Raising Atreus for Battle in God of War

Hayato Yoshidome
Sr. Staff Combat Tech Designer
Santa Monica Studio

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What is this presentation about?

Atreus - the companion AI in God of War

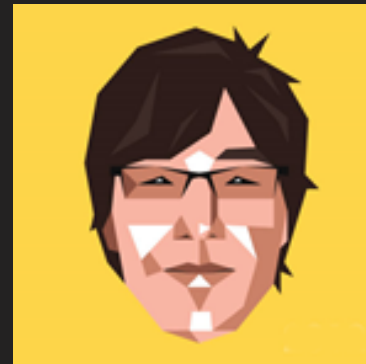- GoW is a 3rd person melee action game with light rpg elements

Combat aspect of Atreus

- The 'How's and 'Why's

Who am I?

Hayato Yoshidome

- Sr. Staff Combat Tech Designer
- SMS for 8+ years

- Titles I've worked on:

Story Time

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Who am I?

My Desk

- Atreus picture frame

- Inspired by Max Dyckhoff's GDC talk
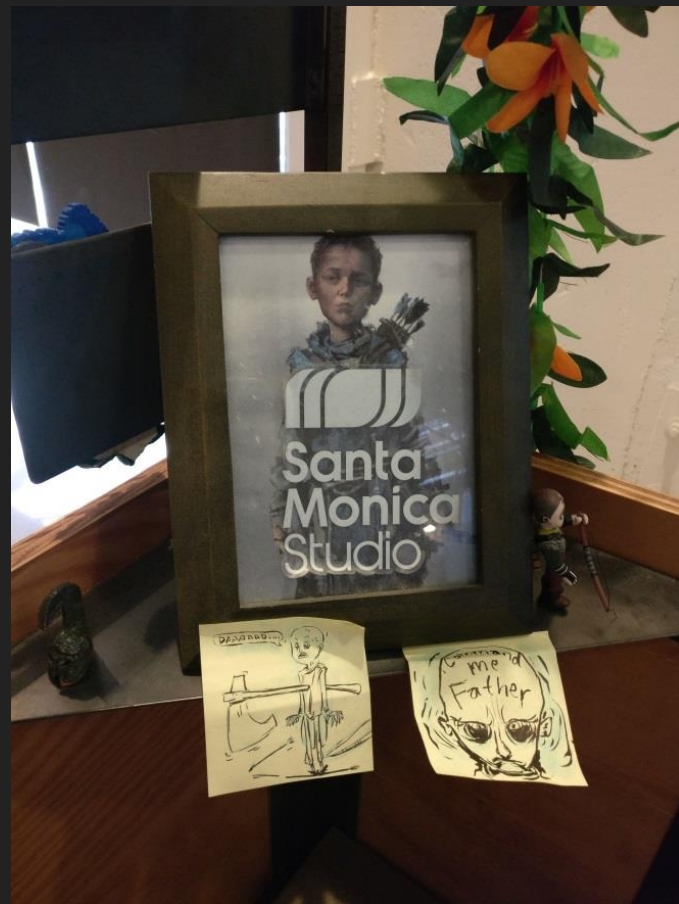
Who is Atreus?

Son of Kratos

- A small child

- Born in Norse setting

- Uses bow

- No formal training

This is how it all started

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Core Pillars

- Support the player

- Do not hinder the player

- Actions always helpful

- No babysitting

Who is Atreus supporting?

Kratos - a one man army!

Support a literal God of War?

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Prototype!

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Initiator

Begin fight with advantage

Looked good on paper but..

Maybe have Atreus be a bit more involved in combat?

Tactician Mode

Offense or Defense

Too much control over Atreus

Split Focus

Atreus
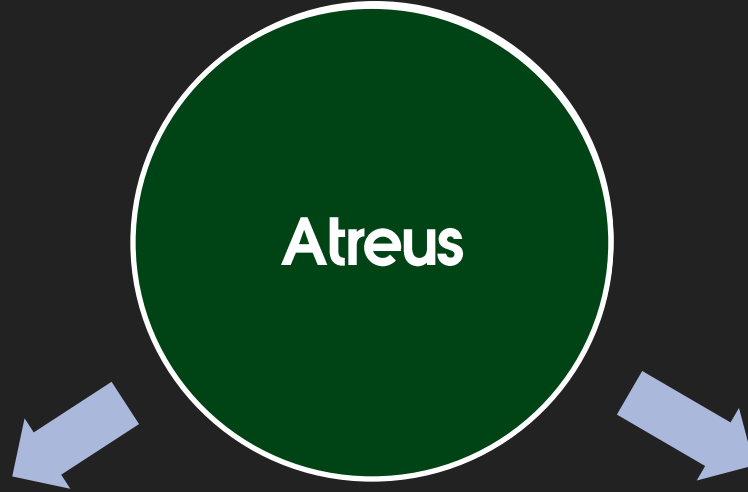
Autonomous Behavior

Behave like a real player

son00 [1]

