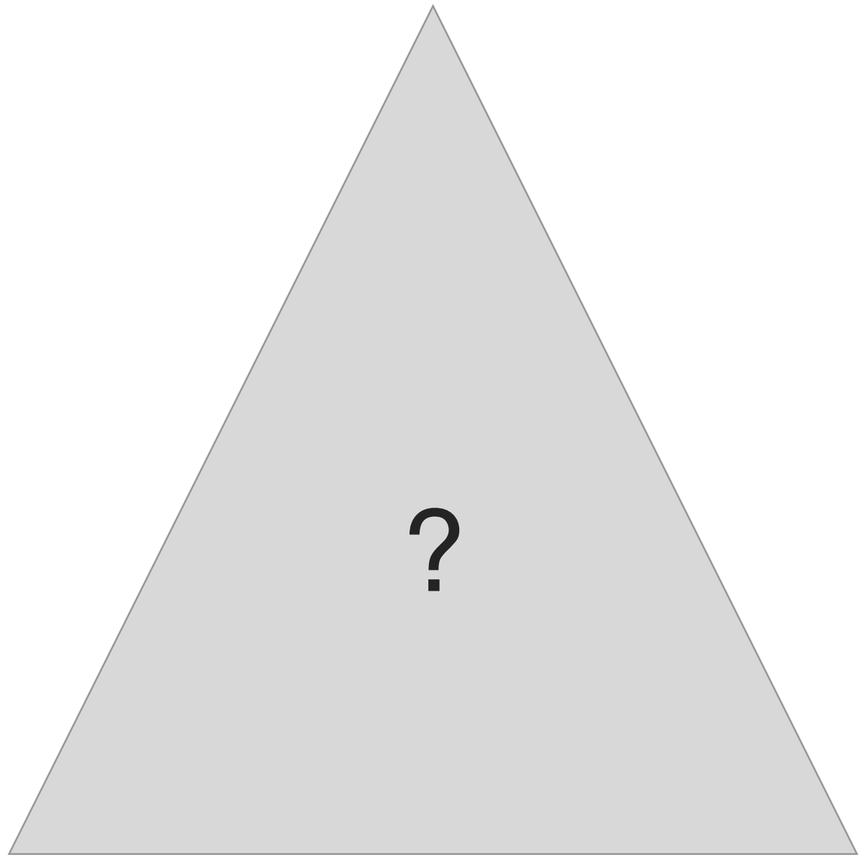
A symbolic UI

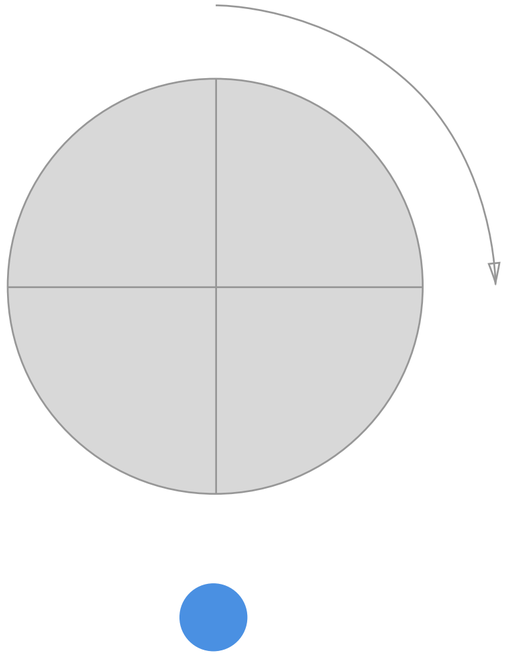
Each chamber has a symbol
Each Beacon within the chamber has a symbol within the symbol
Narration / track duration is indicated via stroke opacity



8

Advanced Interaction Five

Motor Movement Installment



Await till objects position is equal to “blue dot”. Once lined up audio activates.
Calculate duration of one full 360 circle of Arduno controlled motion. Match with audio accordingly

Technical difficulty rating ★★★★☆

Core Location API for Unity 3D

http://u3dxt.com

Don’t Design Features That Require Precise Distance - The Far, Near, and Immediate buckets are pretty reliable. Knowing that you’re 14 feet from a beacon is not nearly as easy to ascertain in a consistent manner. If you design your features around the loose proximity buckets, you will be able to deliver a more consistent user experience.

Account for “Noise” and Some Uncertainty - The variation in radiation patterns of Bluetooth Low Energy will generate some uncertainty on the device. You may see oscillations in *proximity* between *CLProximityNear* and *CLProximityFar* during ranging, and you may see *CLRegions* pop in and out of range if you’re on the fringe of the BLE broadcast range. This is a reflection of the physical realities of the Bluetooth Low Energy signals in the environment. It’s a bad idea to tie a user notification or something interruptive directly to a state change, because if there is some noise, it may generate repetitive events. (Many demos, including ours, do this for the sake of simplicity, but it’s not an ideal mechanic for the real world).

Entering a Region is More Immediate Than Leaving a Region - This is fundamental to how entry and exit events are triggered for a *CLBeaconRegion*. Moving from outside to inside a beacon region causes *didDidDetermineState:* to fire quite quickly (usually) because the device encounters a new signal. However, leaving a region is more tricky to determine – it can either be that you’ve left the region, or that you’re momentarily in a spot with low signal strength. Core Location attempts to buffer this on your behalf so that events are not continuously oscillating between inside/outside a region. However, this means that it takes a while for a *CLRegionStateOutside* to fire if a device moves out of the range of a beacon. You need to keep this in mind when designing features that respond to leaving a *CLBeaconRegion*.

http://developer.iotdesignshop.com/tutorials/integrating-ibeacon-with-your-apps-the-beacondemo-project/

http://support.apple.com/en-us/HT202880

WWDC video on Core Location API and iBeacons
https://developer.apple.com/videos/wwdc/2014/?id=708

Indoor Positioning - Sign Up
http://mapsconnect.apple.com

Maps
Maps & Core Location API
http://developer.apple.com/maps

iBeacon
iBeacon Technology & Licensing
http://developer.apple.cp,/ibeacon

IBeacon technology is about Promixity, what is near me. Not current location use the Core Location API for this.

- Immediate: Within a few centimeters
- Near: Within a couple of meters
- Far: Greater than 10 meters away

didEnter iBeacons

Proximity iBeacons - filter how close

Major iBeacons - Chamber

Minor iBeacons - Exhibit

Patent pending EYELINE PARALLAXING!!!!!

OMG

Paralallaxing UI design using the Rondo Motion head rotY, rather than the conventional accelerometer + gyo.

Surround Sound is working just on the rotY right?

Narrative Bjorks voice always comes from the front (centre channel)

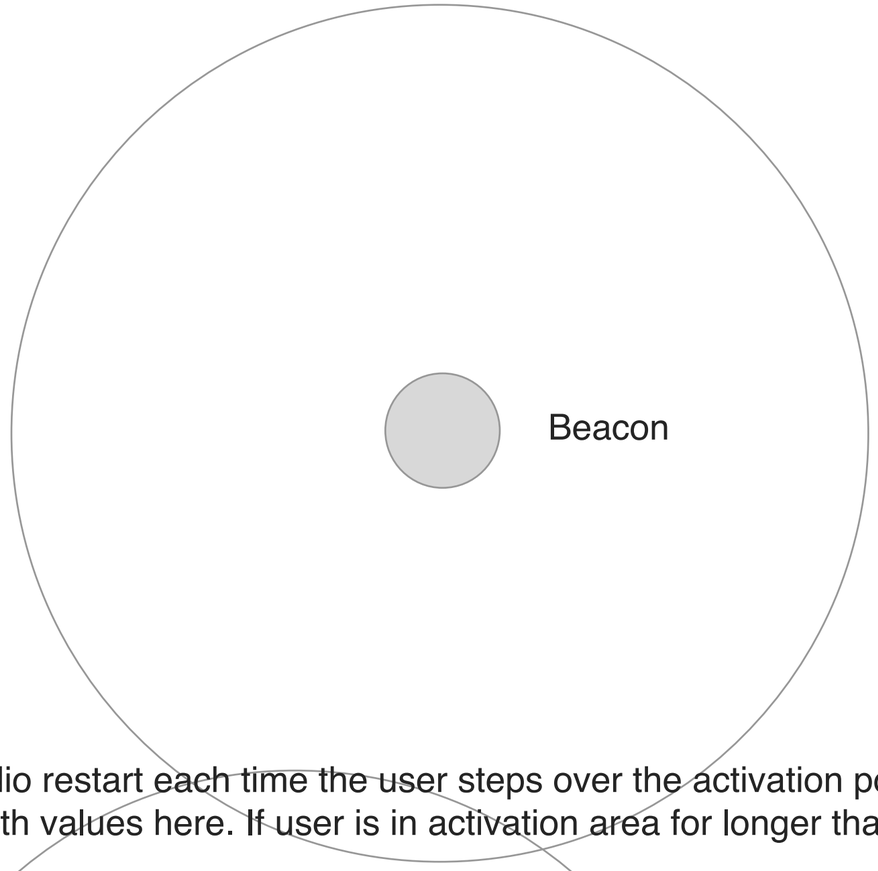
At the end of each section Bjorks voice whipers “come this way”

