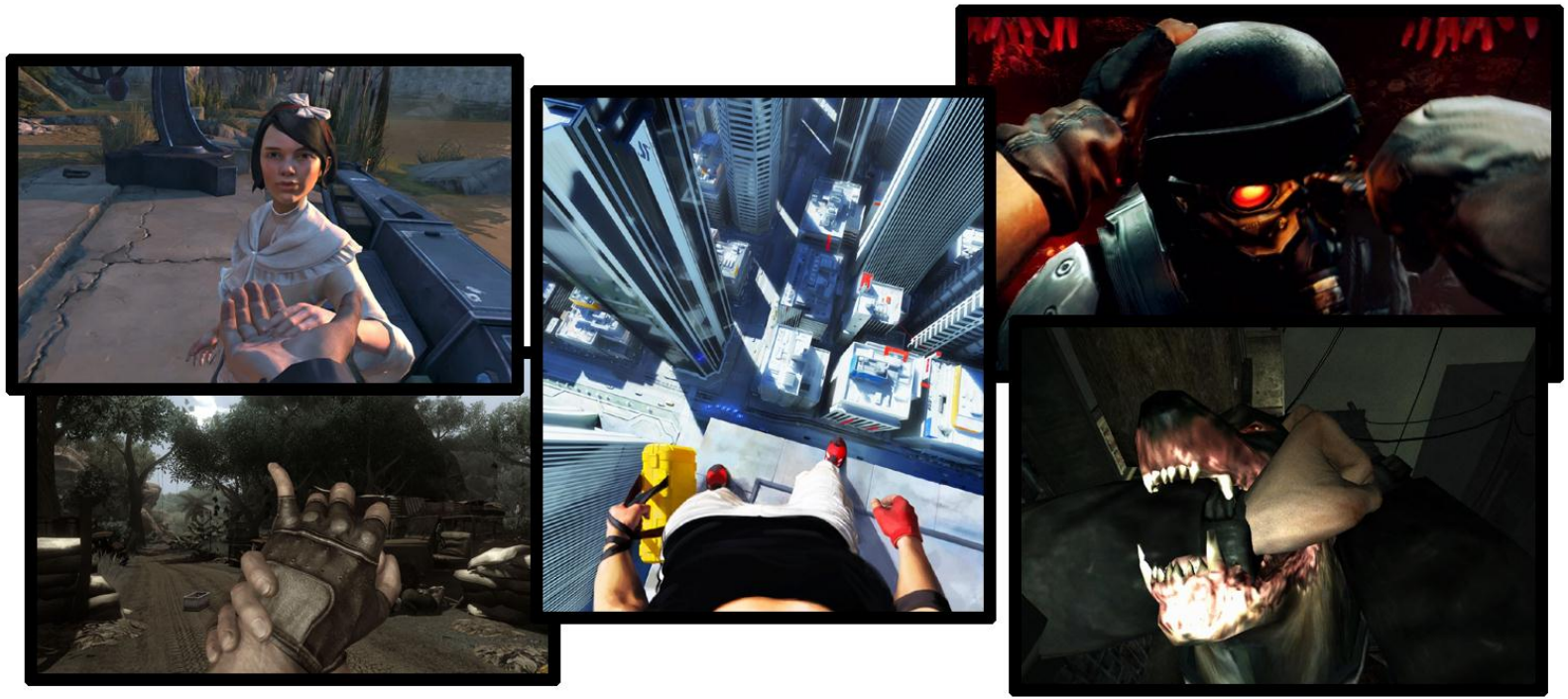
First, second & third person

Perspective matters!

Why does this matter?

- There are a couple of ways to look at 1st person (1P) Animation:

What kind of bullets you’re going to shoot the bad guys with…



…or the window through which your player interacts with your world

14
AMMO
59%
HEALTH
ARMS
0%
ARMOR
BULL 42 / 200
SHEL 14 / 50
ROKT 0 / 50
CELL 0 / 300

It’s all about…

PLAYER FEEDBACK

Disclaimers

- On first person “philosophy”…

The 12 Principles of Animation

- Squash & stretch
- Anticipation
- Staging
- Straight ahead & pose to pose
- Follow through & overlapping action
- Slow in & slow out
- Arcs
- Secondary action
- Timing
- Exaggeration
- Solid drawing
- Appeal

The 12 Principles of Animation

For Games...

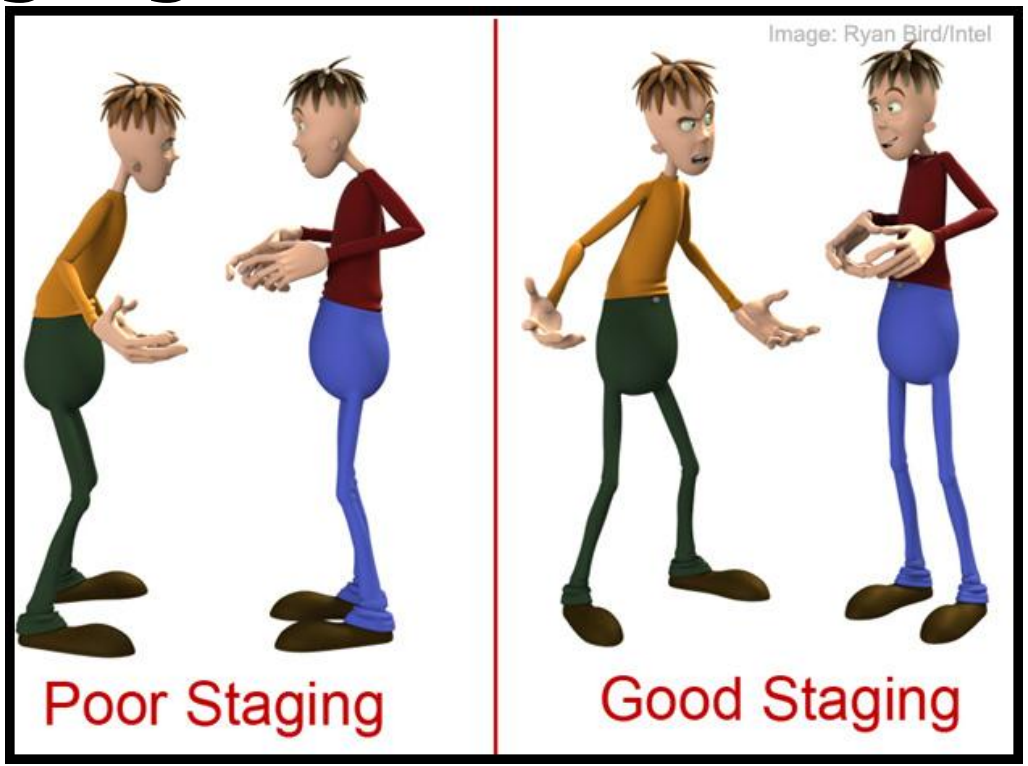
- Squash & stretch *
- Anticipation *
- ~~Staging~~
- Straight ahead * & pose to pose
- Follow through & overlapping action
- Slow in & slow out
- Arcs
- Secondary action
- Timing *
- Exaggeration
- ~~Solid drawing~~
- ~~Appeal~~

