

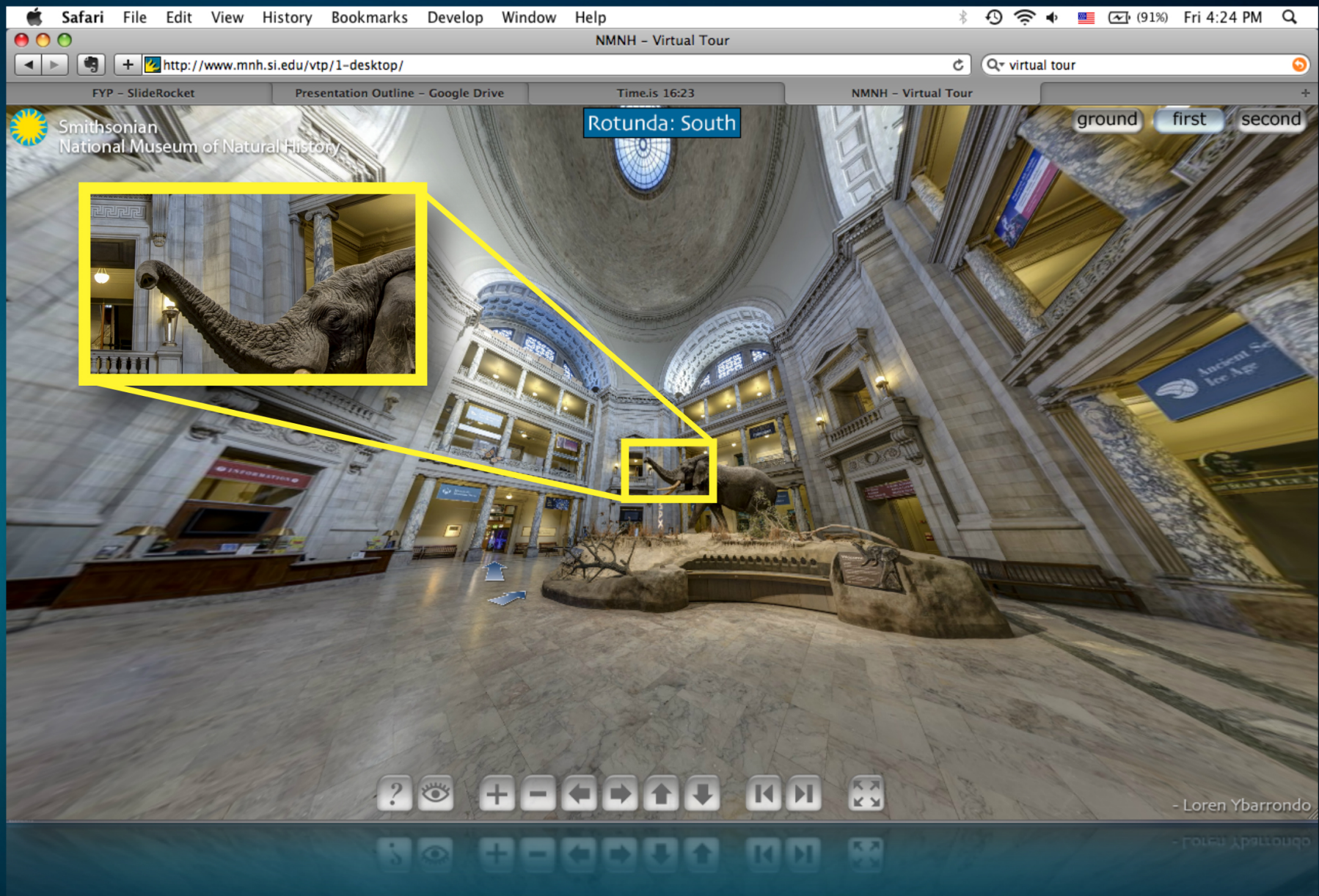
DELIVERING **RICH CONTENTS** IN A
GIGAPIXEL