Son	Command_FireArrow_AllTargets	4/10 @0.13	When
SonBoss	Idle		
TargetMotionBrain	TargetMotionLogic		
POI_Brain	<no state>		
Son.ShootBow Normal Timer	stopped	@1.01	1.00
Son.SpecialAttack Timer	stopped	@20.01	20.00
Son.SpecialAttack Window	running	@0.03	10.00
Son.Command_FollowUp_Window	stopped	@0.00	3.00
IsInNavigationMove	true		
CurrentCombatWeight	0.00		
MaxCombatWeight	5.00		
One vs One Scenario	none		
One vs One Scenario Turn	0.00		
One vs One dtree	DTR_ONE_VS_ONE_DEFENSIVE_NEUTRAL		
Target in nav	false		
Theater of Operation	3.00		
Num of Shots	1.00		
HexTarget	false		
InCombat	true		
FrontAngle	40.28		

Lua Instances

Owner	WAD	Largest Free	Time
WAD_R_Pers	LUA_R_Pers	1591604	284us
WAD_R_UI	LUA_R_UI	362896	1,050us
Player	LUA_R_HeroA00	832388	396us
goson00 (1)	LUA_R_Son00	4552436	2,148us
WAD_TBAICast	LUA_TBAICast	941556	23us
gobandit00 (31)	LUA_TBAICast	425876	1,514us
gobandit00 (35)	LUA_TBAICast	427892	1,228us
gobandit00 (39)	LUA_TBAICast	427844	1,487us
gobandit00 (44)	LUA_TBAICast	429140	1,278us
gobandit00 (48)	LUA_TBAICast	427476	1,011us

Debug Tilt Track

TBAICast
Son00
bandit00
DarkO...
Draugr...
Fanatic...
jotunn...
Wolver...

Results

Deep Dive

Support archetype problems

Core issues:

Presence

Perceived Impact

Weak Enemies

Let's address the core issues

Presence

The reality:

Presence

Press □ to command Atreus to shoot arrows

Presence

Resolution:

- Use melee weapon

- Dynamic Poses

- Change positioning

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Presence

Bow as a Melee weapon:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Dynamic Poses:

SunhiLegend

Presence

Dynamic Poses:

Presence

Dynamic Poses:

Presence

Positioning:

Intuitive does not mean interesting
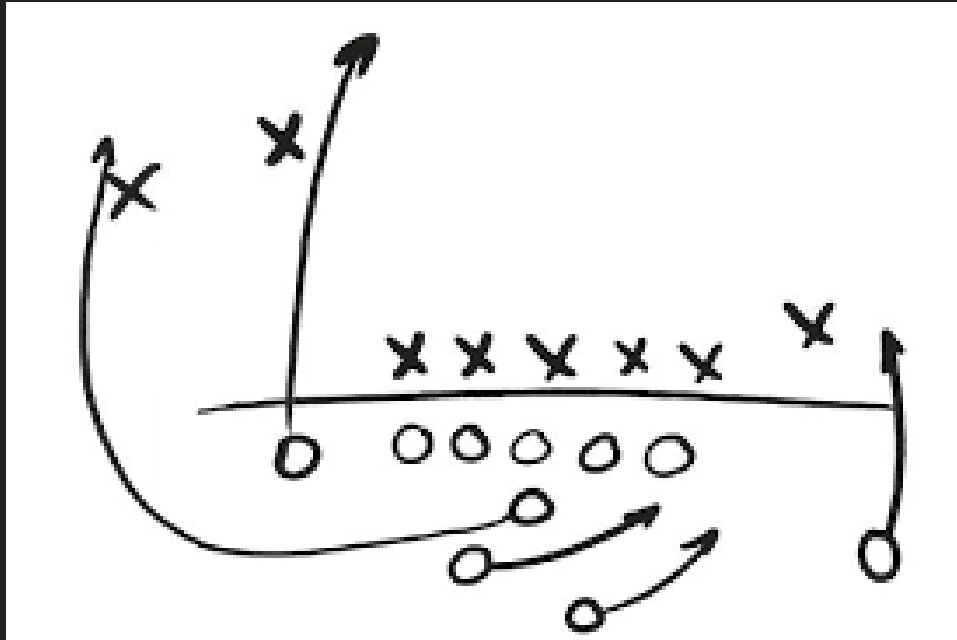
Presence