The 12 Principles of Animation

For First-Person Animation

- Squash & stretch *
- Anticipation *
- **Staging**
- Straight ahead * & pose to pose
- Follow through & overlapping action
- Slow in & slow out
- Arcs
- Secondary action
- Timing *
- Exaggeration
- ~~Solid drawing~~
- ~~Appeal~~

Staging



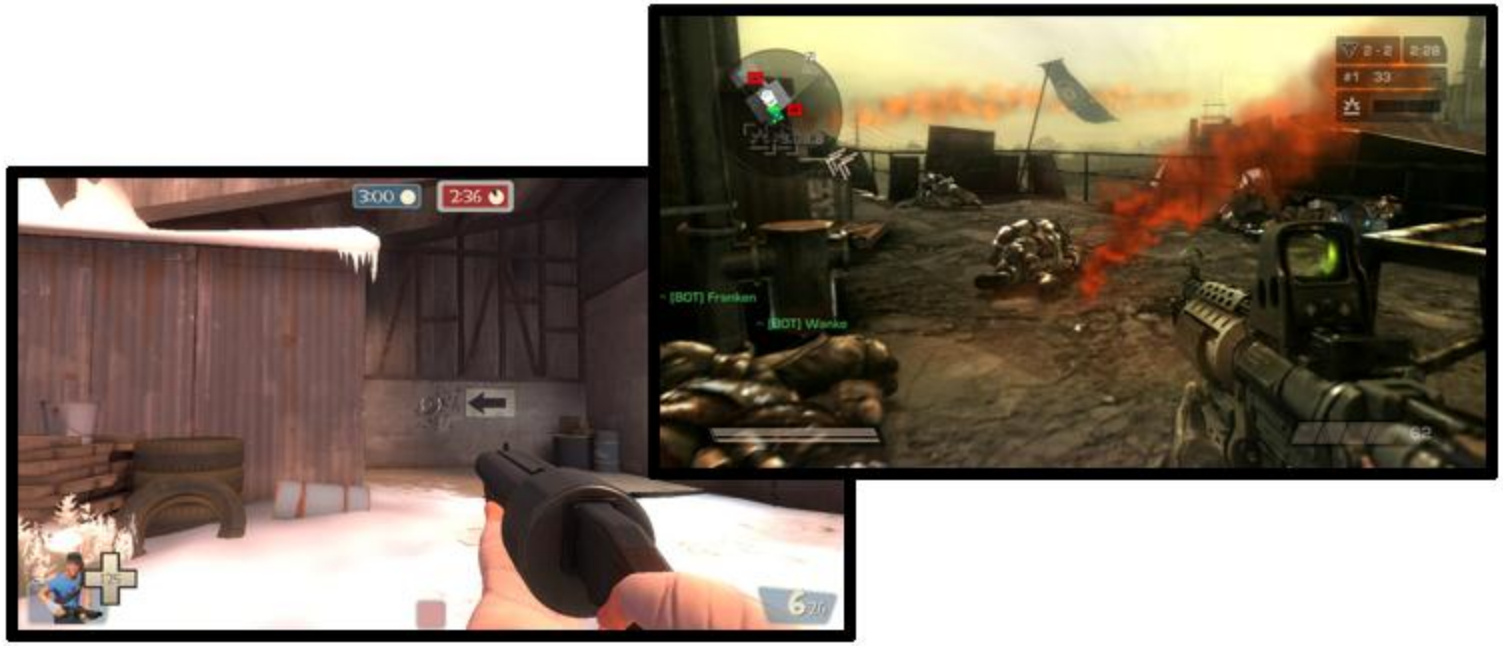
Staging

"The window through which your player will experience your world."