PANORAMIC IMAGE

**WHY
GIGAPIXEL?**

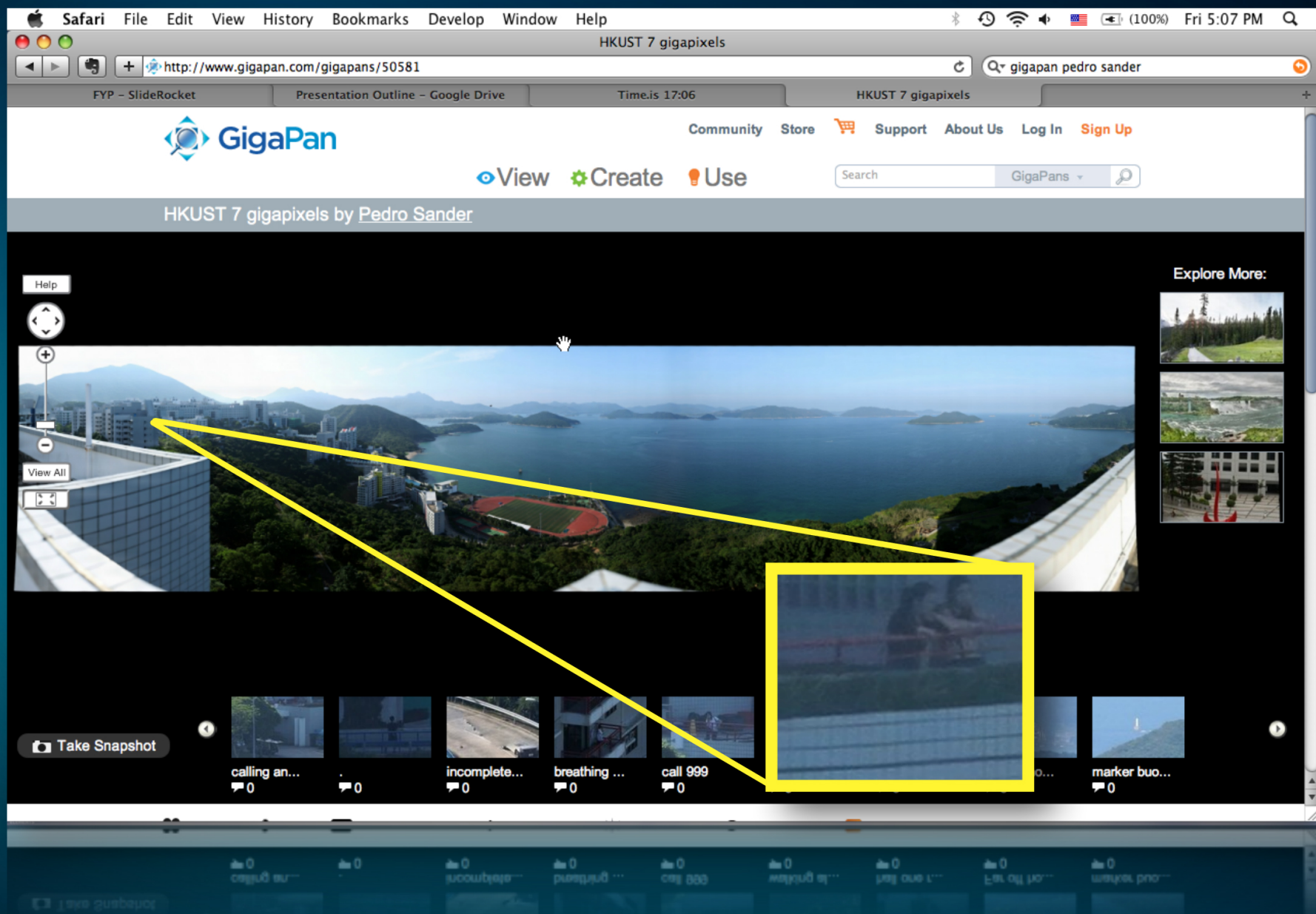
GIGAPIXEL?