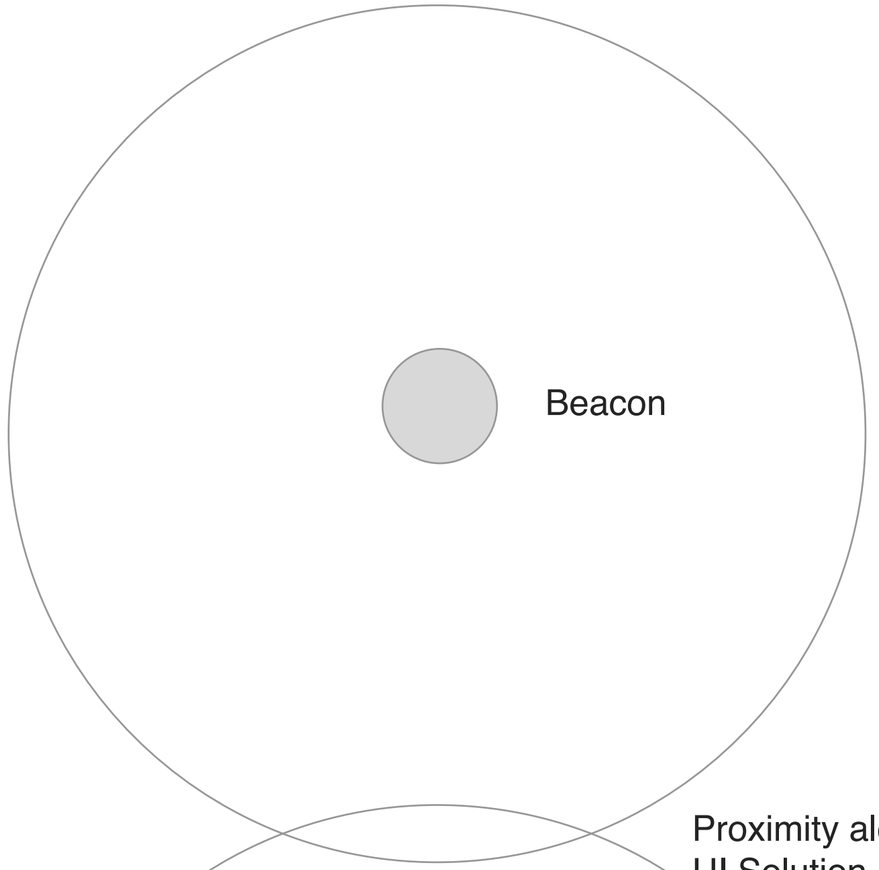
Flip horizonally Heaphone (L & R) if wrong way round

Calculated via the first ibeacon being infront at the lobby

Bjorks voice at the end of each section come this way

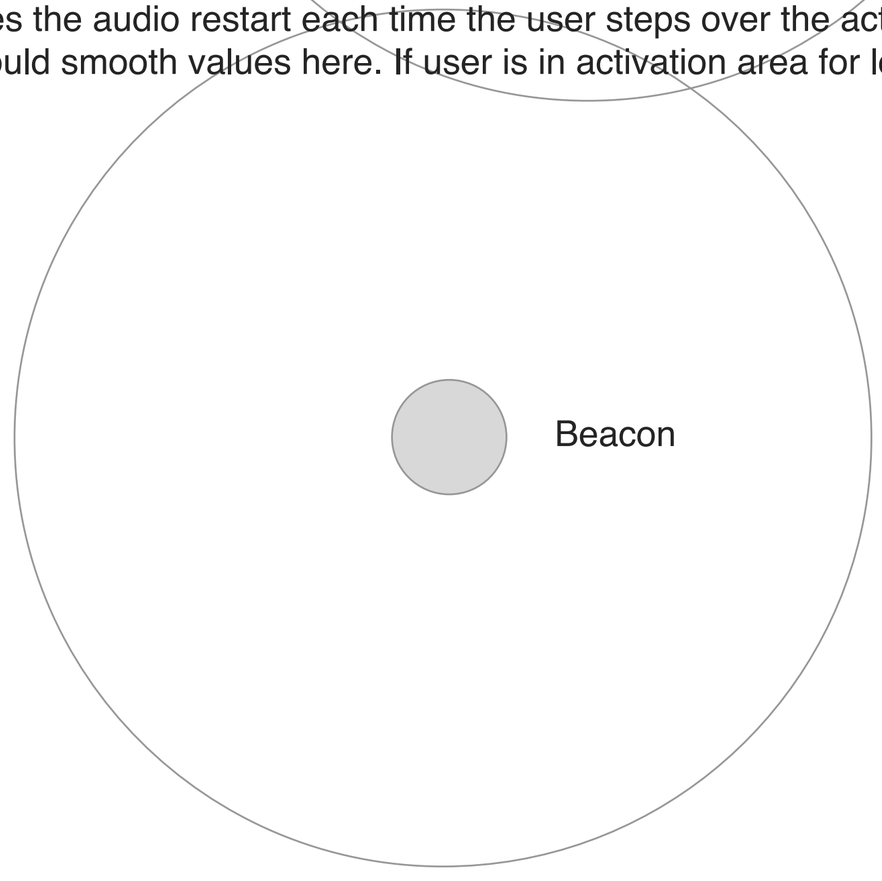
Touch iPod to hear Bjorks voice direct you to the next beacon

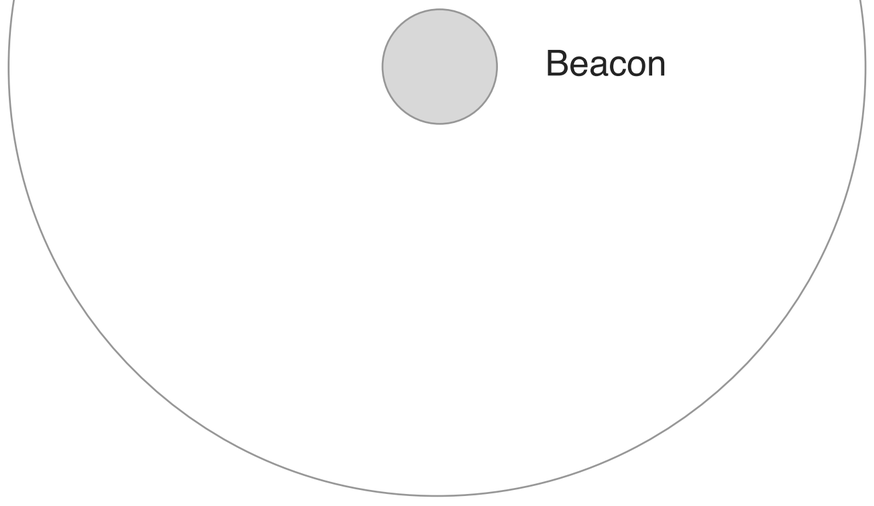




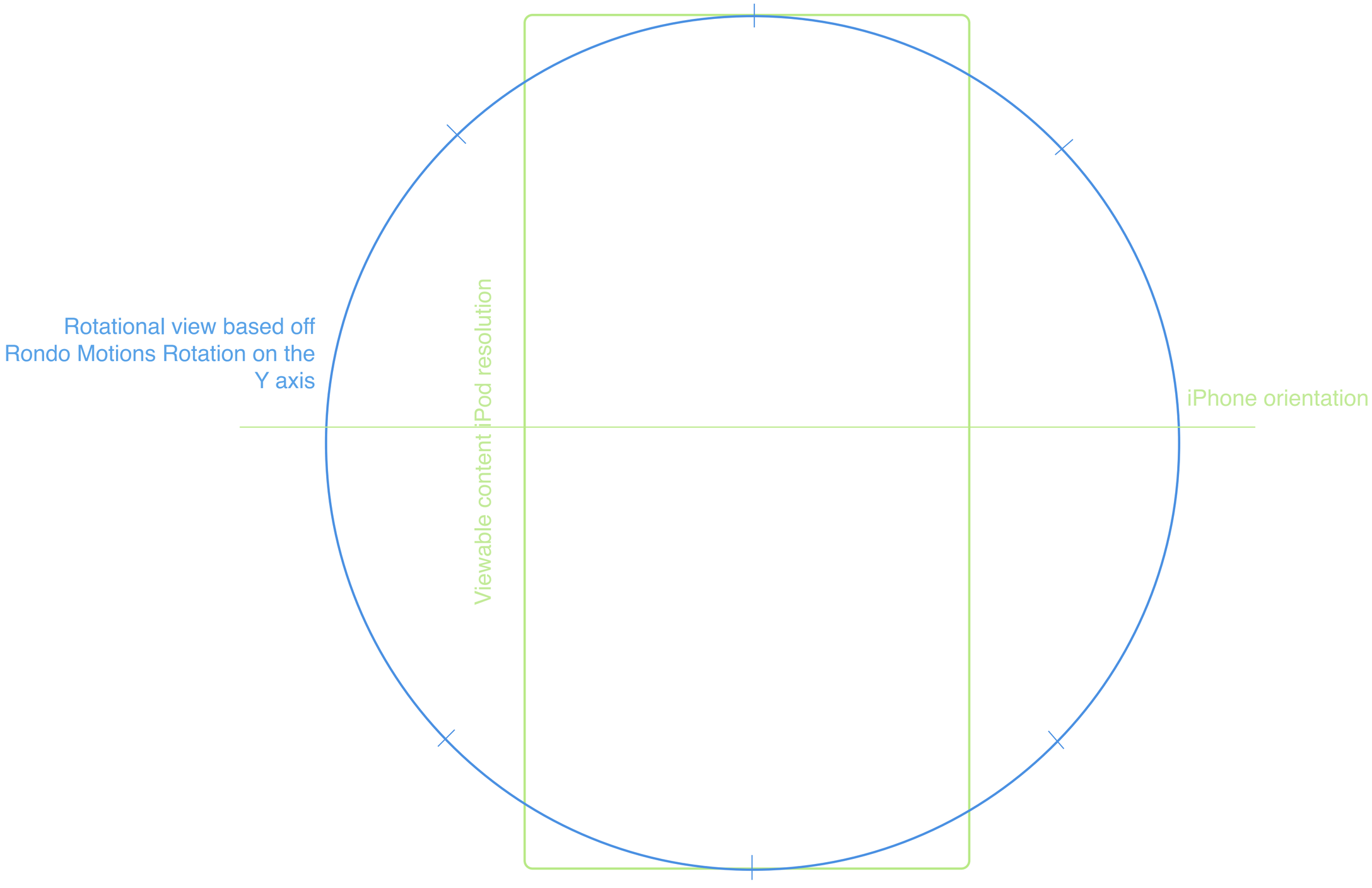
Proximity alert when leaving activatio
UI Solution

Does the audio restart each time the user steps over the activation point
Should smooth values here. If user is in activation area for longer than 2 secs play audio





?