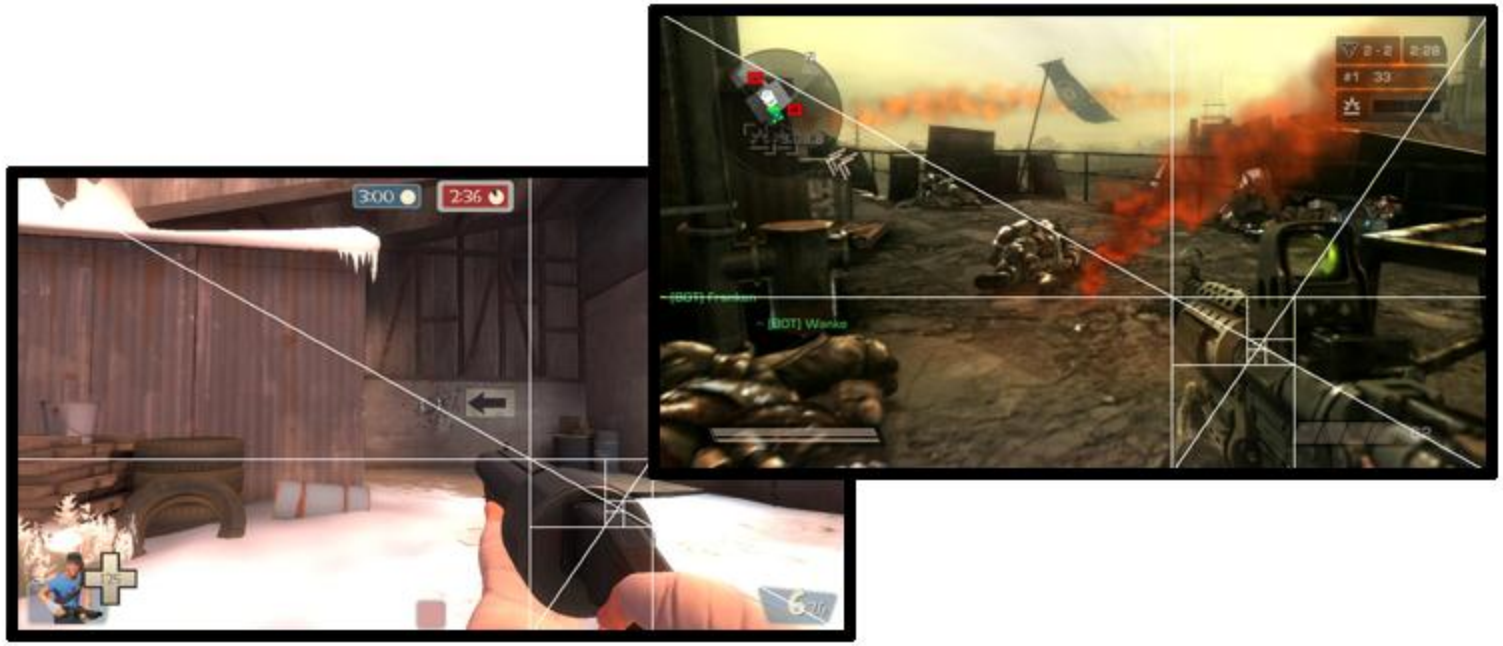
Staging

Staging

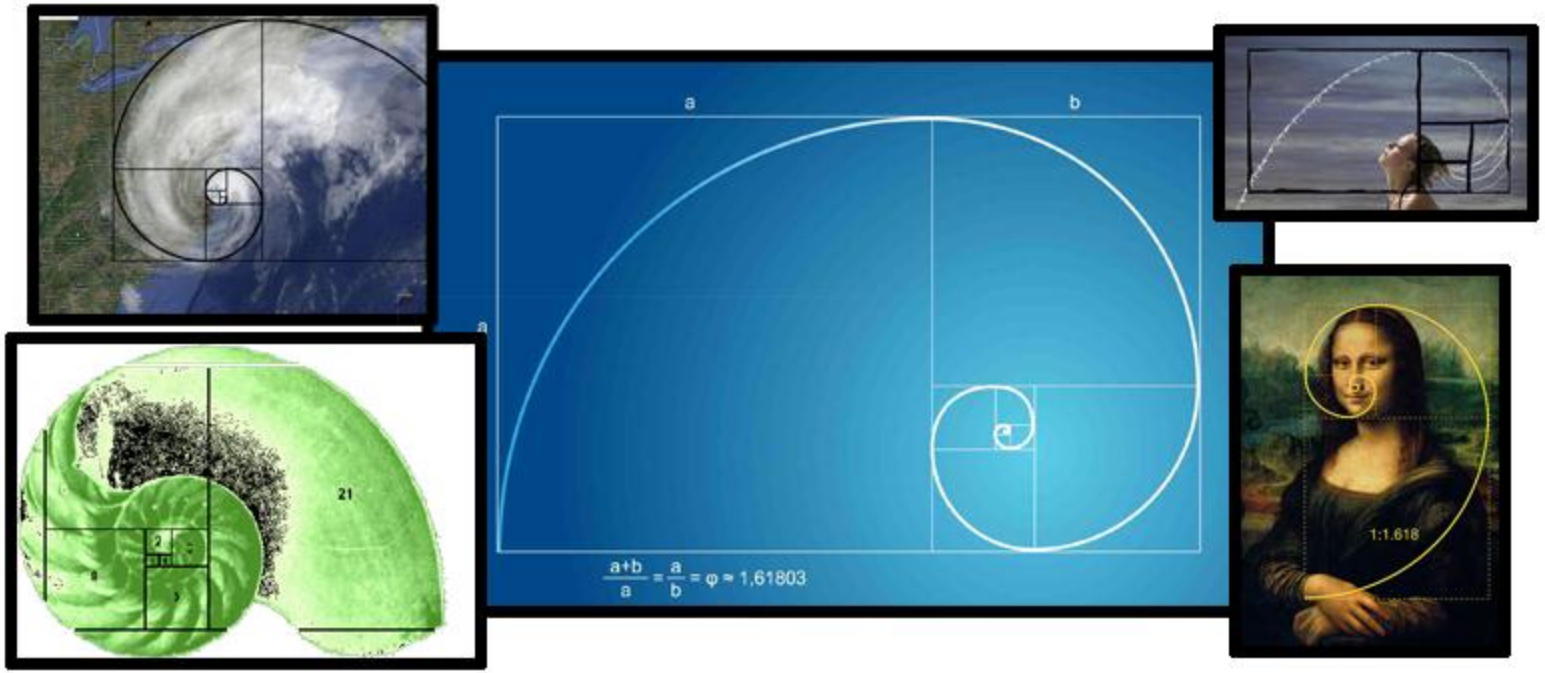
Staging



Staging & the Golden Ratio



The Golden Section/Spiral



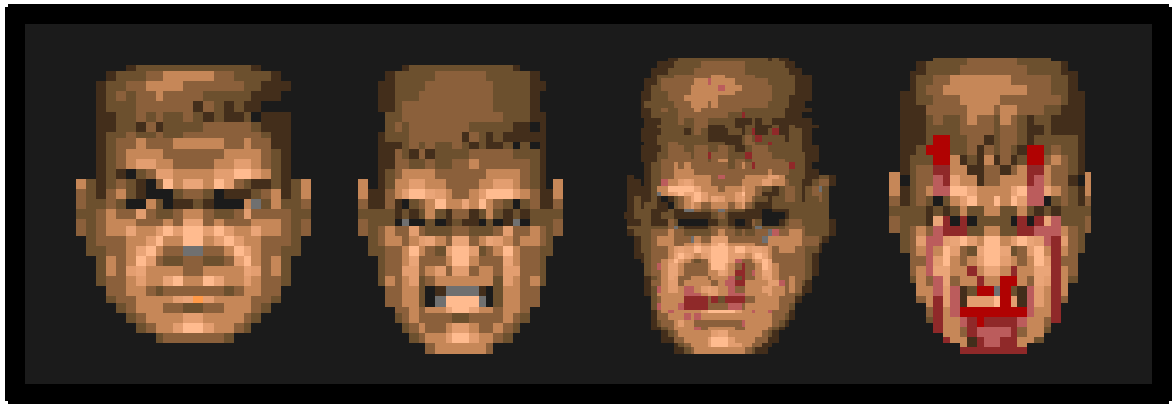
Staging & the Golden Ratio

First-Person Personality!

First-Person Personality!

- Pain, strain, exertion and weight

Pain



Pain

Strain and Exertion

Pain

Pain

Weight

Weight

Weight

2.5 lbs

4.1 lbs

Weight

Weight

First-Person Personality!

- Pain, exertion and weight
- Quality and proficiency

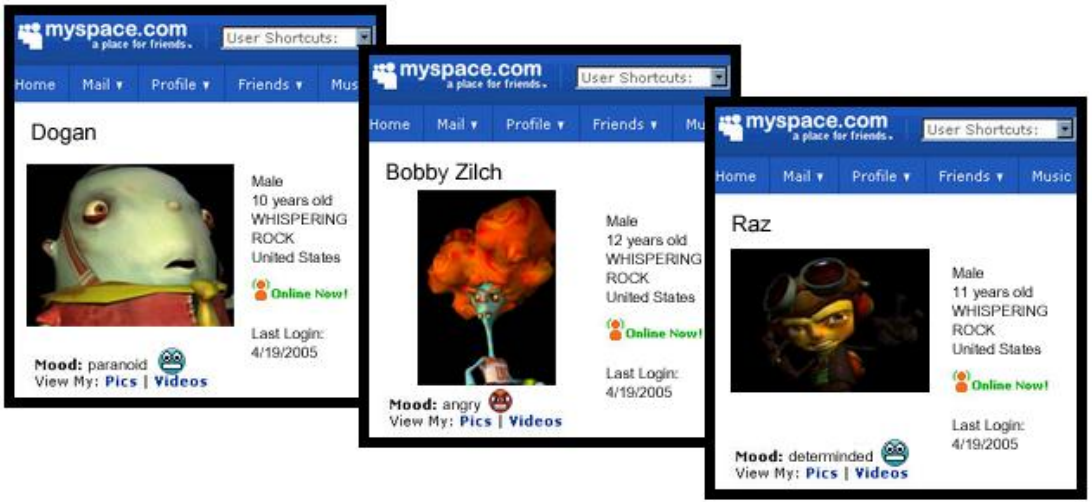
First-Person Personality!