2

**CURRENT
SITUATIONS**

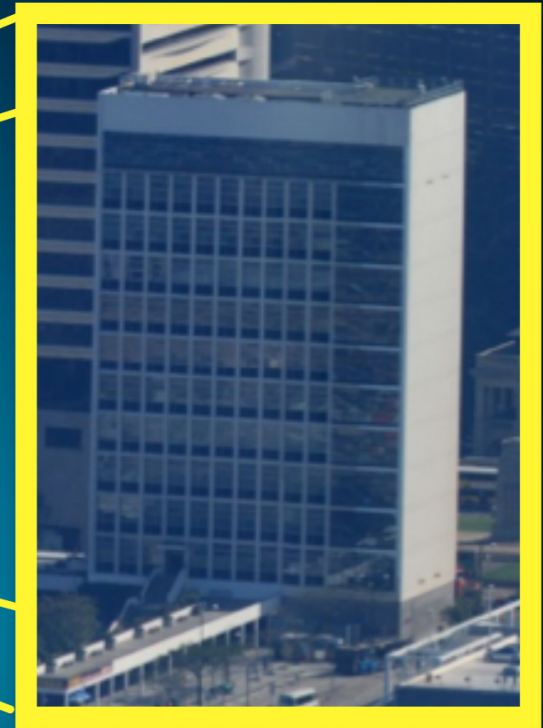
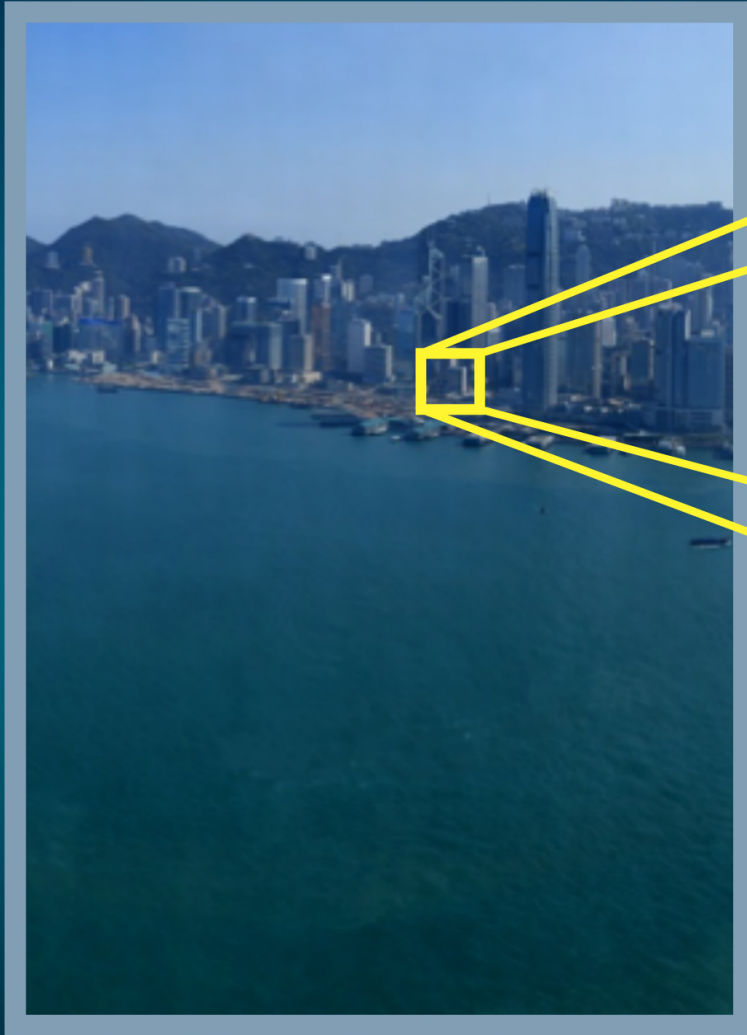


