



by guy whitmore

Live Orchestra Meets
Highly Adaptive Score

Having your orchestral cake

...and interacting with it too!



forget the words:

adaptive interactive

let's talk about:

storytelling

timing

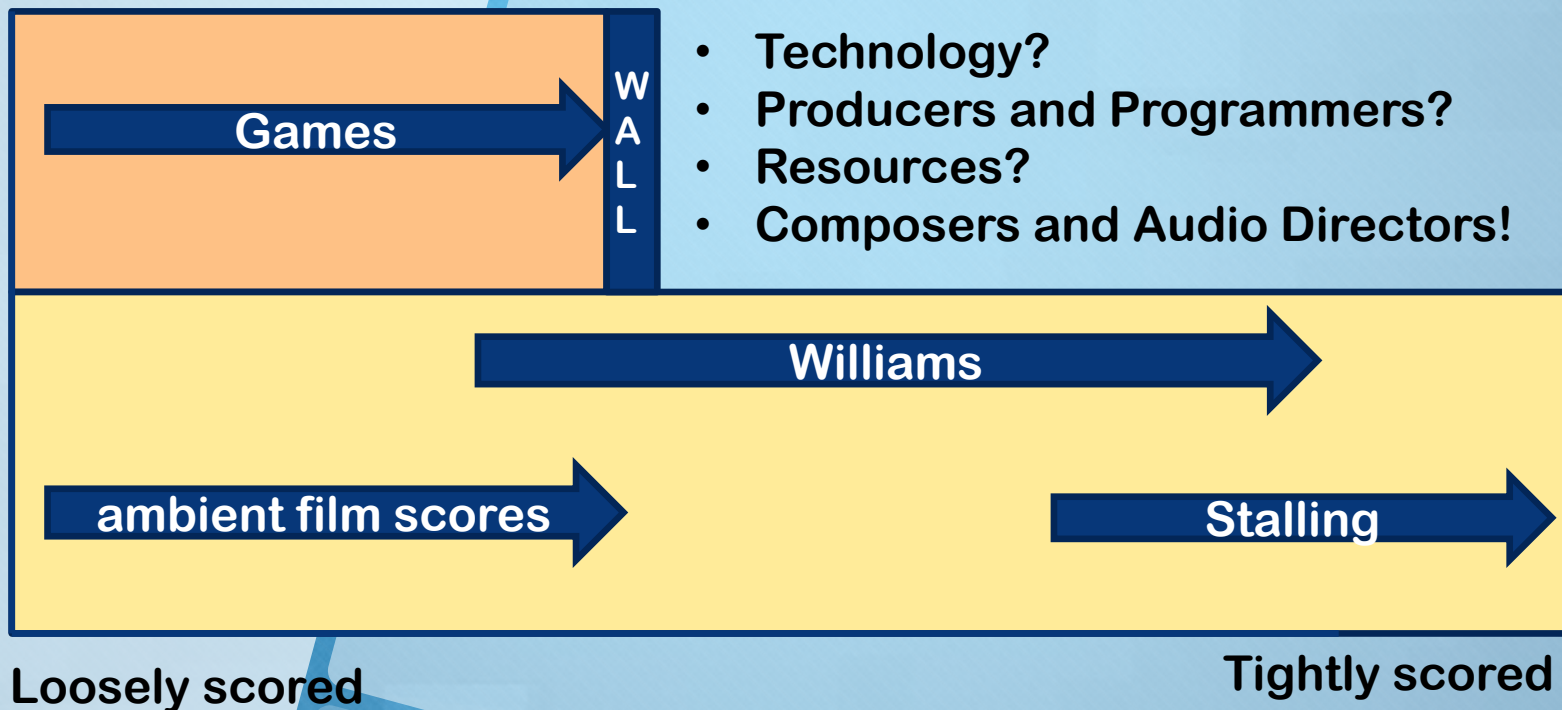
transitions

emotional arc



Movie Clips

Loose vs. Tight Scoring



where it all began...