- Pain, exertion and weight
- Quality and proficiency

First-Person Personality!

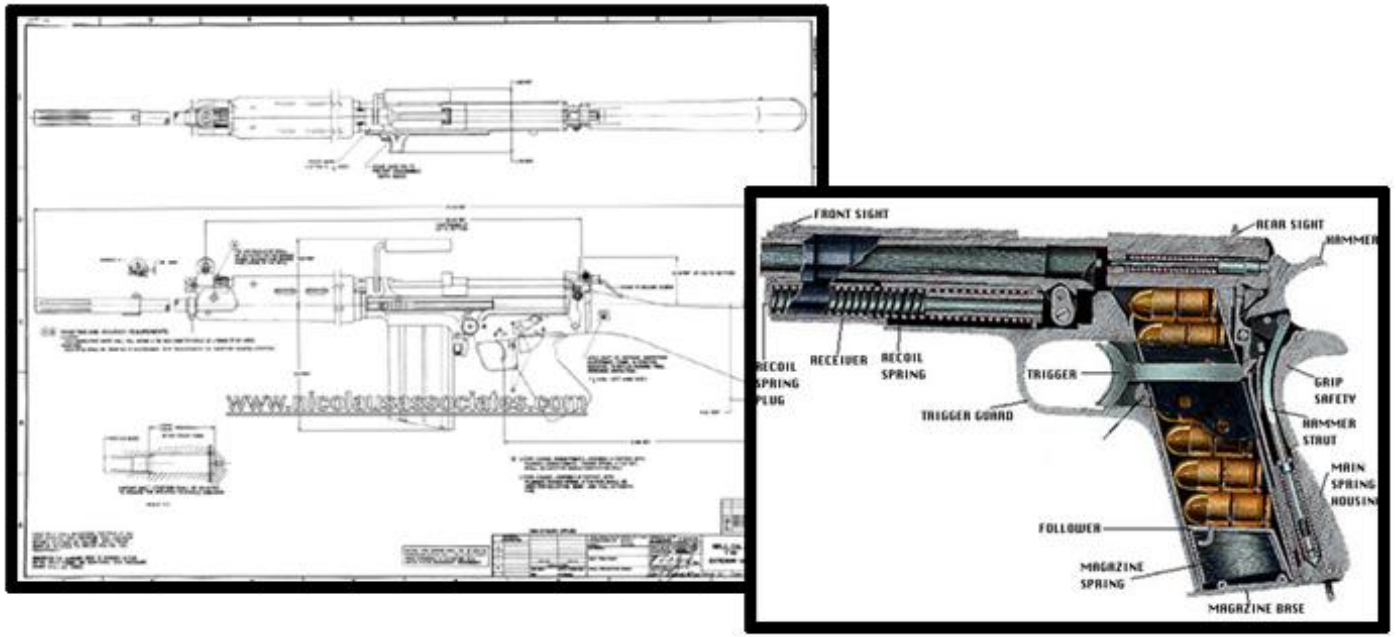
- Pain, exertion and weight
- Quality and proficiency
- How stuff works

How stuff works/backstory



How stuff works/backstory

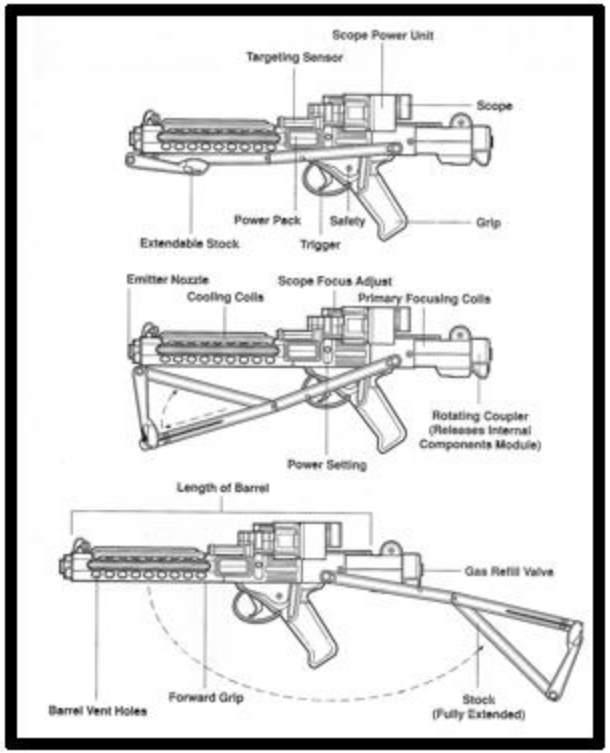
How stuff works

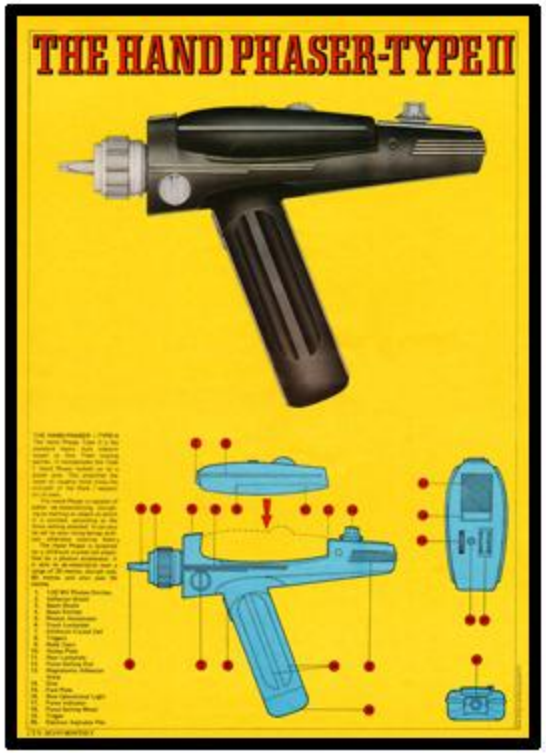


Reference, reference, reference!

Reference, reference, reference!