Courtesy: Smithsonian National Museum of Natural History



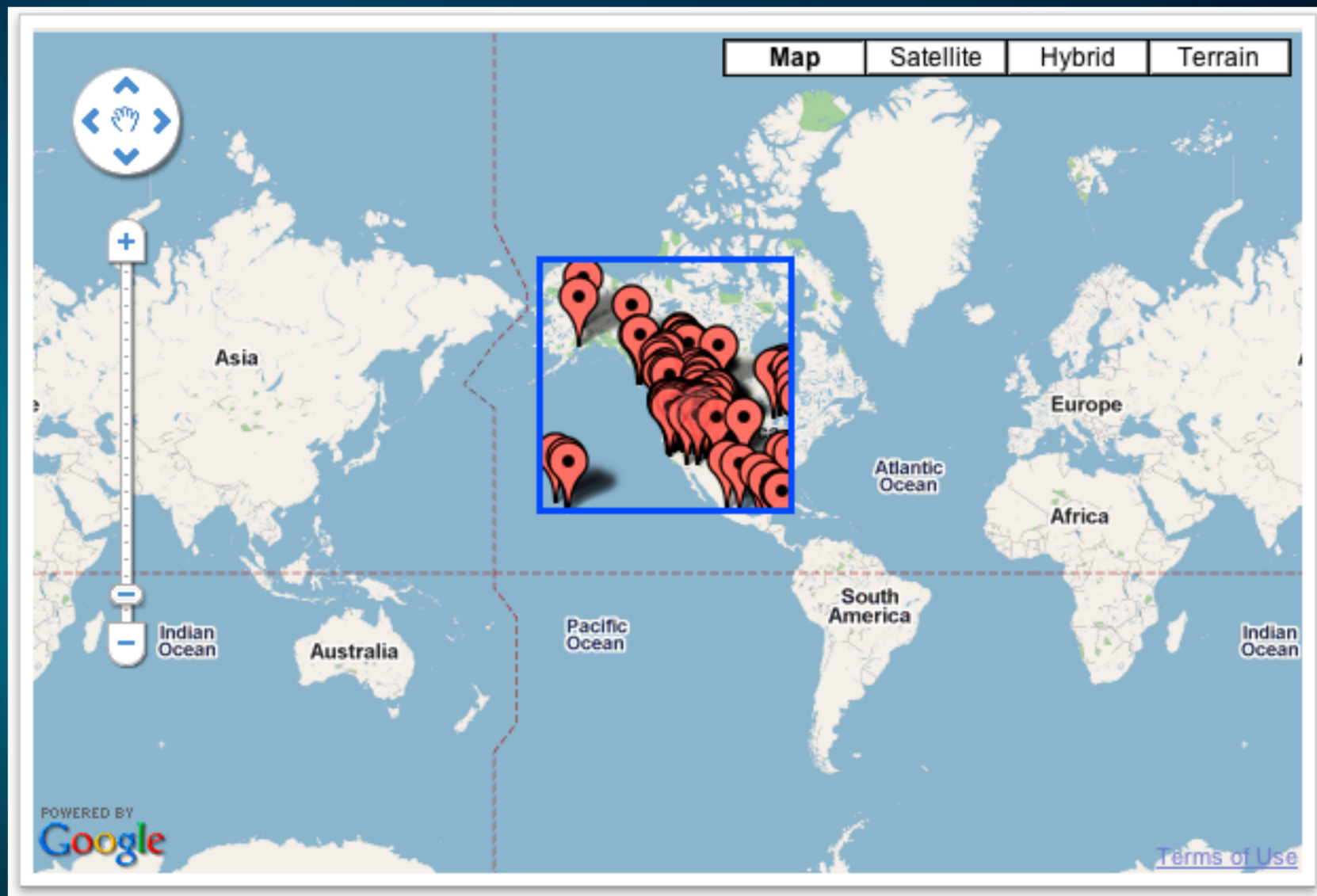
Courtesy: Dr. Pedro SANDER and GigaPan

Effectively deliver **important details** of a gigapixel panorama to **a more diverse range of users** by **mapping, overlaying, zoning** and **multimedia annotations**.