Rotational view based off
Rondo Motions Rotation on the
Y axis
iPhone orientation
iPod resolution
Viewable content

Normalising coordinates

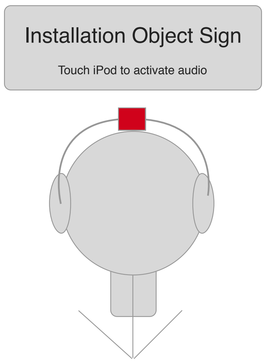
Presumption of ‘drift’ regarding accelerometer and gyroscope data from the Rondo Motion

Solution One

A: iBeacon automatic normalisation when entering beacon ‘near’ mode
As you walk into the Beacons range automatic normalisation
Issue: What if user has his head pointed at the floor or ceiling

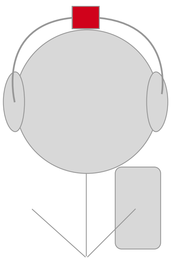
Solution Two

Direct user to touch iPod when reading installation object sign,
this actives the audio and insures normalising is correctly aligned



Solution Three

iPod vibrates when in Near Beacon Area
User touches iPod screen audio is activated

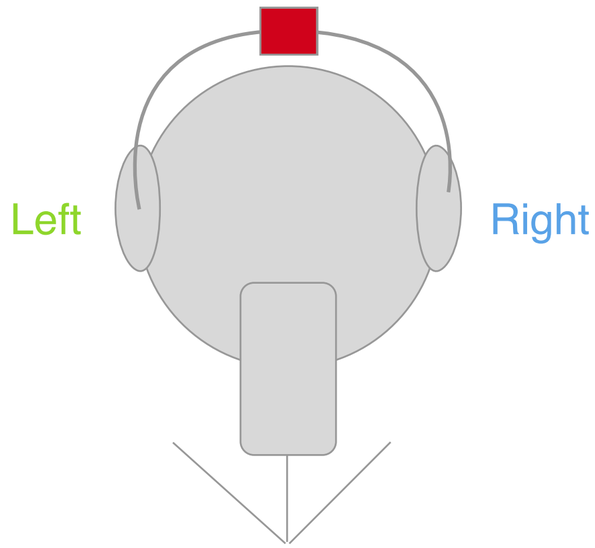


Orientation Swap

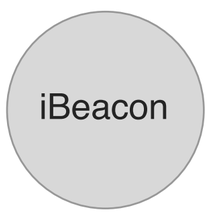
Upon placing the headphones on head, the user may have the audio channels the wrong way around.

Using the Rondo coordinates system we can determine wether the headphone are taken off the head.
Initally in the Lobby (first chamber) we can position an iBeacon INFRONT of the users,
using the beacon data we can then calculate is the headphone are positioned the wrong way around and invert the channels

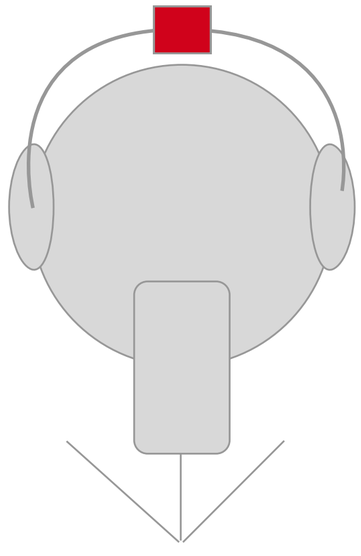
UX issue still lies when user take headphones during the installation



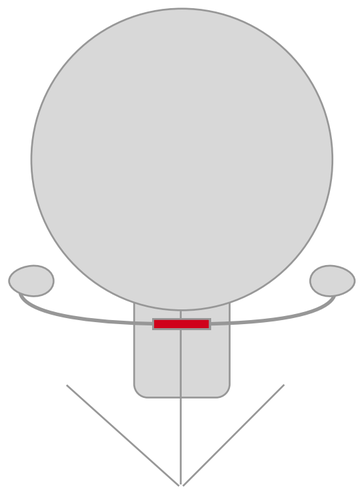
The first iBeacon must be infront of the user in the lobby.
If we can rely on this, we can invert the audio channel accordingly



Playback Pause Interation



If Rot X of Rondo is Greater than -75 content play

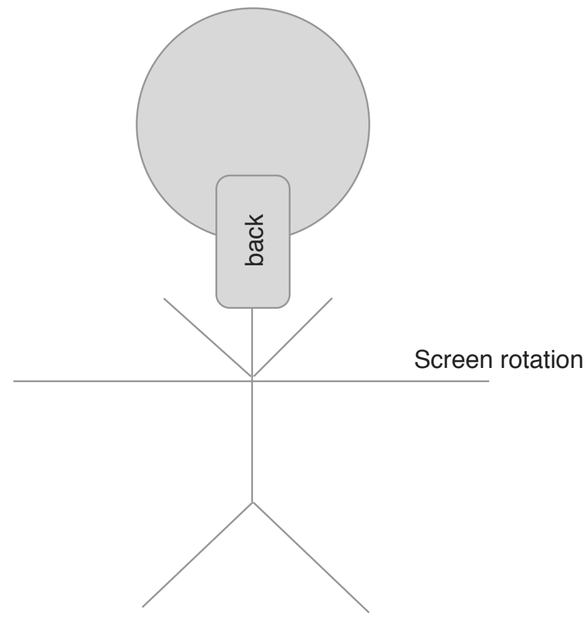


If Rot X of Rondo is lest than -75 content pause

Display modes

Engaded mode

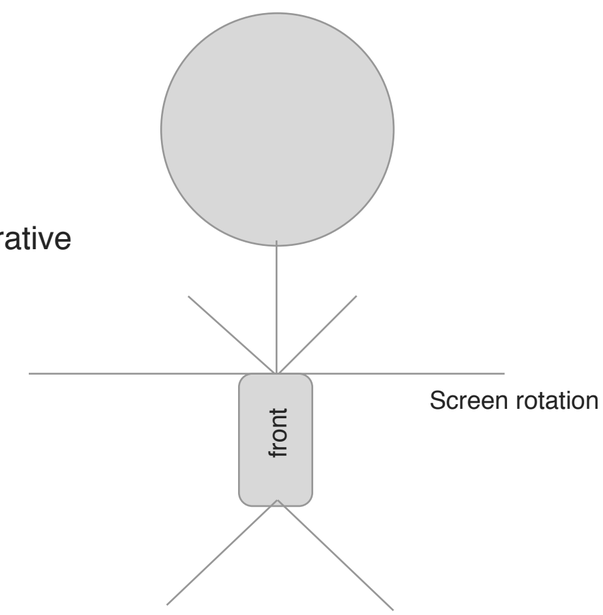
Simple Symbol/Beacon progress navigation
Timeline



Portait Mode Only, Lock Rotation

Notification mode

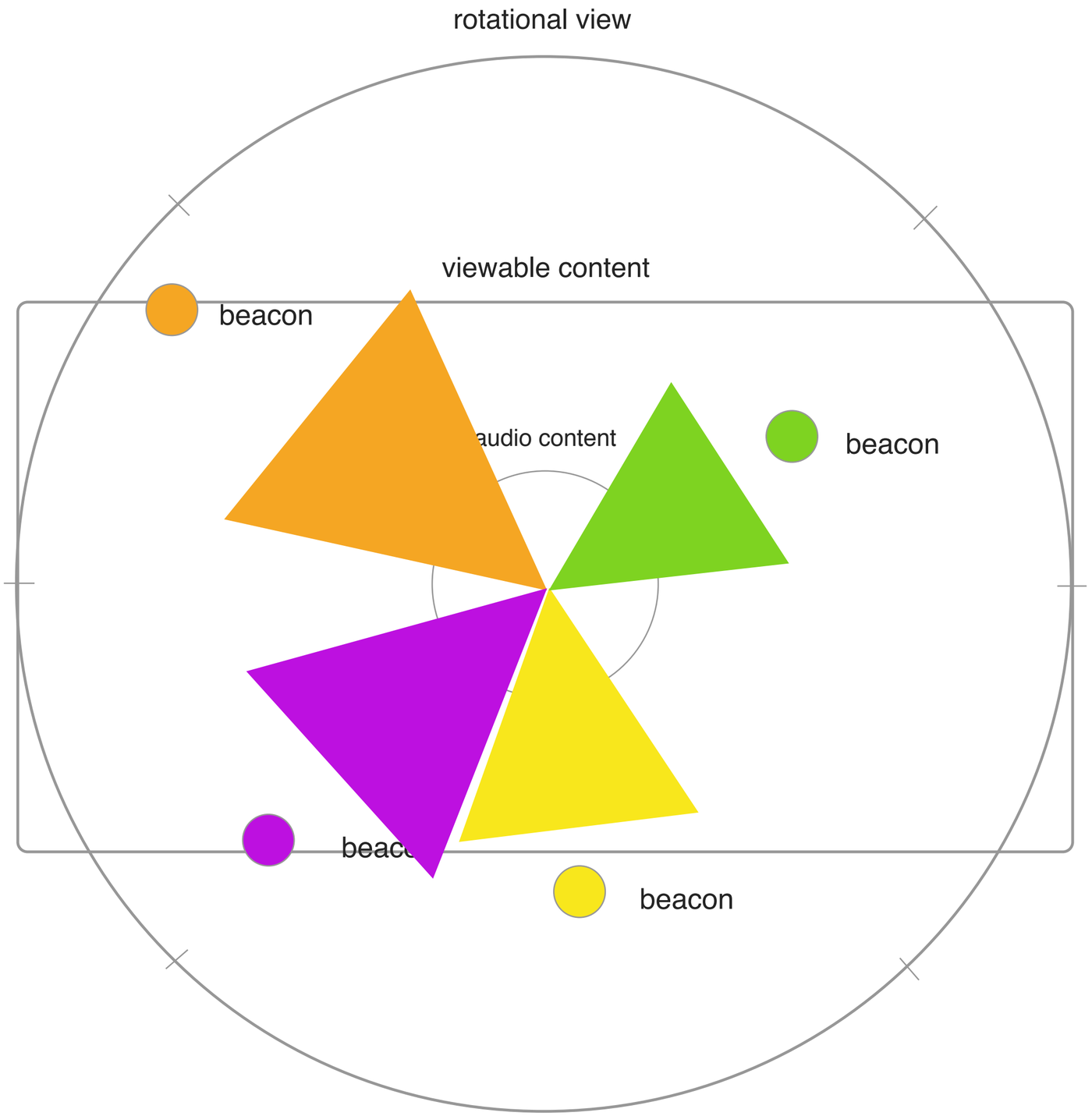
UI with bright Colors indicating position in audio narrative