How stuff works





Realism

"Know the rules before you break the rules"

Realism versus…

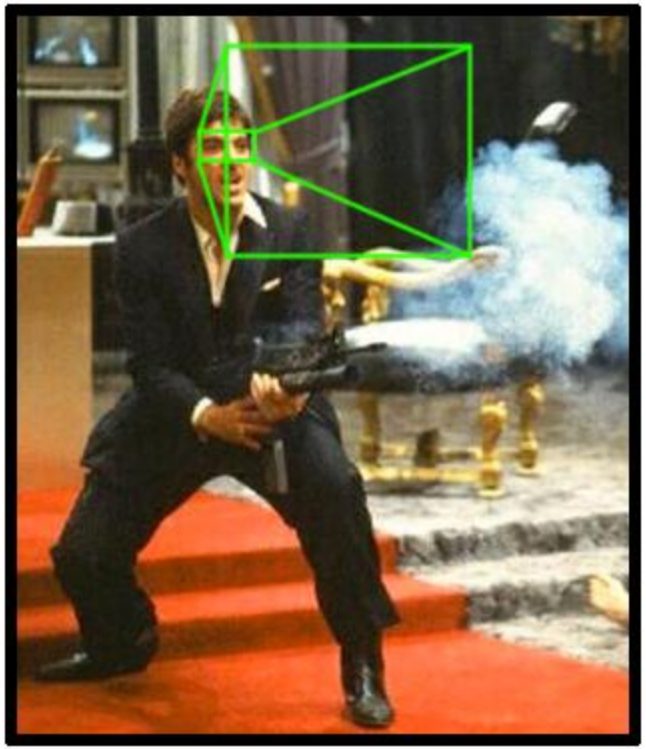
…the unique needs of the first-person perspective.

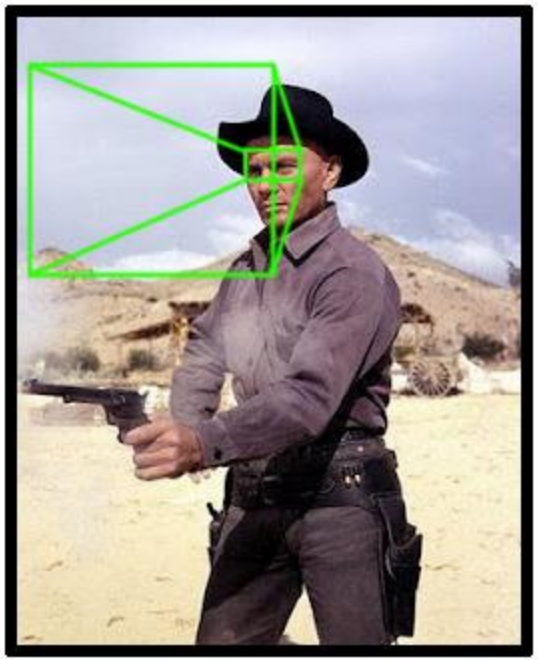
Realism versus…

…the unique needs of the first-person perspective.

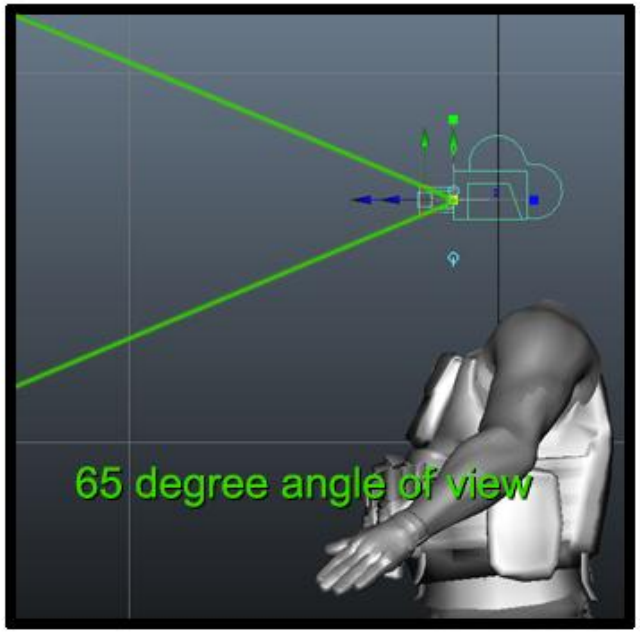
- Believability over Realism
- Player Feedback

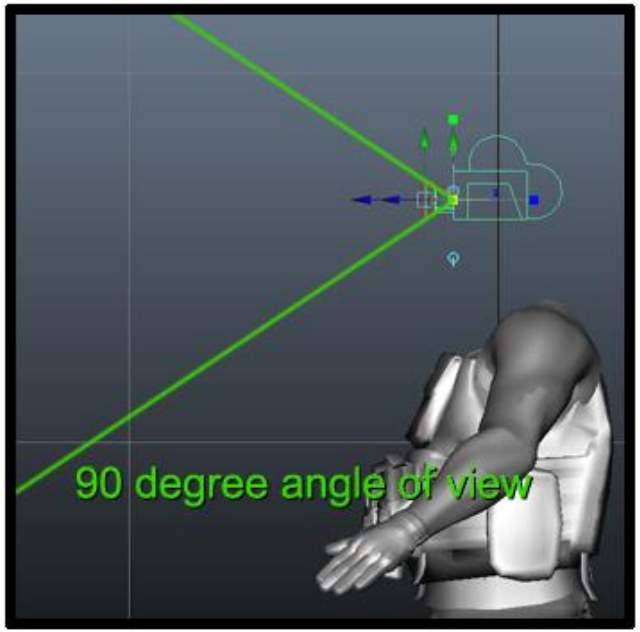
Realism versus Readability





Realism versus Readability





Realism versus Stylization

Motion Capture

"Motion capture is like
keyframed animation…
but better!"

Motion Capture

"Motion capture is like
keyframed animation…
but *different*!"

The technical stuff…

- Space-switching

The technical stuff…

- Space-switching
  - Left hand, right hand
    - Local object space, body space, world space

The technical stuff…

- Space-switching
  - Left hand, right hand
    - Local object space, body space, world space
  - Object
    - World, body, left hand, right hand

The technical stuff…

- Space-switching
  - Left hand, right hand
    - Local object space, body space, world space
  - Object
    - World, body, left hand, right hand
  - Sub-Object
    - Object, world, body, left hand, right hand

The technical stuff…

- Space-switching

"Don't build assuming you've anticipated every use case!!!"