FIND:
HONG KONG
CITY HALL

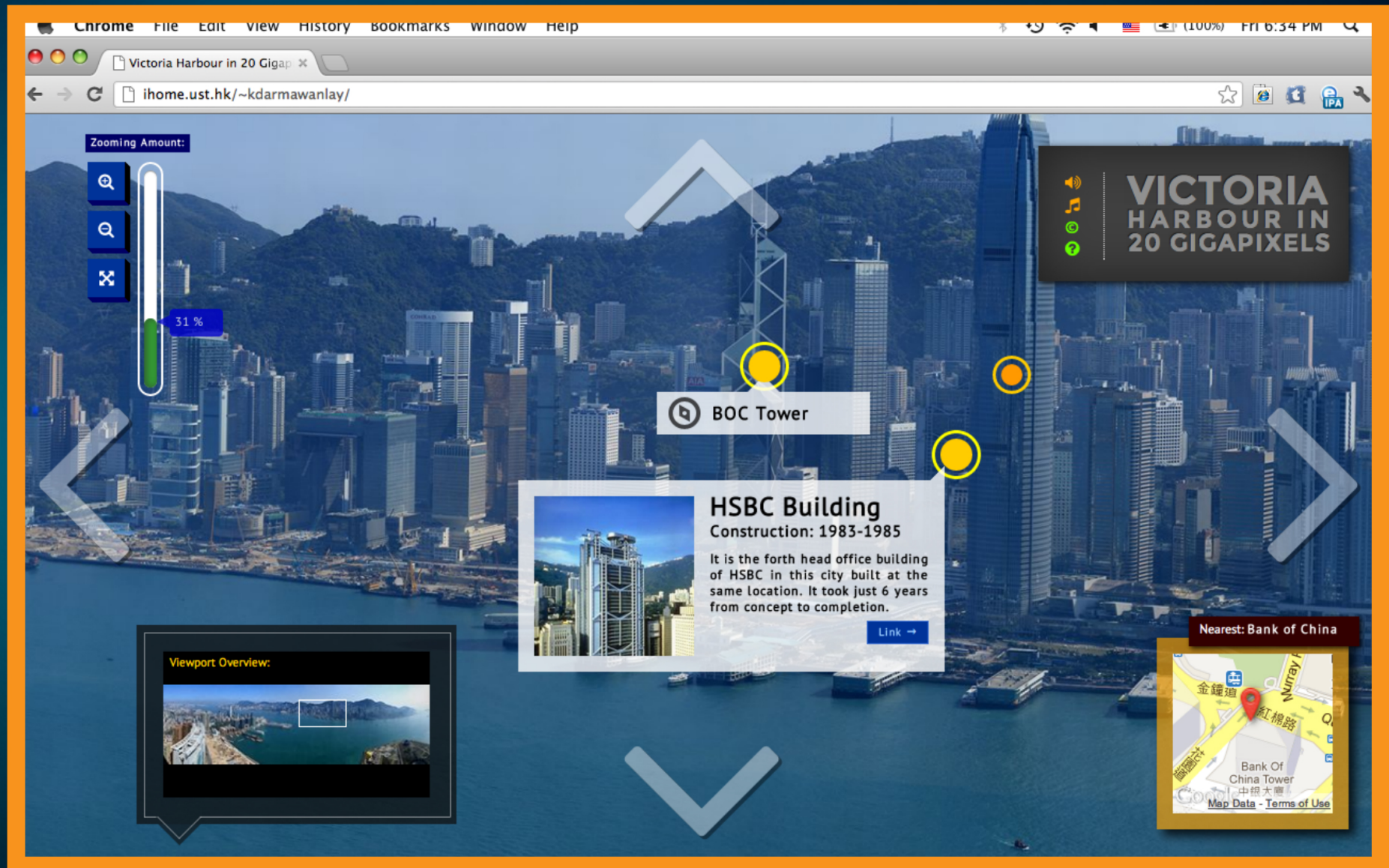
Courtesy: Dr. Pedro SANDER

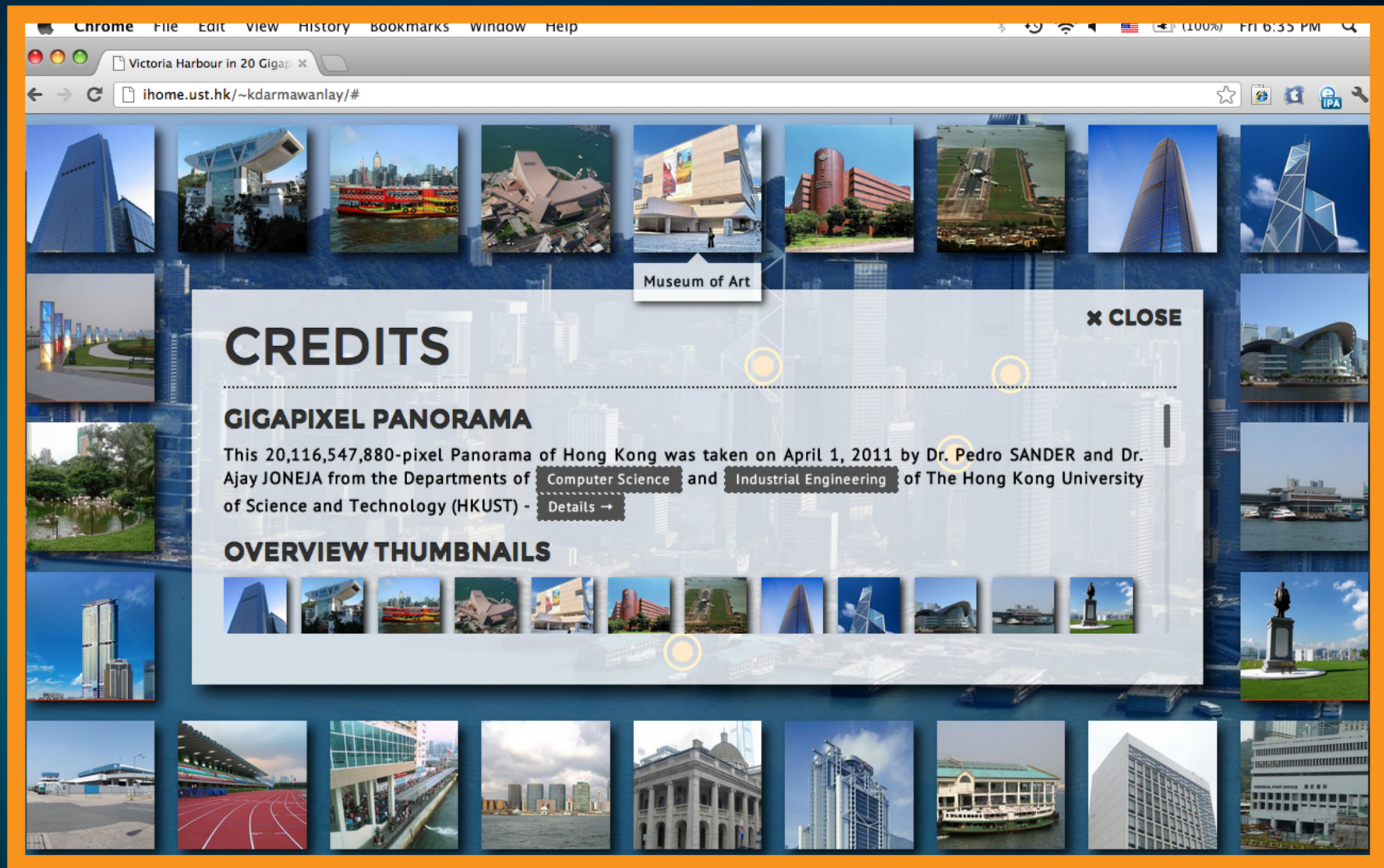




General GUI