Creativity Always Lead the Technical

Peggle 2: Concept to Reality

- Imagination
- Aesthetics
- Design
- Engineering
- Production

what are the possibilities?

what's the story we're telling?

creativity meets logic

bringing it to life

fruition

The Prototype

Play It Don't Say It!





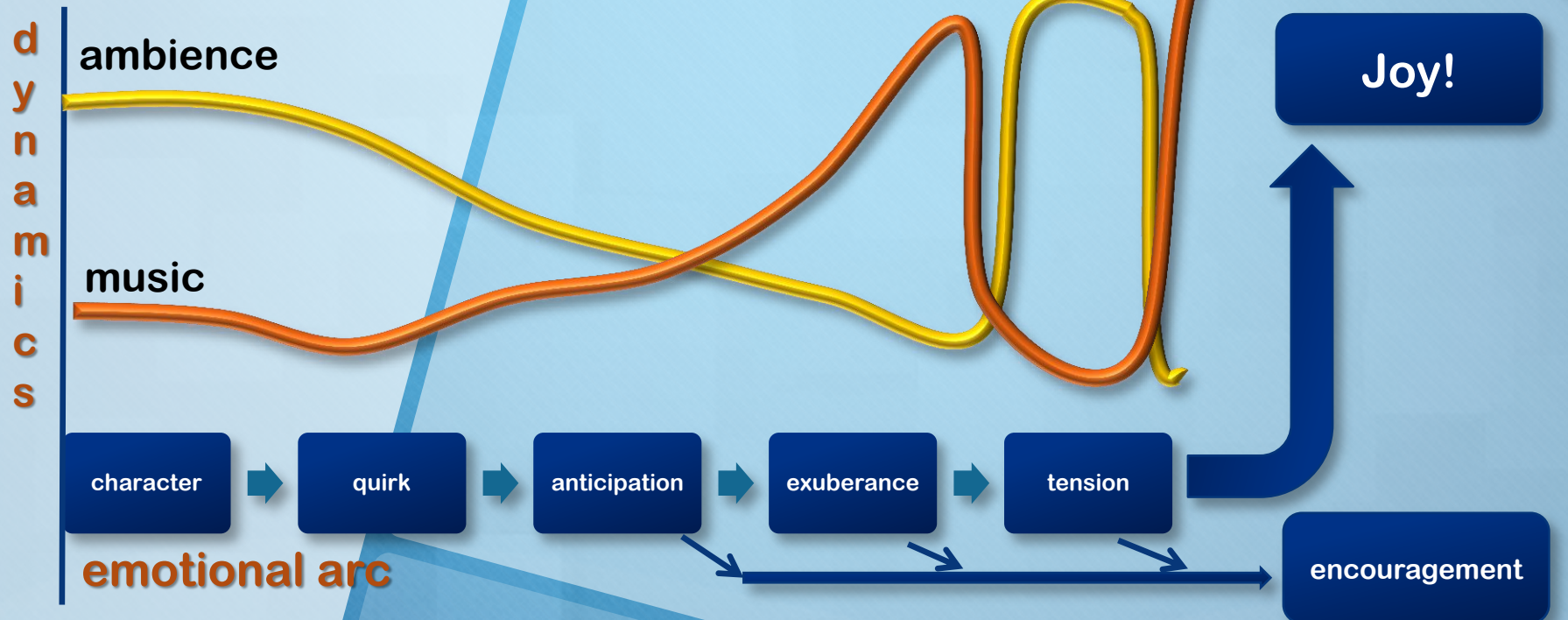
Bjorn

The Archetype

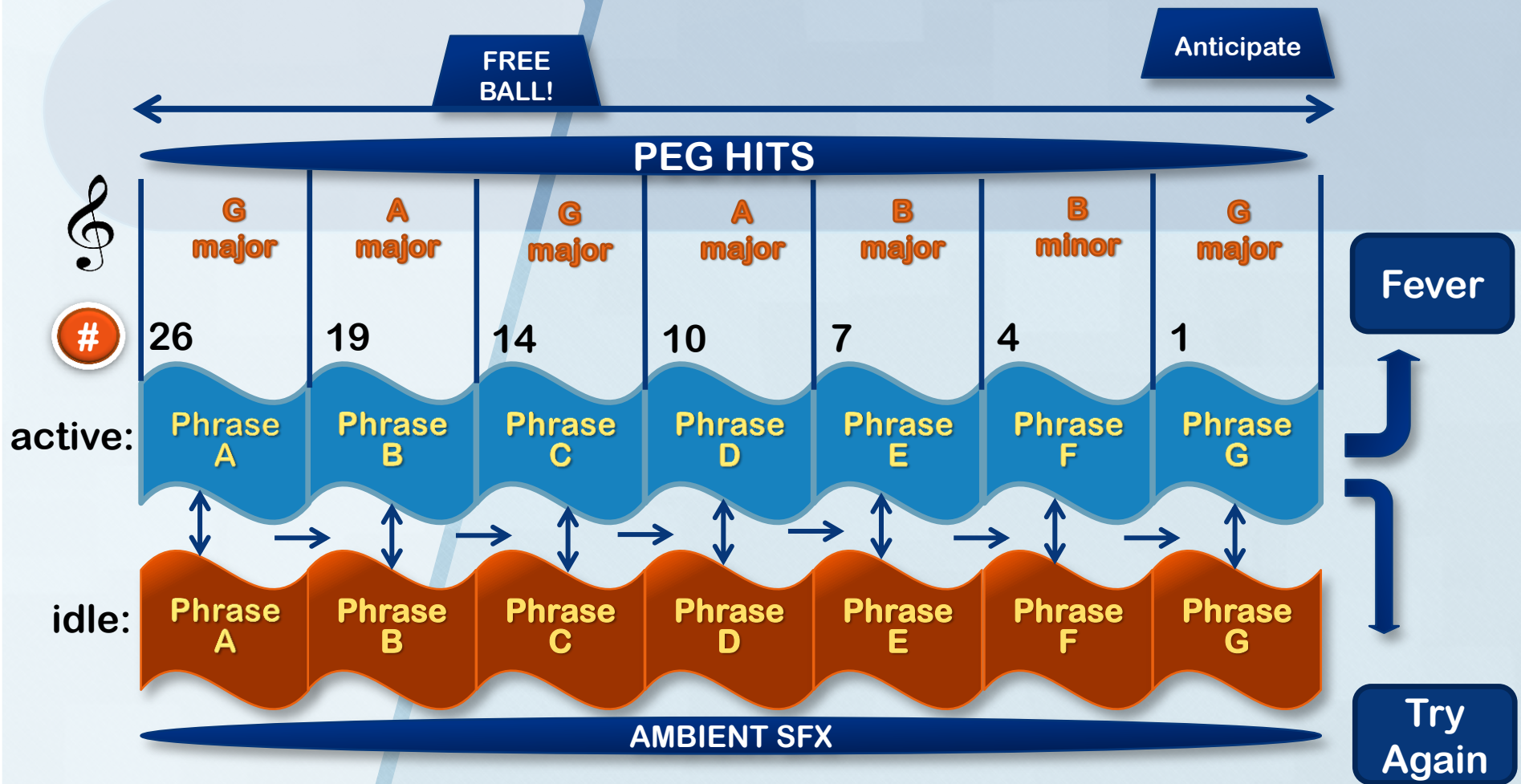
Dynamic

Story Arc

of a single game level



single game level

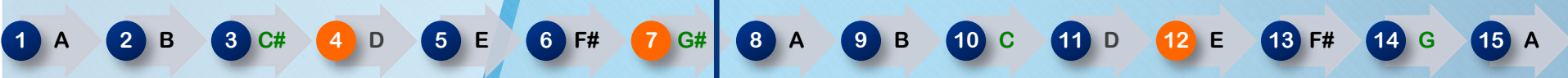


Music Design Graph

RTPC calls: peg-hit number & phrase number

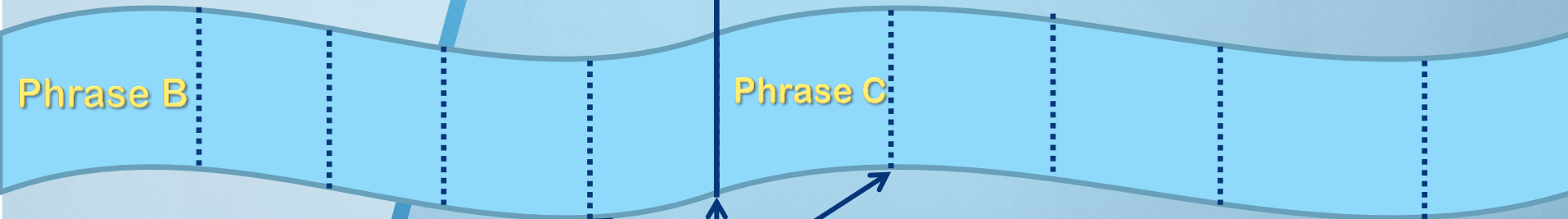
Peg-hits: ...become melody

stepwise ascending scales



A major

G major



transition boundaries



Luna

The 'Music Set' concept



The Nonlinearity of Games Calls for Flexible Music

Elemental Music

- **Keep music in its component parts**
 - **The more granular the more flexible**
 - **Vertical (instrument tracks ‘stems’)**
 - **Horizontal (phrases, notes)**
- **Elements are arranged and assembled at run-time**
- **Final arrangement and mix created as the game is played**