The technical stuff…

- Space-switching
- IK vs FK

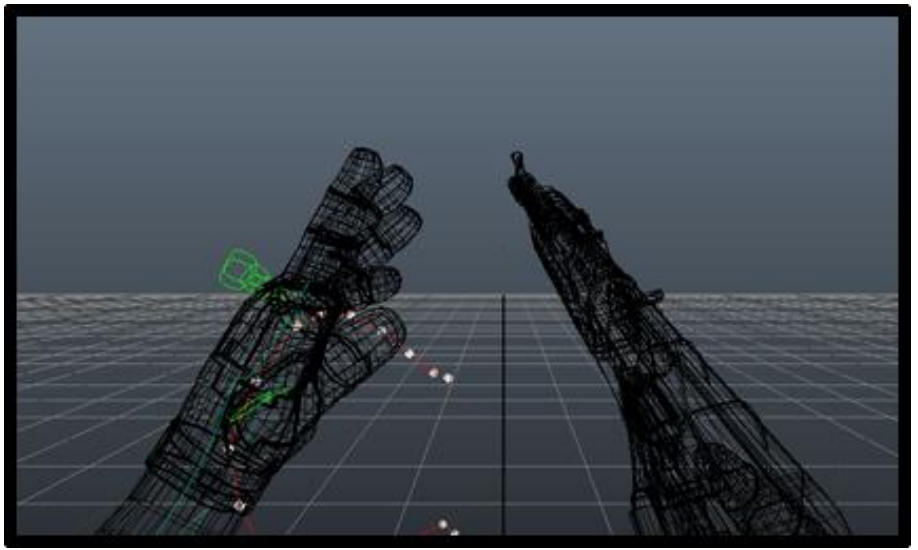
The technical stuff…

- Space-switching
- IK vs FK

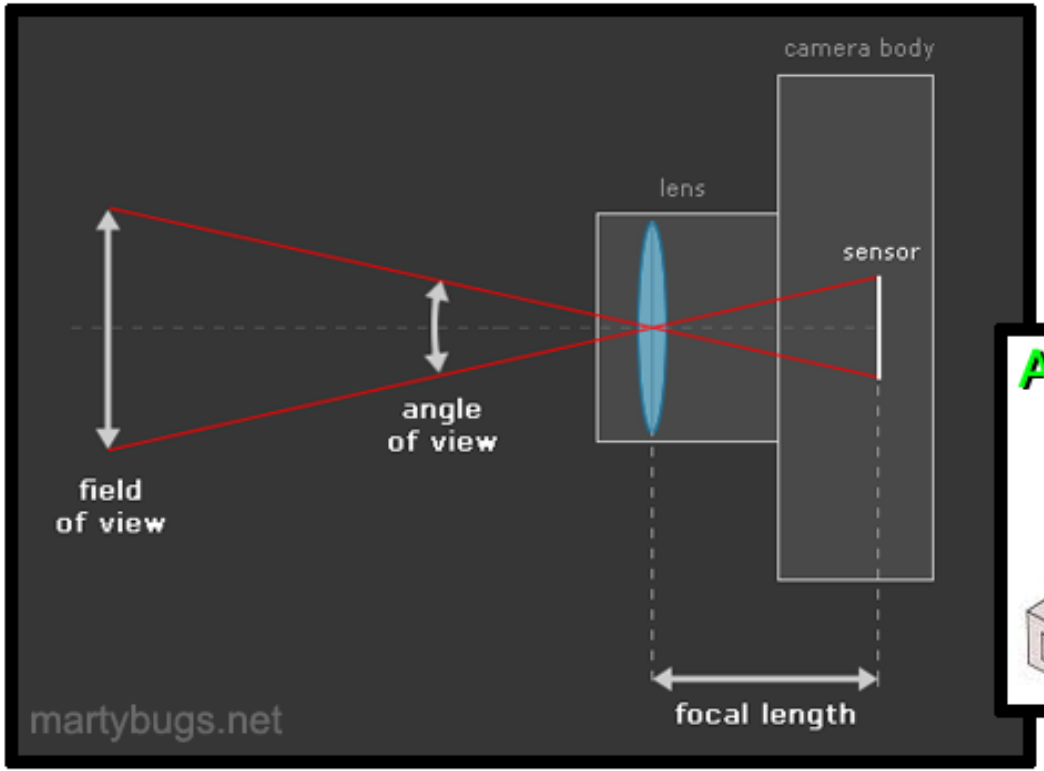
"Don't build assuming you've anticipated every use case!!!"

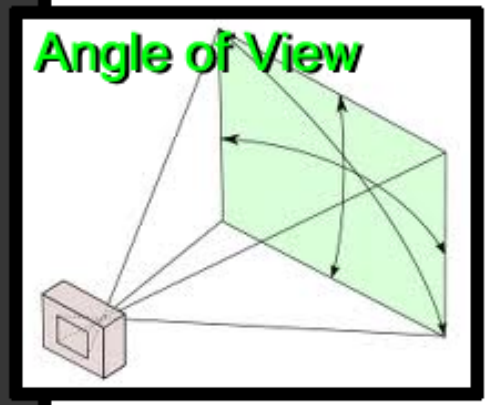
The technical stuff…

- Space-switching
- IK vs FK
- Arc-tracking



Camera Field of View





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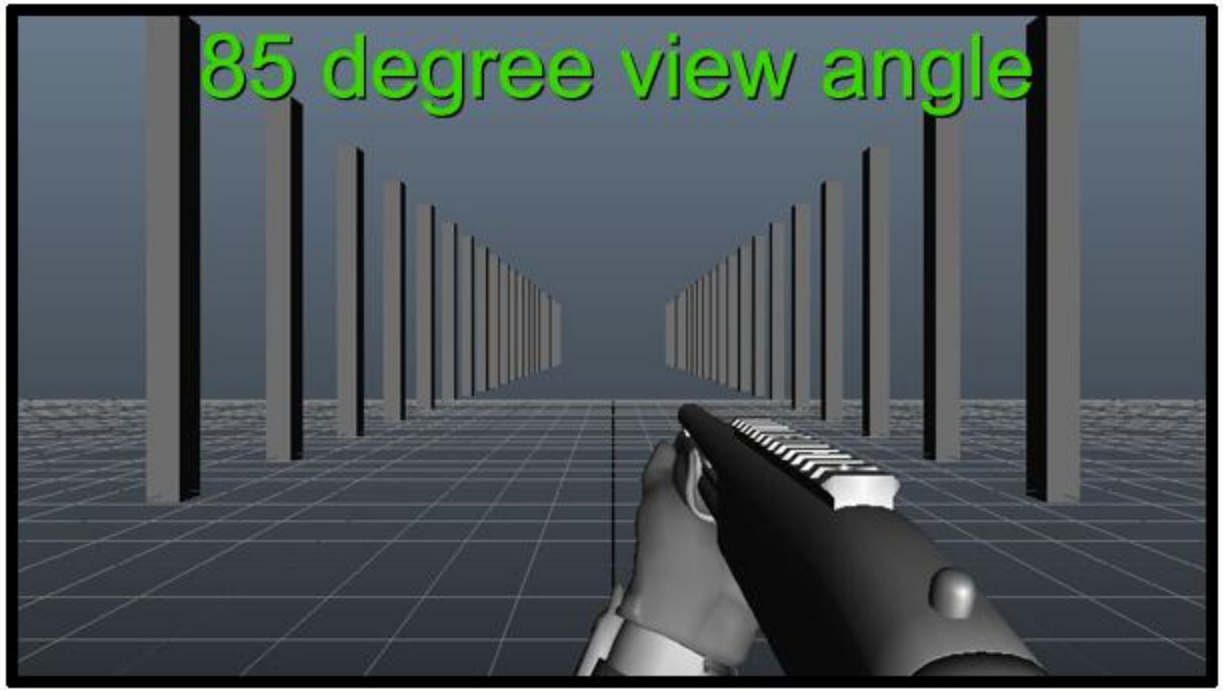