Portait Mode Only, Lock Rotation

If the iPod is around my neck, we’re developing for Portrait only

Engaged Mode
Headphone Enabled
Landscape Orientation



Trianges represent audio waves

Beacons

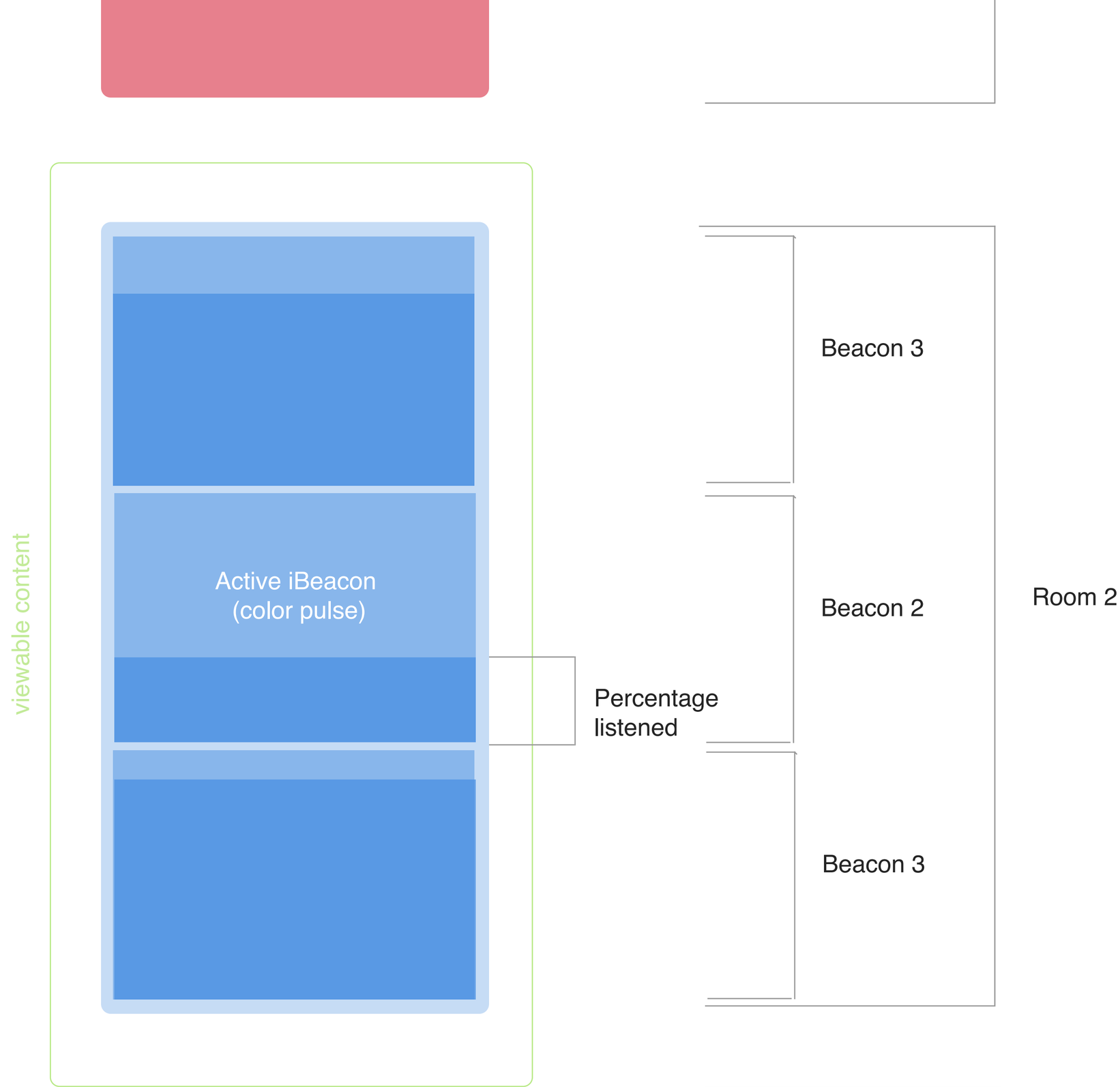
where am i? Wheres Dave?

Find my friends
Find me

If the installation object is a beacon, could we let the users
walk around with them? :) *like

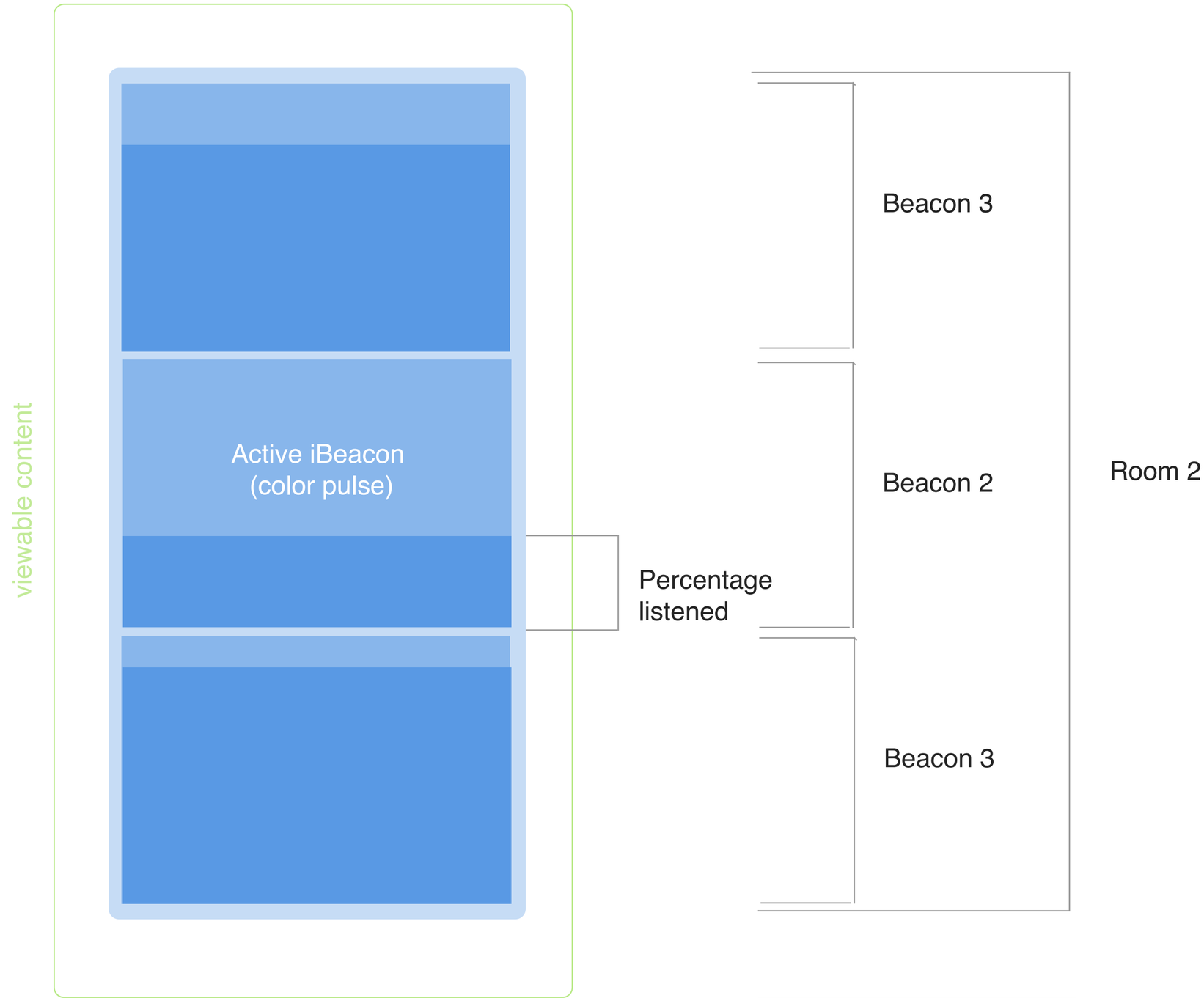
Profiles… Save information on what areas you've visited. Load profile on re vi

Notification Mode
Headphone Enabled
Portrait Orientation



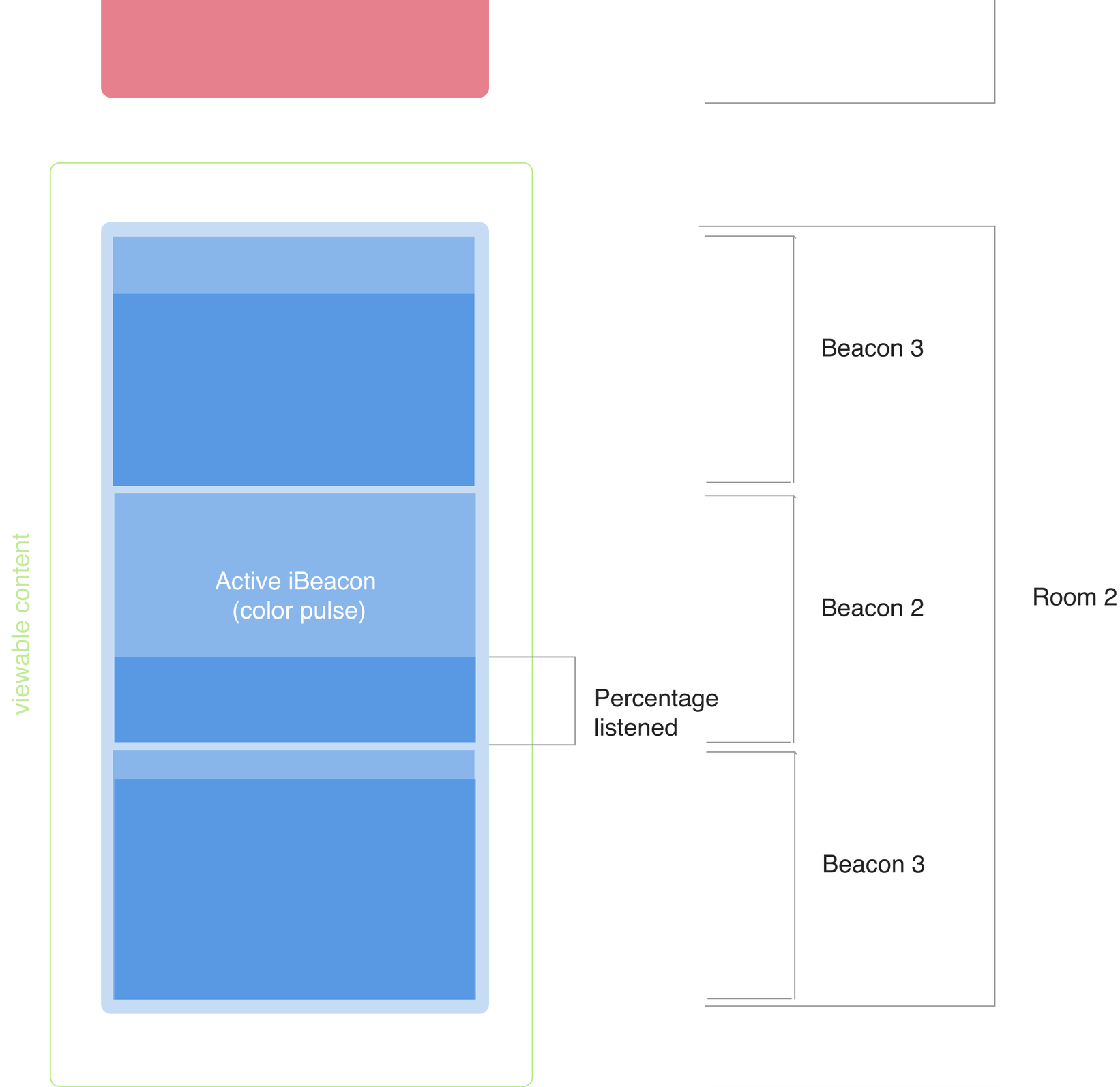
Colors represent Room iBeacon and
interacction completion via a linear timeline