Recording The Orchestra

- **Classical Excerpts**
- **Original Score**
- **Peg-hits**
- **Microphones**
- **File prep**

60 piece orchestra plus choir
recorded in phrases and sections
chromatic single note recording
close and overhead
light mastering

Recording Session



Game Console and Audio Engine as DAW

Mixing in the (X)Box



Final music arrangement and audio mix

- are created in real-time

- as the game is played



DSP:

Keeping it Real-time

- **Reverb and adaptive music**
 - Seams and tails
 - It's another element that can be separated
- **Contextual mixing**
- **Delays, flange,**
- **Limiting/Mastering**

Surround Mixing

- Aesthetic license to be bold
- Source based mixing
 - Format agnostic (5.1, 7.1 etc.)
- Classical Excerpts
 - Close microphones - front L/R,
 - Overhead microphones - back L/R



Wwise:

Authoring Demo

- **Bus mix architecture**
- **Phrase progression**
- **Stingers**
- **Profiler**
- **Surround Panning**



Game Modes

- **Adventure**
- **Trials – Remixes**
- **Duels – 2 Player**
- **Peg-Party Multiplayer**



Team:

In House

- Guy Whitmore
- Jaclyn Shumate
- Damian Kastbauer
 - Becky Allen
 - Pam Aronoff
 - Jason Wolford

- Composer / Audio Director
- Audio Lead / Lead Sound Design
- Technical Audio Lead
- Composer / Sound Designer
- Sound Designer
- Sound Designer



Team:

Outsourcing

- **Stan LePard**
- **scntfc / Andy Rohrman**
- **Sound Rangers**
- **Formosa Group**
- **Dynamedian**

- **Orchestration/Composition**
- **Music Remixes**
- **Ambiences**
- **Character SFX**
- **Classical Excerpts**



Future Pulse

- **Seamless workflow between traditional DAWs, game authoring tools, and audio engines**
- **Further granularity:**
 - **MIDI – software samplers, synthesizers**
- **Deeper more sophisticated algorithms**
 - **Created by humans for humans**



Only You!

...can advance the craft of game scoring

- Tools are robust and widely available
- Patience & Tenacity – play the long game
- Play it don't say it
- Don't let the geek trump the artist
- The way is many ways - chart your own path

Q&A ???



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