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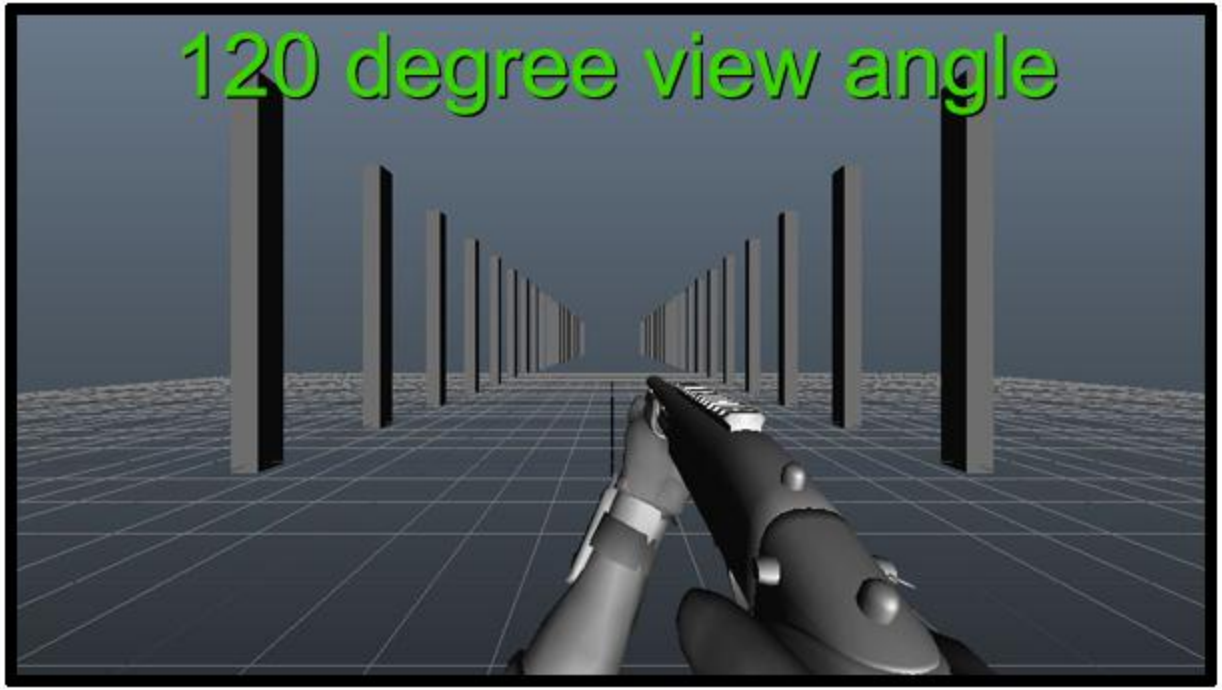

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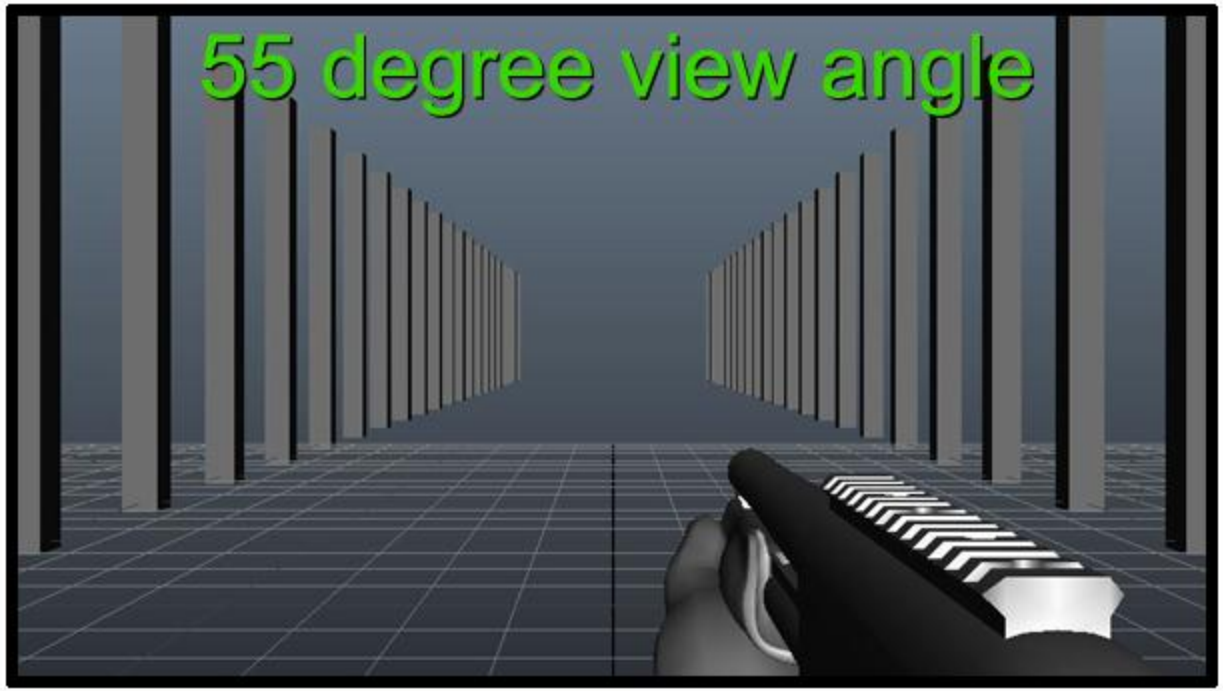