Notification Mode
Headphone Enabled
Portrait Orientation



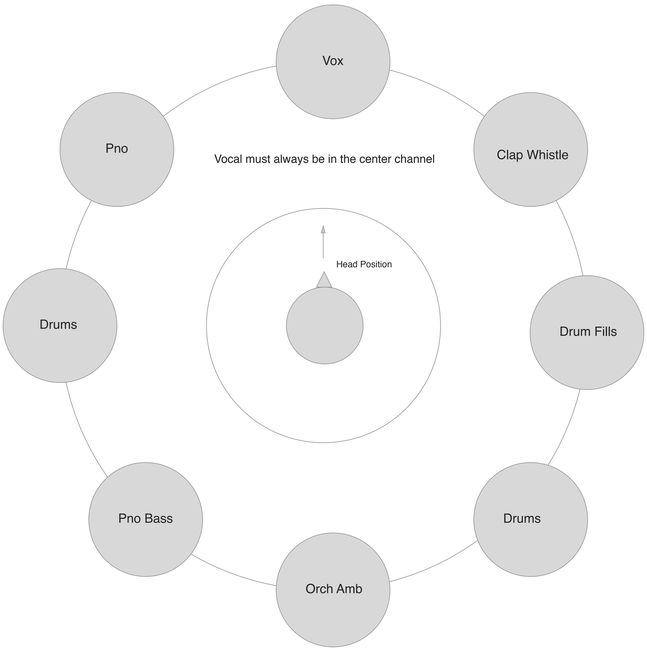
Colors represent Room iBeacon and
interacction completion via a linear timeline

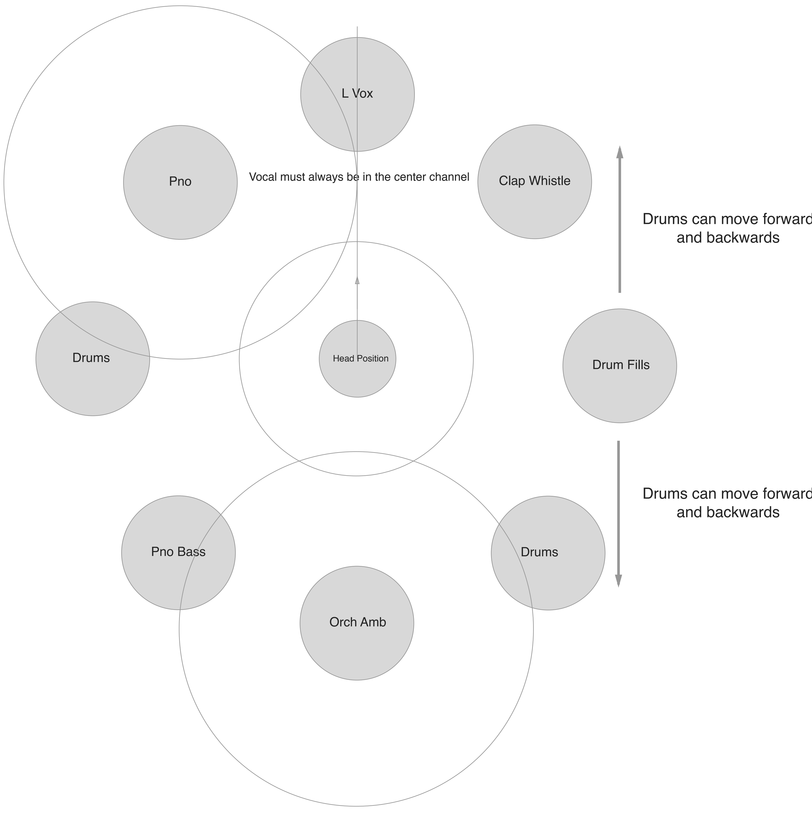
Notification Mode
Headphone Enabled
Portrait Orientation



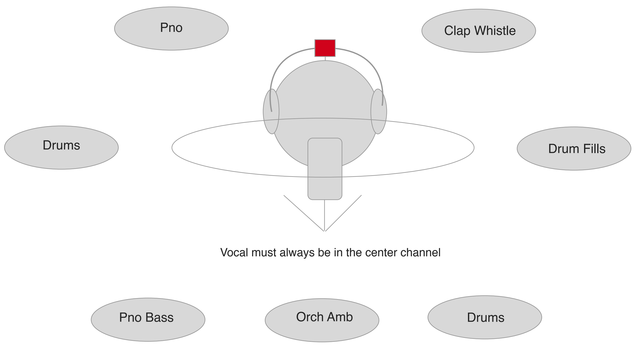
Colors represent Room iBeacon and
interacction completion via a linear timeline

1 Default Audio Positioning





Rot X



L Vox

7 Advanced Interaction Four

As you look towards the Audio the volume increases.
Audio volume peak are indicated via Philips Hue light.

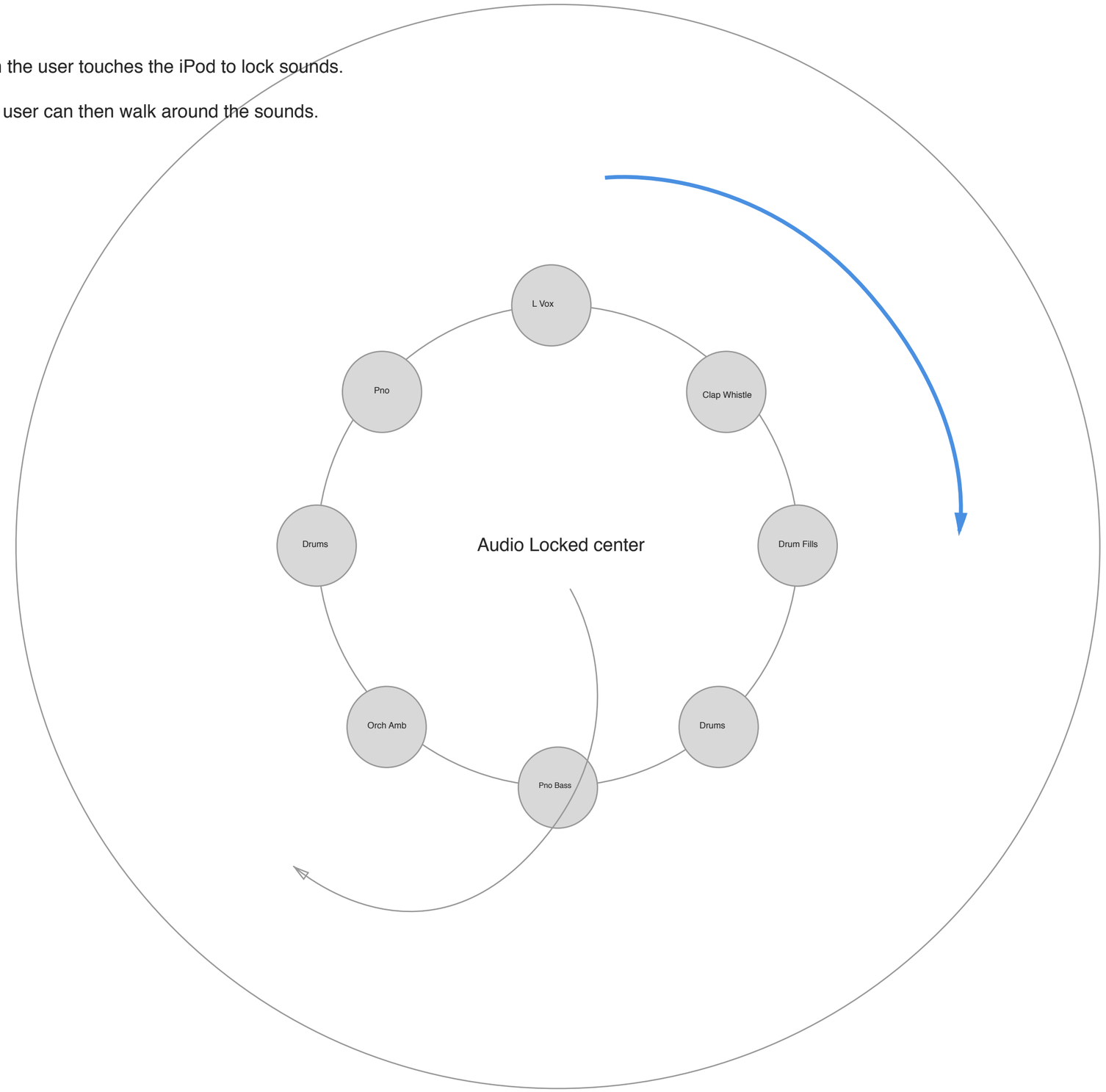
Audio on Continuous Loop

Technical difficulty rating ★★★☆☆

6 Advanced Interaction

Once in the immediate range of a iBeacon the user touches the iPod to lock sounds.