Positioning:

Go behind player's target

Presence

Positioning:

Intentionality in movements

Presence

Positioning++

Warping!

Presence

Positioning++

- Edge of frustrum

- Closest to enemy
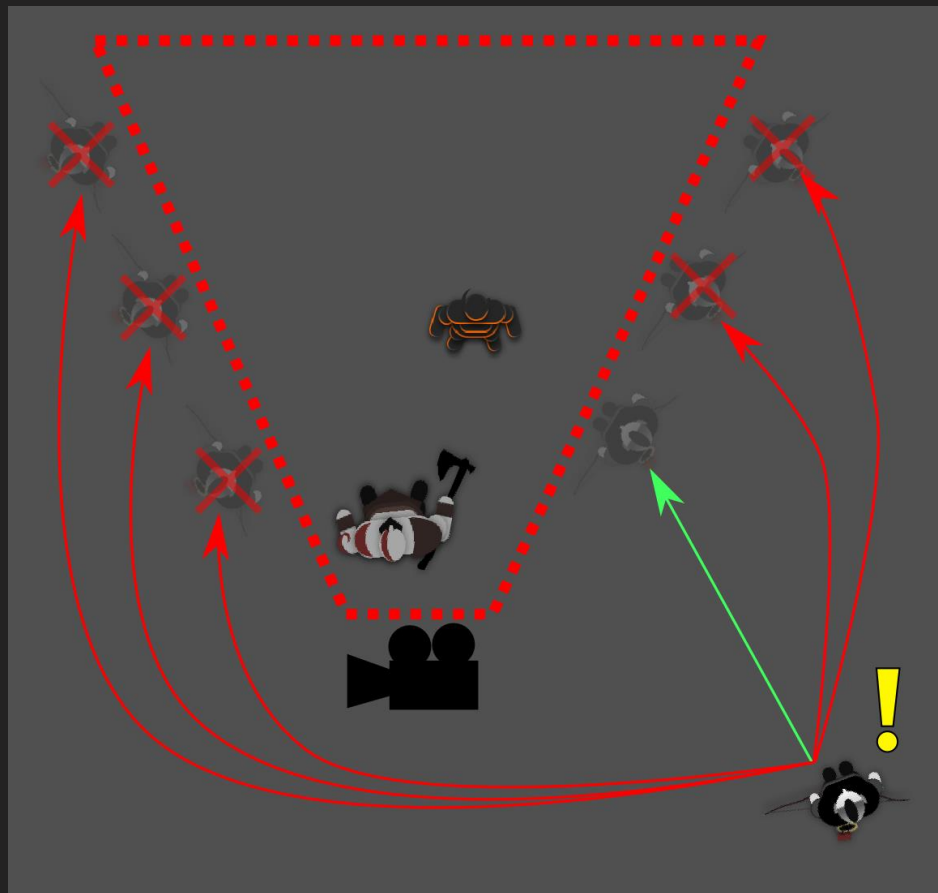
Things to fix

Checklist:

Presence

Perceived Impact

Weak Enemies

Perceived Impact

Perceived Impact

Resolution:

- Macro to Micro

- Focus on the player's target

- Be reactive

Perceived Impact

Focus on player actions:

Launched? Shoot!

Pinned? Keep them pinned!

Attacking? Grab them!

Grounded? Beat them down!

Blocking? Trip them!

Things to fix

Presence

Perceived Impact

Weak Enemies

Weak Enemies

Weak Enemies

Resolution:

- Increase enemy health

- Atreus provides shortcuts to defeating enemies

Things to fix

Checklist:

Presence

Perceived Impact

Weak Enemies

Key findings

Follow ups

Timing is everything

- Don't interrupt
- Preserve momentum

Do not touch!