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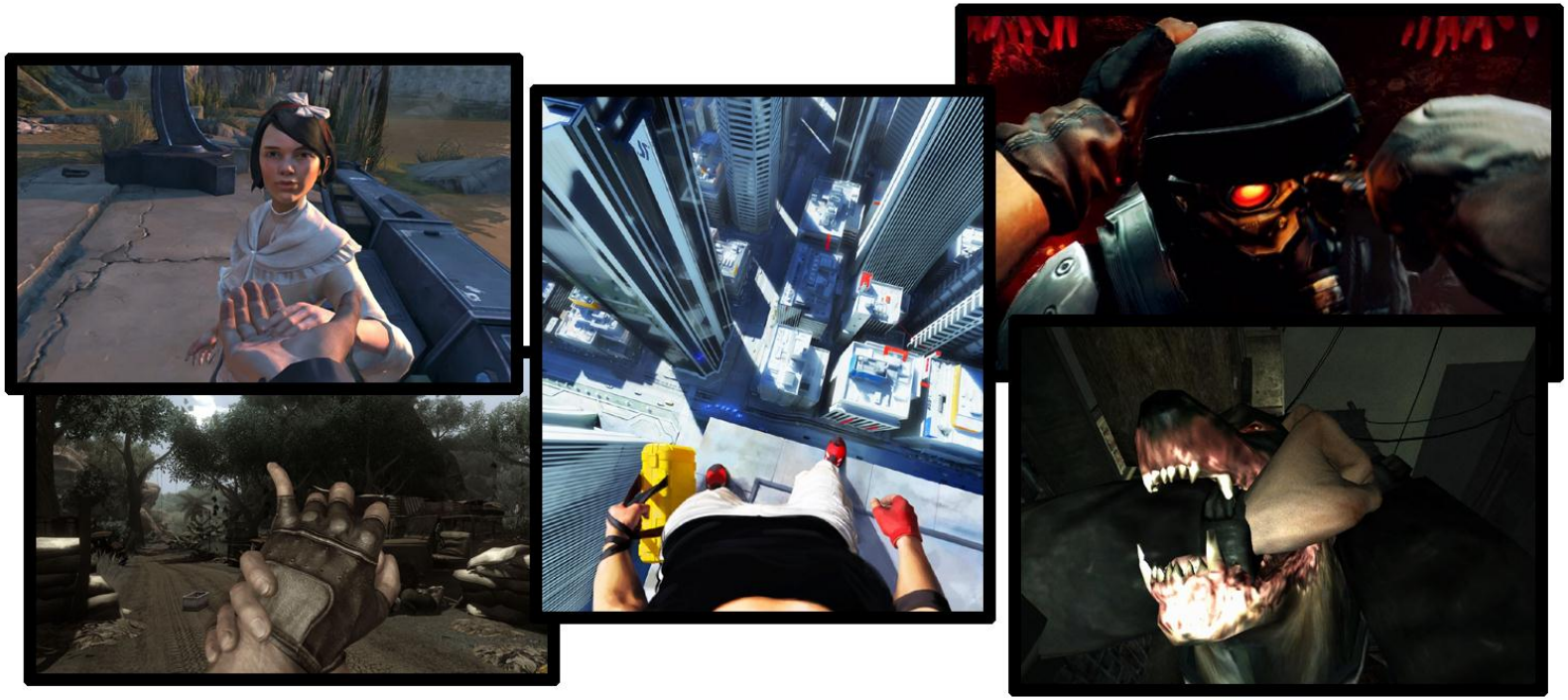
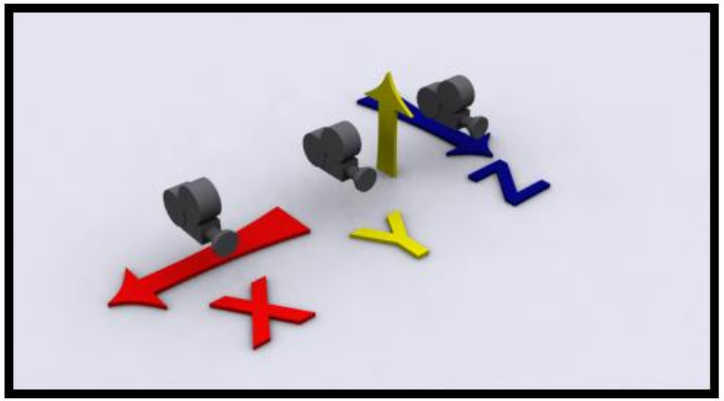
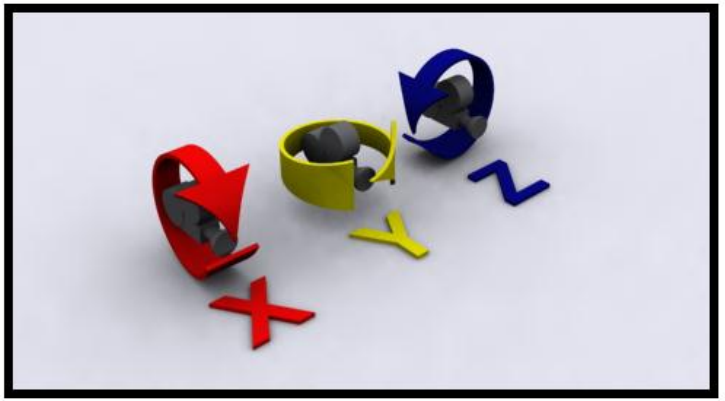


Camera Movement

Camera Movement





Camera Movement

- The camera as punctuation

Camera Movement

- The camera as punctuation
- “Can’t shoot anyway”

Camera Movement

- The camera as punctuation
- “Can’t shoot anyway”
- Rotation & Translation axis

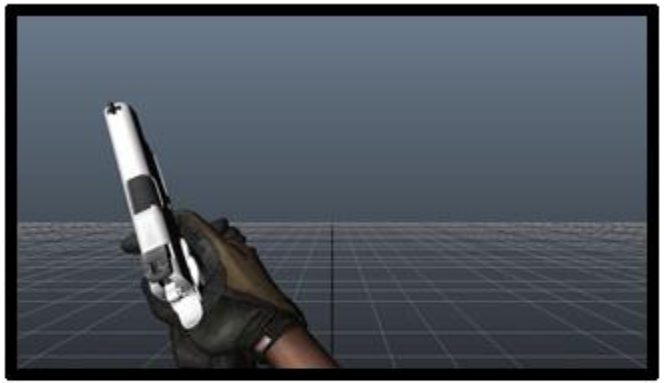
Camera Movement

- The camera as punctuation
- “Can’t shoot anyway”
- Rotation & Translation axis

Firearms handling misconceptions

Firearms handling misconceptions

- Trigger discipline



Bad!

Good!

1st Person Body Awareness

1st Person Body Awareness

Body Awareness & Gameplay

1st Person Body Awareness

Body Awareness & Gameplay

1st Person Legs

1st Person Legs

- “Always on” legs

1st Person Legs

- “Always on” legs
- Legs for the occasion

1st Person Shadows

1st Person Shadows

- Full 1st Person Rig with body

1st Person Shadows

- Full 1st Person Rig with body
- Synchronized 1st and 3rd person animation sets

Body Awareness & Inventory

Cheating Body Awareness

The Future of Body Awareness

and the return of Virtual Reality!

The Future of Body Awareness

Acknowledgements

- Breakdown
- Trespasser
- The Thief series
- Far Cry 2 & 3
- Chronicles of Riddick
- Dishonored
- Mirror’s Edge
- The Darkness
- Metroid Prime series
- Star Wars: Republic Commando
- Battlefield 3
- Bioshock series
- Condemned series
- Dead Island
- Crysis series

Questions

Thanks!

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