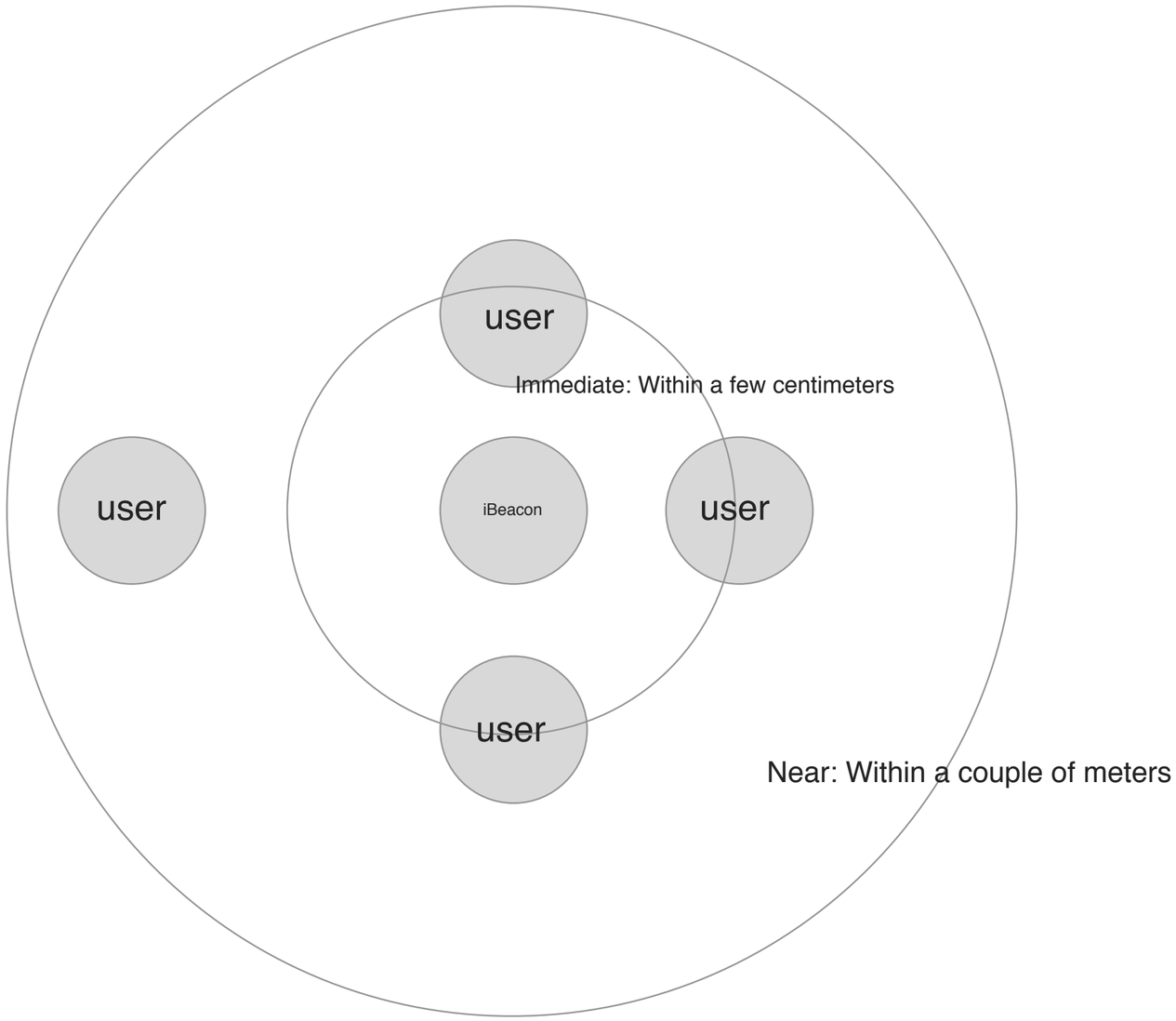
The audio is locked into that position. The user can then walk around the sounds.



Technical difficulty rating ★★★☆☆

5 Advanced Interaction Two

Upon entering the immediate area the user is assigned an audio stem.
As more users enter the chamber more audio stems are assigned to each user.
The audio stems are lock on to each user, as they walk around the chamber the audio changes based on their position is a three dimental space



Technical difficulty rating ★★★☆☆

Technical level 4/5

Hired stuges are hired to become the beacons !!!!

They control the music third there movements (possibility for MYO)

Look at your friend to see the audio pulse

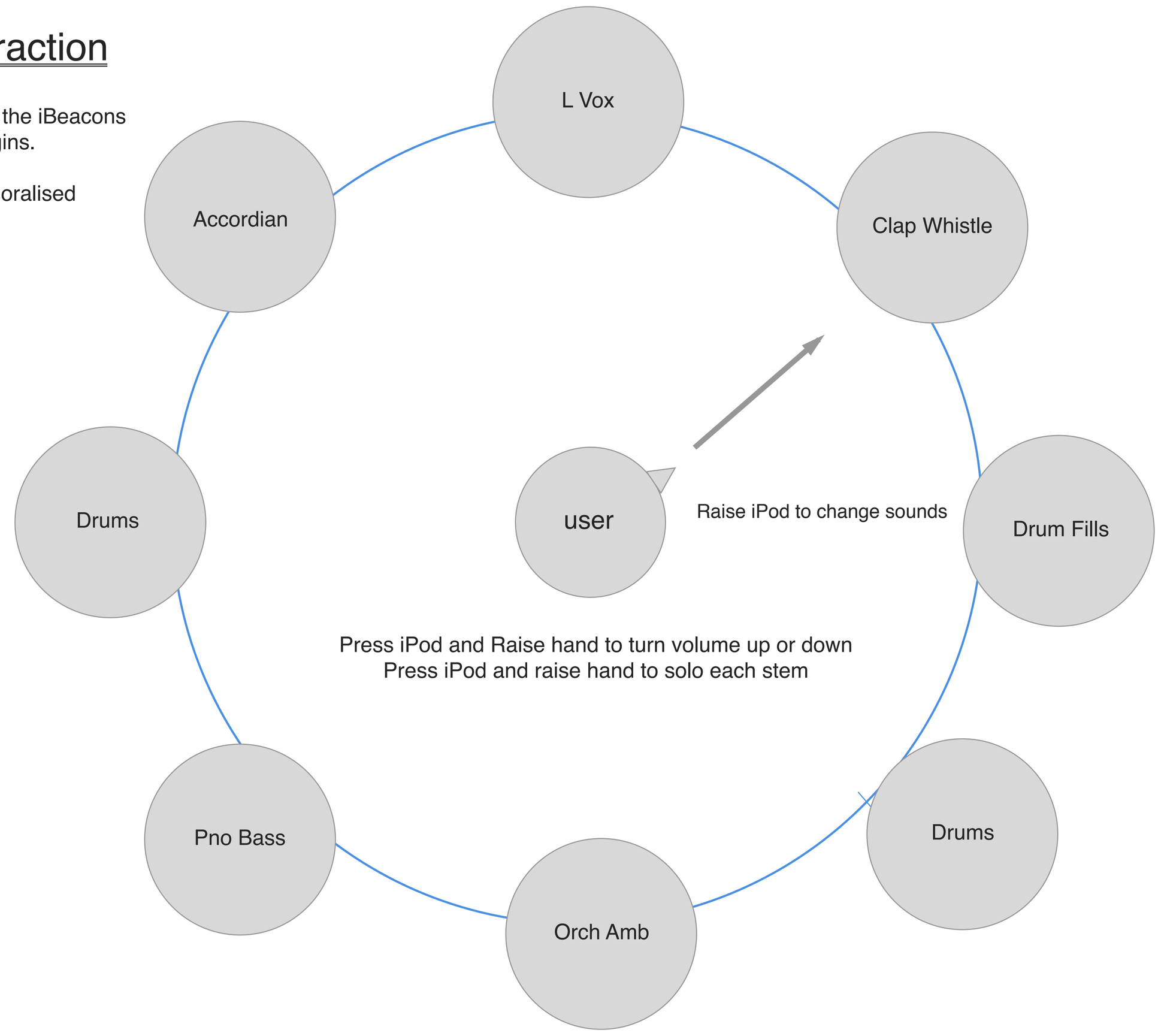
iPod would have to be beacons, issues with multiple users

2

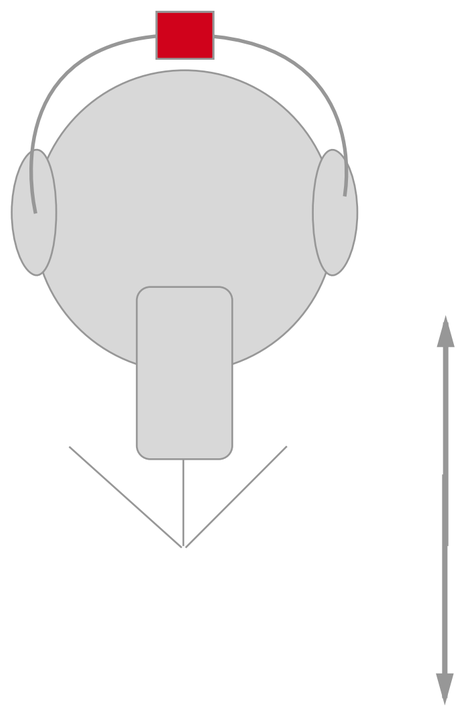
Advance Interaction

Once user is in the ‘Near’ range of the iBeacons for more than 2 seconds audio begins.

Rondo Motion coorinates are normoralised



Raising iPod to controls audio stem



For example whilst pointing towards an audio stem
the user can raise the iPod to increase volume/reverb/filter sweeps

Technical difficulty rating ★★☆☆☆

Social Element (iPod Camera)

Bjork
Oh So quite

Group participation

On the breakdown (its oh so quite)

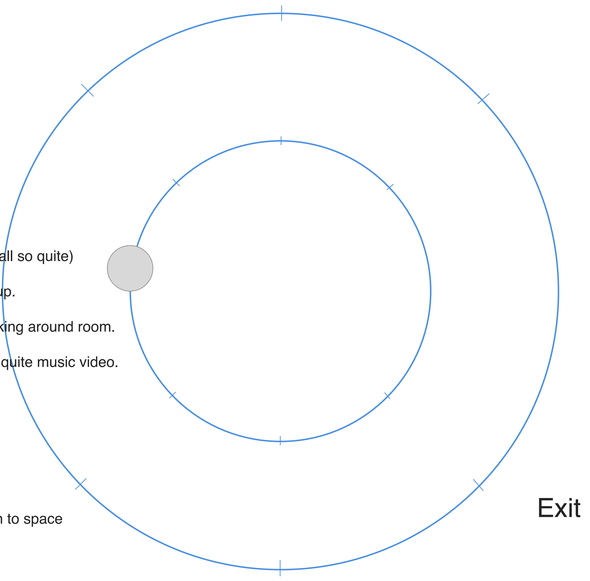
A random user is selected to experience the room alone (its all so quite)

Additional users await notifications to enter room upon built up.