Touch my target!

Support actions

Be mindful

- Carefully use disruptive actions
- Respect the reaction hierarchy

Basic   <   Stumble   <   Flyback   <   Crumple

Looks good but..

Offense only

- Helpful only when offensive

- Passive when defensive

Helpful Behaviors

Actions

• Calling out threats

• Protect from offscreen threats

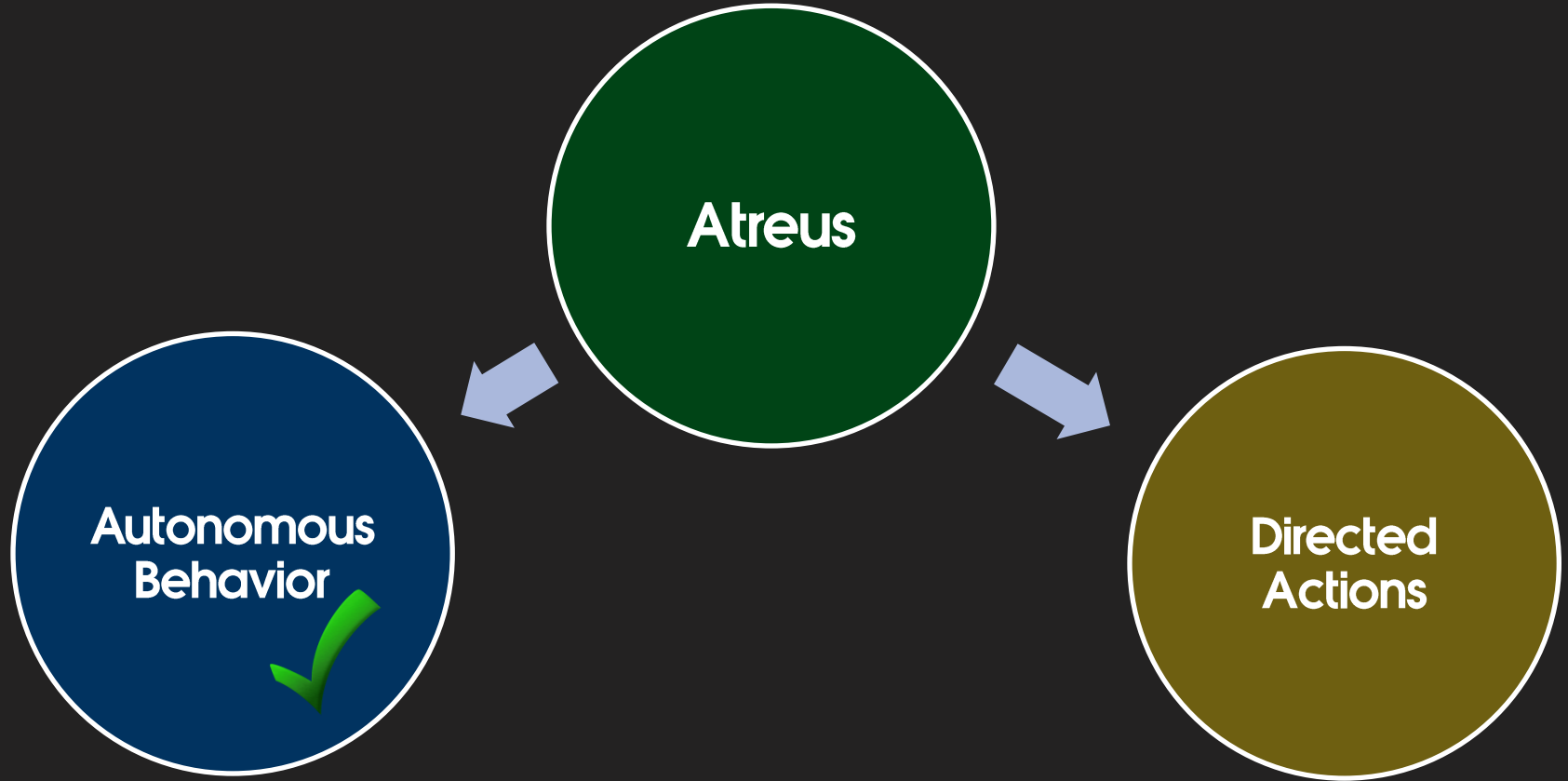• Reviving player

• Detecting danger

Helpful Behaviors

Danger meter

- Evaluate fight
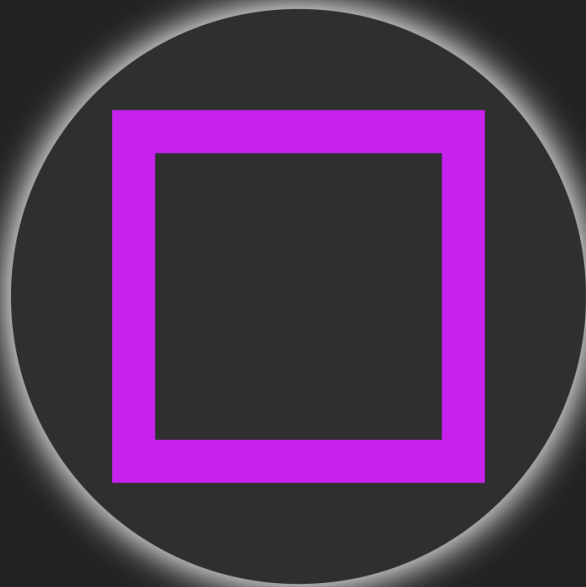
- Increase when conditions met

- Decrease when offensive

Directed Actions

Son button:

- Always wanted dedicated button

- Examined on-demand actions

Directed Actions

Ensure the actions were:

- Always reliable

- Doesn't disrupt the player

- Has a predictable outcome

- Always helpful

Directed Actions

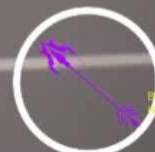Initial attempt:

- Supportive
- Focus on Crowd Control

Press pad: Toggle zero time
Tap pad: Frame step
Tap/hold pad: Slow motion

Build 182 (p4 #1522548)
Hostname: 10.30.8.65

Son_ArrowCount   0:02:48
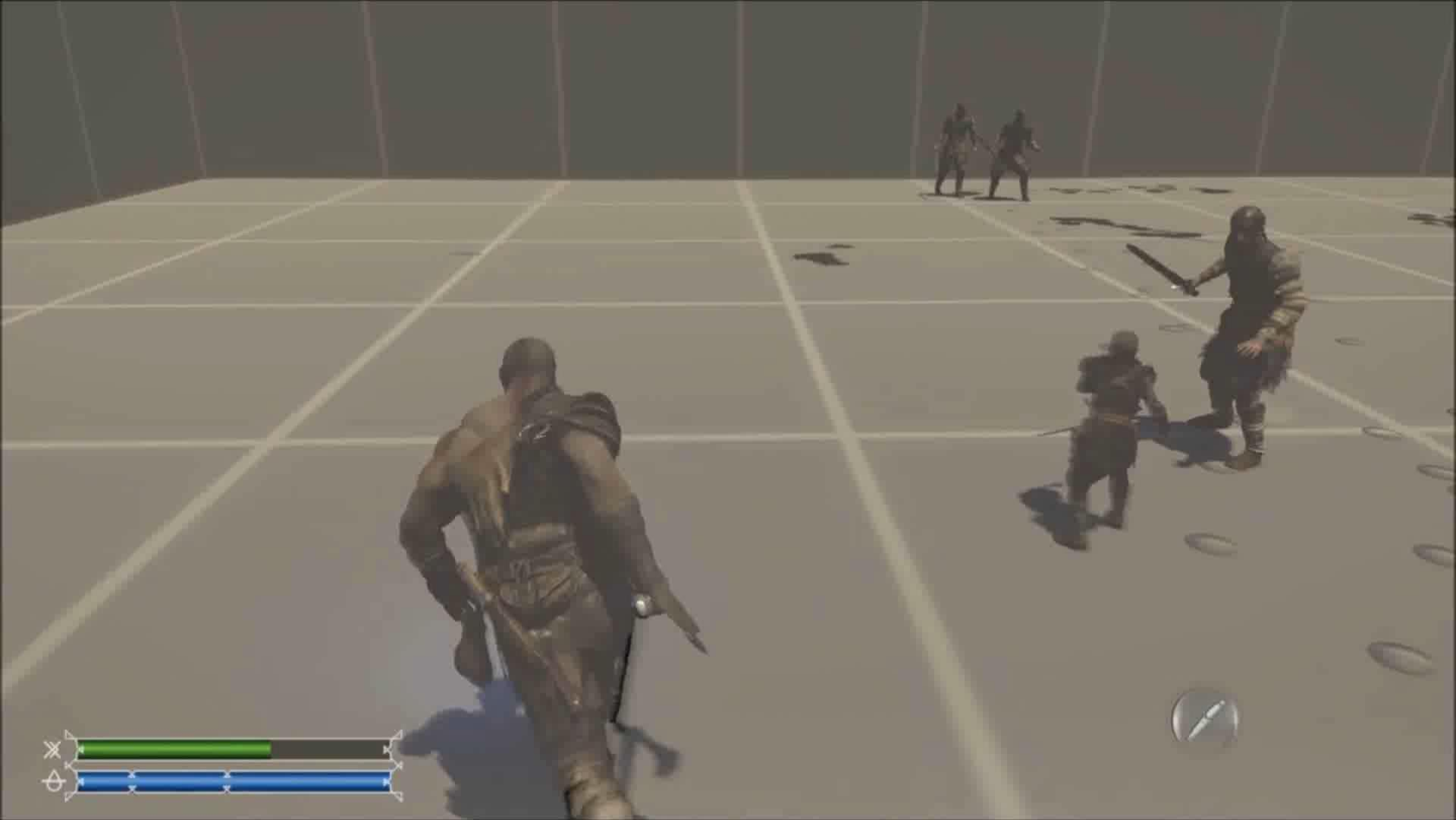#201

Directed Actions

Second Attempt:

- Try damage

- Melee and ranged

- Melee attacks regenerated arrows

- Risk factor when using melee

Directed Actions

Issues at hand:

- Random looking results

- Risk layer was not engaging

- No synergy

Directed Actions

Tagging mechanic

- Arrows tag enemies

- Detonate tag with shield bash

- Causes flyback reaction
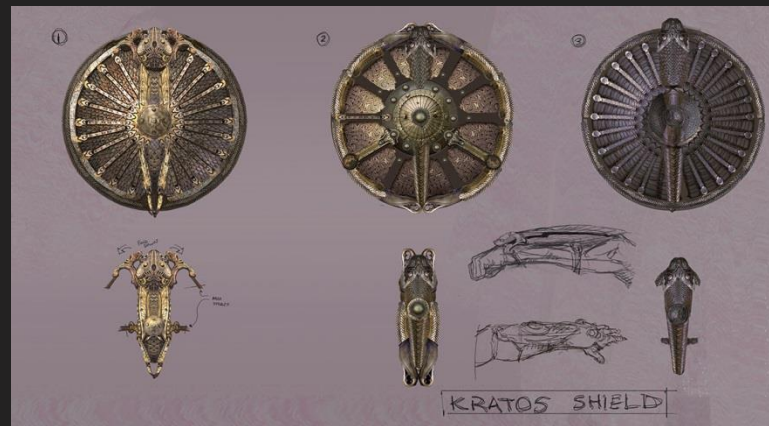
Press pad: Toggle zero time
Tap pad: Frame step
Tap & hold pad: Slow motion

Directed Actions

Back to the drawing board

Directed Actions

Key Happenings

- Player mechanics finalized

- UI

- Stun System

- Autonomous Behavior findings

Directed Actions

Purpose of runic arrows

- **Main**: Aggro and apply stun
- **Secondary**: Damage and status
- **Nuanced**: Extend combo and expose backside

Directed Actions

Controls

- **Iron Sight**: Shoot at reticle when aiming
- **Hip Fire**: Pick best target when not aiming

Iron Sight

Hip Fire

Directed Actions

Balancing shots

- Overpowered early on
- Limit Rate of fire and ammo count
- Key invulnerability

Directed Actions

Runic summons

- Atreus special move (Hold Square)

Putting it all together

Player Commands
Square input

⬇

Autonomous Behavior Tier 1
Listen/analyze player actions and attempt to follow up