Ipod camera can automatically active and capture users walking around room.

Brings a sense of chorgraphed dance, in reference to Oh so quite music video.

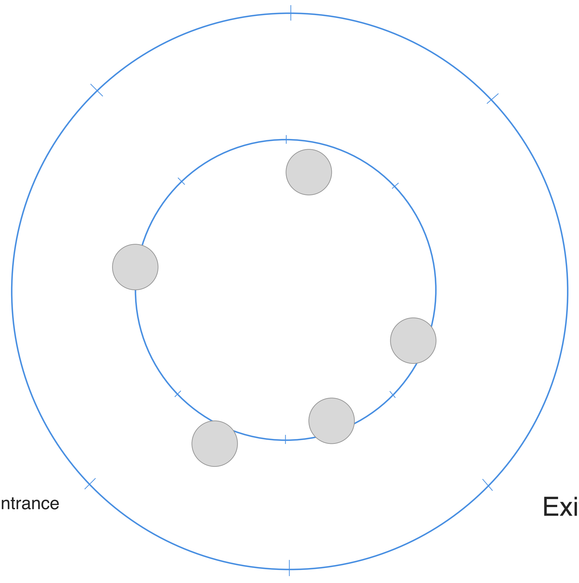
User awaiting notification to walk in to space



Social Element (iPod Camera)

On the upbeat

Users awaiting are directed to enter room

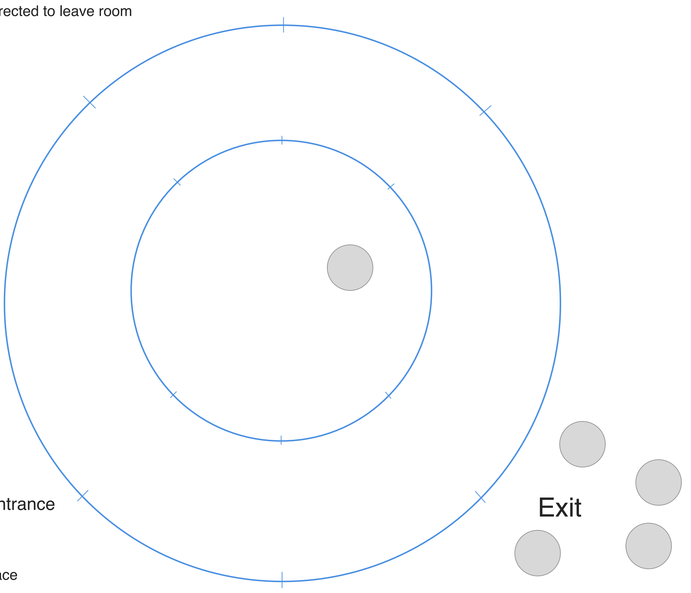


Notification to walk in to space

Social Element (iPod Camera)

Back to break down (its oh so quite)

Everyone but one user is directed to leave room



Notification to walk in to space

Technical difficulty rating ★★★★☆

3 Turntable Movement

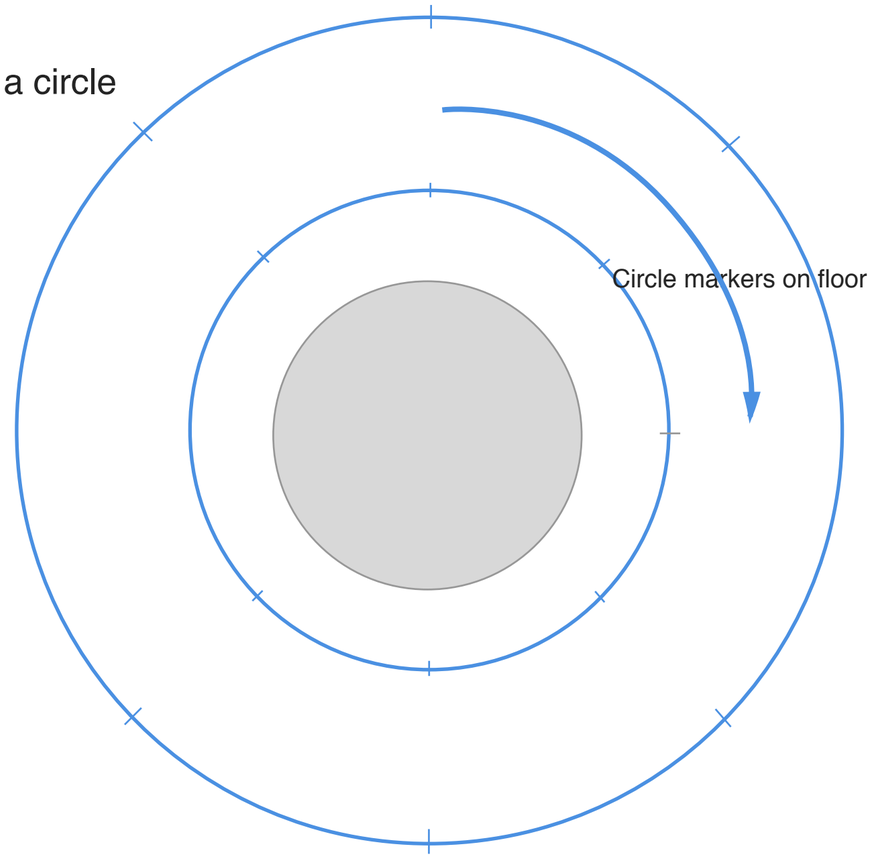
Circle marker on floor

Pitch controlled
Users walk around in a circle, pitch is adjusted dependant on speed of walking. The floor is a type of turntable platter.
Walking outside of the circle faders the music down
Lots of smoothing pitch control so the default BPM is locked in.

Audio track layers built up as you walk around in a circle

Every one starts walking in sync

Social Film using iPod camera



Group participation

Speed is pitch

The faster you walk the higher the pitch

This will make everyone walk at the same speed,
unless they want to interact

Walk in a backwards circle to reverse audio

Keeps the flow of the Audience Moving

Tested using the Myo Armband placed on my head :)

Technical difficulty rating ★★★☆☆

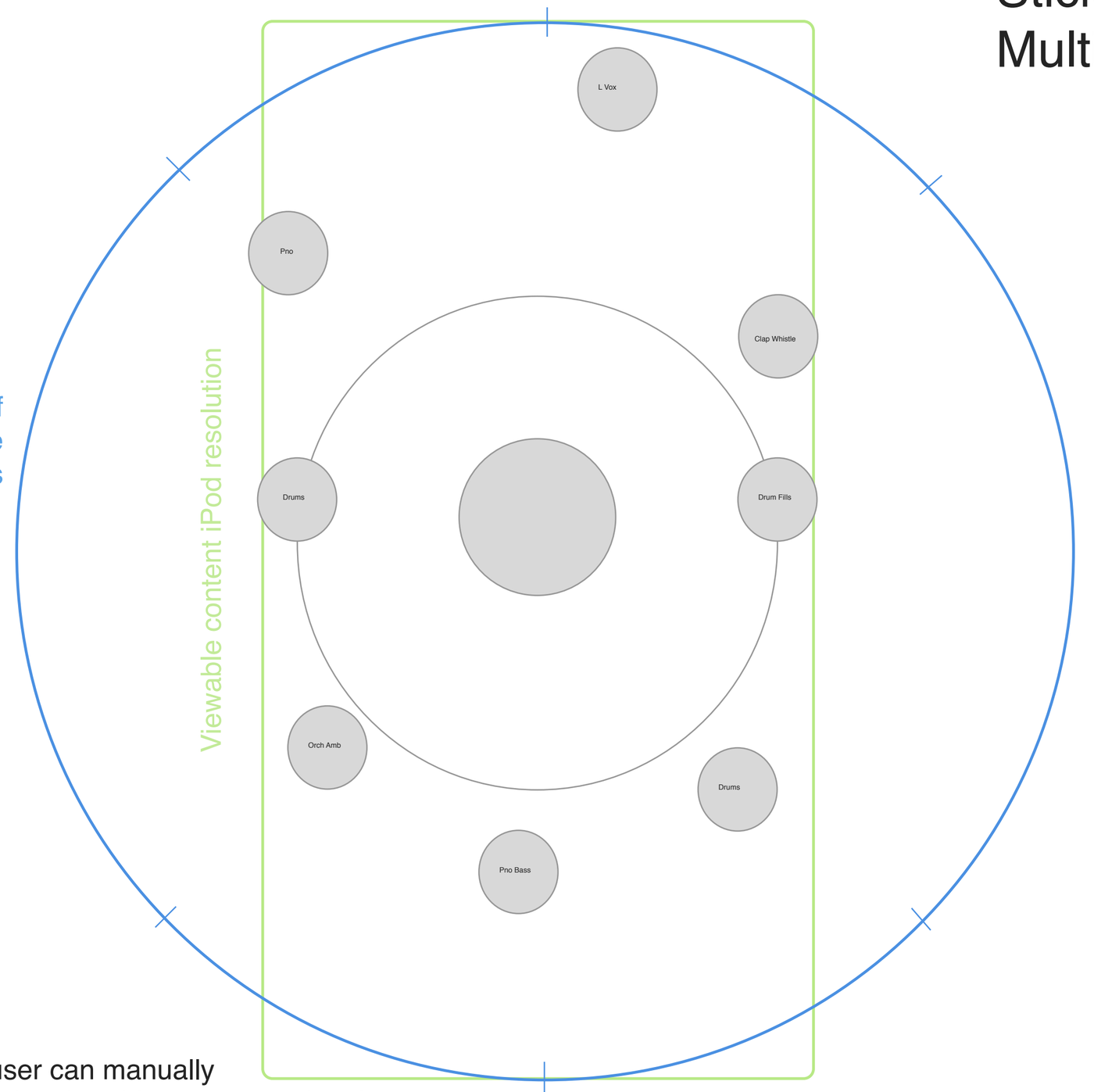
2

Finger Interaction

Engaged Mode
Headphone On
Portrait Orientation

Bouncy boundaries
Sticky borders
Multitouch

Rotational view based off Rondo Motions Rotation on the Y axis



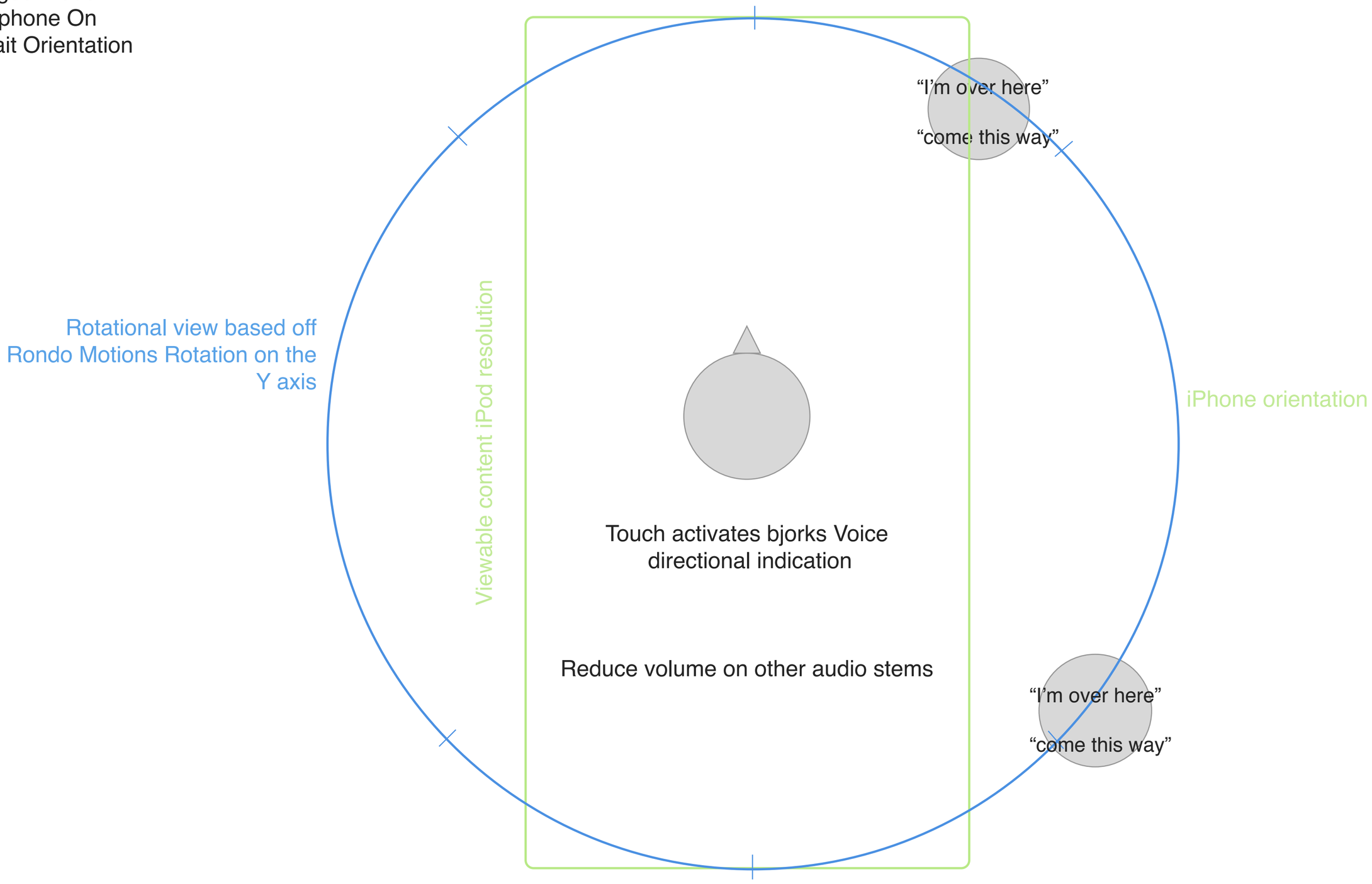
iPod orientation

By touching the circluar objects the user can manually position the audio in 3D space. Throwing the objects or grouping the audio together.

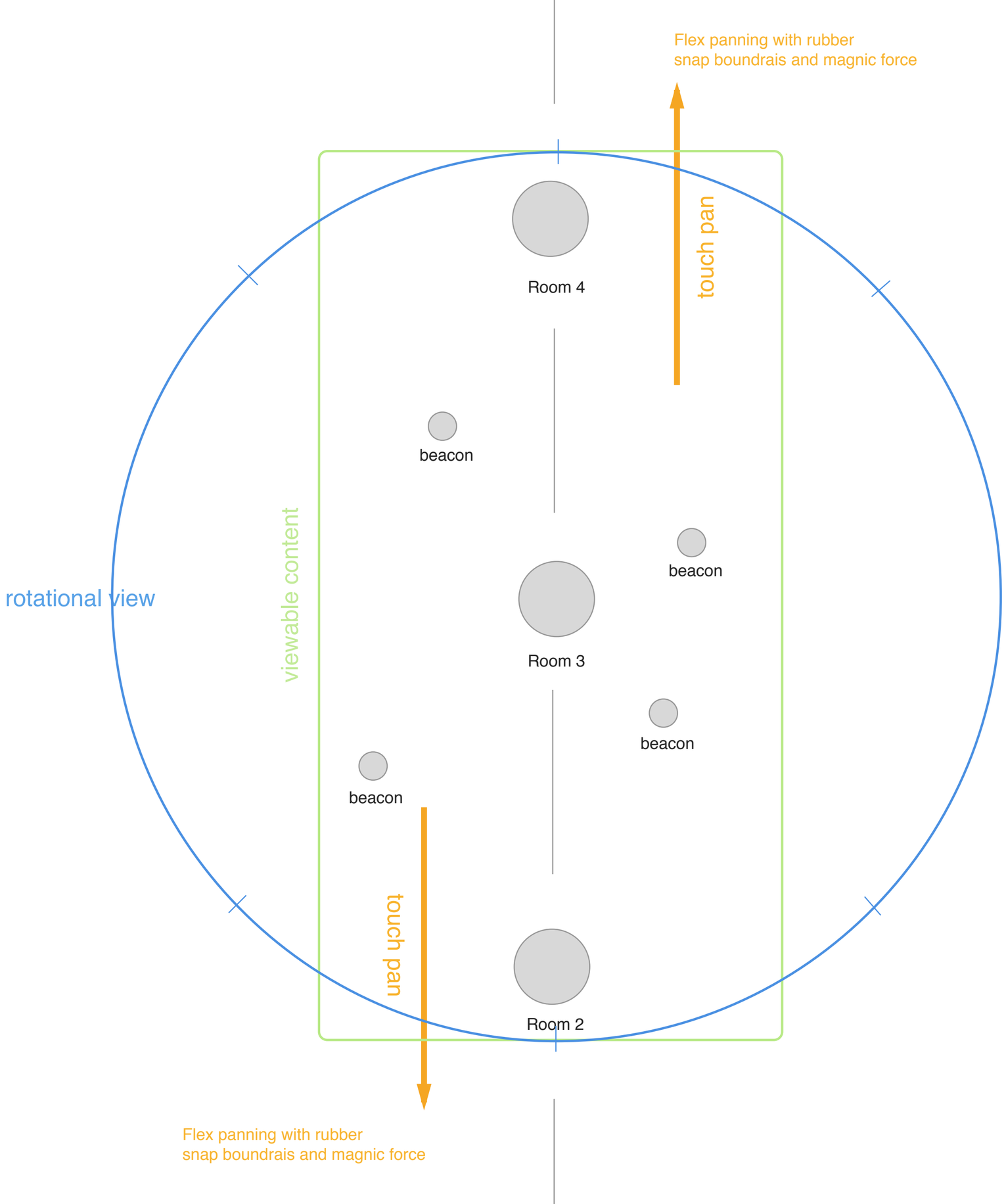
2

Voice Navigation

Engaged Mode
Headphone On
Portrait Orientation



Engaged Mode
Headphone Enabled
Portrait Orientation



Keep the flow of viewers

Cinema section: How does the user catch the beginning of the video content.
(Looping systems sux) < bad UX

Flip horizonally Heaphone (L & R) if wrong way round

Calculated via the first ibeacon being infront at the

How to make content stay in sync if your with friends.

Make it playful so groups can sync up via location, bumping iPods, or manual touch

Content paused when headphone are off.

Rondo detection of headphone placed on shoulders

Is the installation content on Loop

Indication iPod when content starts

Be in sync with your friends

Listening to music together is fun - make this playfull


Overview Map
Position / duration of interaction
Play / Pause

Like facebook page to interact

Log out automatically on last beacon point

Use camera to take pictures
Uploaded to FB page at end of day

Pictures automatically uploaded to
instagram (sensorship at the end of the day)

Debut

Post

Homogenic

Vespertine

Medulla

Volta

Biophilia

Cinema

Lobby

Best Paratices for the acceleometer drift ?

This is based on the presumption havn’t tested the amount of drift

Wifi on

How to nutualise the drift from Rodomotion

Acrivation via iPod touch - touch

Altitude (which Floor!!)

Can we use the iPods as beacons. So we know where other users are?

Facebook connect and Unity 3D, possible?

Using the Rondo… if the user takes the Heaphones off can we pause the Audio?

Can we Lock to Portrait mode in Unity 3D? (See Neck Lanuard page)

Where is the Rondo Motion to be positioned on the headphones? (See Rondo Pos)

Displays where other users are

solves congression

press / arty

Heat Map of Interaction hot zones

analitics

Areas that have been interacted with

Indication when installation content is begining a new loop

Ambint light change
realworld

Glowing screen

Interact

compass UI?

Timeline / Position and Duration
indicators

consistant audio notification?

iPod Glows
(indicating narrative interaction position
and duration left interaction)

Nav Symbol Pulsing

Read screen
(read indictation via accelerometers)

Touch to interact

Content Paused
(Manual or headphone taken off)

Heaphones on

pause content when headphone on sholders

Now listen

Listen and
Rotate Position

Now walk forward we’re tracking you

Nofication Tutorial

social login

Welcome / Tutorial

notification center

Control Lighting

Beacon area

Automatic display

inbetween interaction sections

Manual display

Overview Map

Social sharing

Concepts

Research

features

functionality

Interaction

UX brianstorm

Walk through

28th November

UX Flow graph

UI Design

UX ideas

UX issues

1th December

UI/UX Sketch Doc

5th December

OSX prototype

Built in QC and Origami

http://facebook.github.io/origami/

12th December

Content Design

Mobile prototype

Built in Flow

http://www.relativewave.com/form/

15 days

Additional 10 days