⬇

Autonomous Behavior Tier 2		
Actions that randomizes the battle	Resolve enemy collision	Perform onscreen beneficial actions
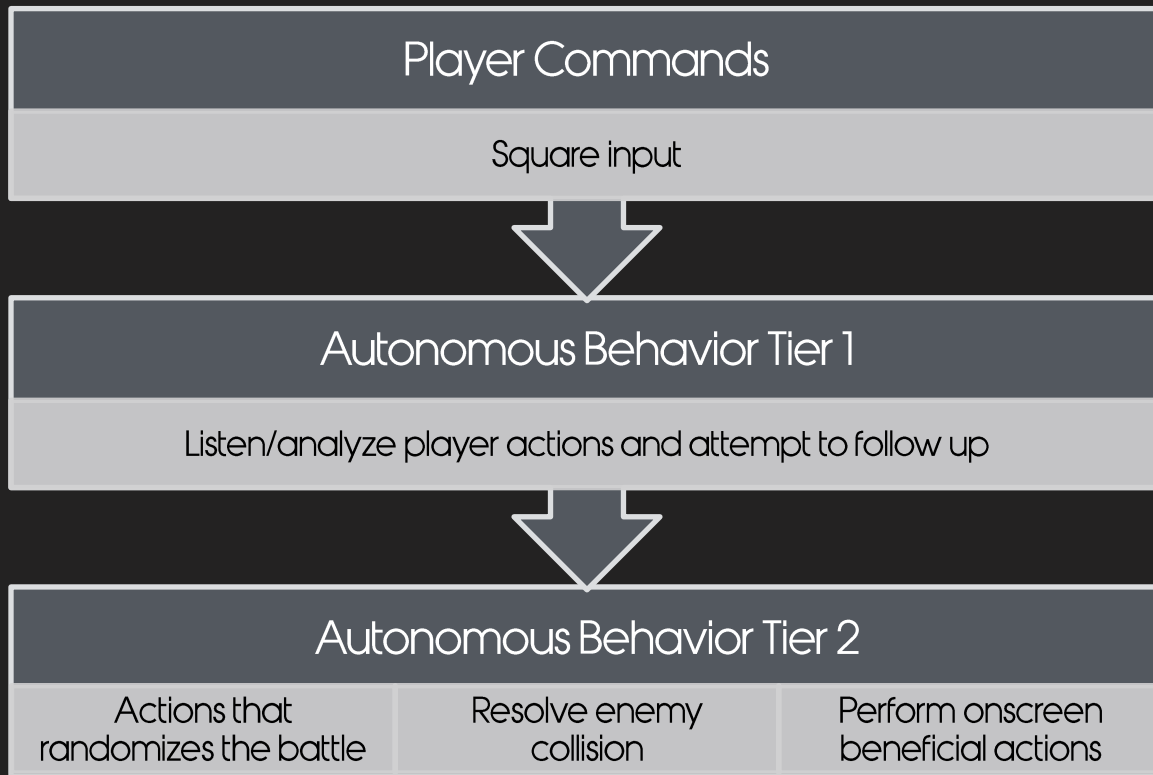
Additional Systems

Death

Ruleset

- No death

- Followed Core Pillars

- Incapacitation was ok

Customization

Playstyle Customization

- Early concept of teaching Atreus
- Customize through gear and skill tree

Skills

Skill Tree

- Created towards end

- Resources shared with player

- Ensure upgrades are worth it

Key Takeaways

Beginner vs Advanced

AI Mechanics

- Easy to perform and understand

- Add depth for advanced players

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Advanced++

Teamwork

- Notice Atreus' intentions

- Become a better teammate for Atreus

- ???

- **Profit!**

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Narrative

Combat changes

- Atreus behavioral changes
  - Difficult balancing

- Combat actions supported narratively

Reimagining

Combat changed frequently

- Old ideas became relevant often

- Keep scripts/prototypes modular

Combat Doubt

Get the right people to believe in your system

• Rally the right people to garner support

How well did Atreus do?

Public perception

- "Atreus' impact cannot be understated – he's both an asset to the story and in battle." – **IGN**

- *"My biggest takeaway from the new God of War is that a developer has finally cracked how an A.I. companion can be the best part of a video game. And it only took 20-odd years to do it."* – **GQ**

Public perception

\"The Boy is one of the better AI companions in video games"

- Reddit thread (**RiceBeanAndChees**)

Thank you!

Special thanks to the fans and the team!

hayato.yoshidome@sony.com

SIE Worldwide Studios

Lead Combat Designer : Mihir Sheth

Evolving God of War Combat

(Tomorrow) March 22nd 1:30 – 2:30

SIE Worldwide Studios

Q&A Session