Annotations





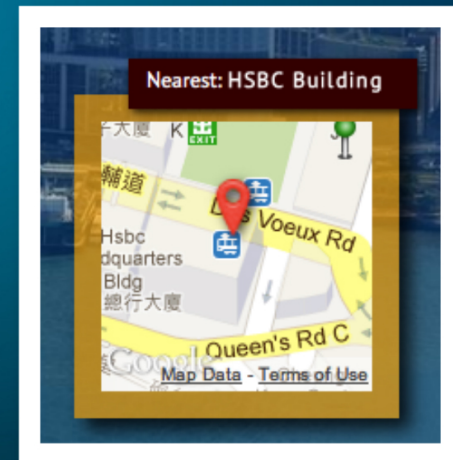
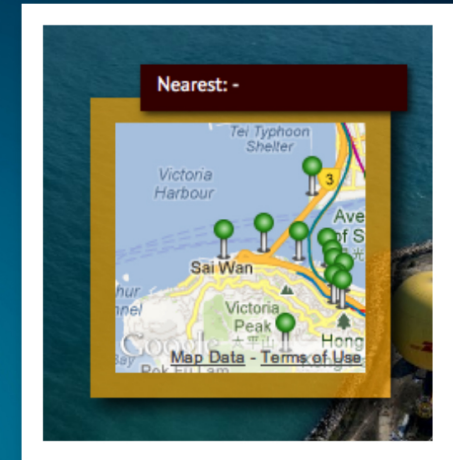
Overview Thumbnails

Google Map Viewport

Unfocused State

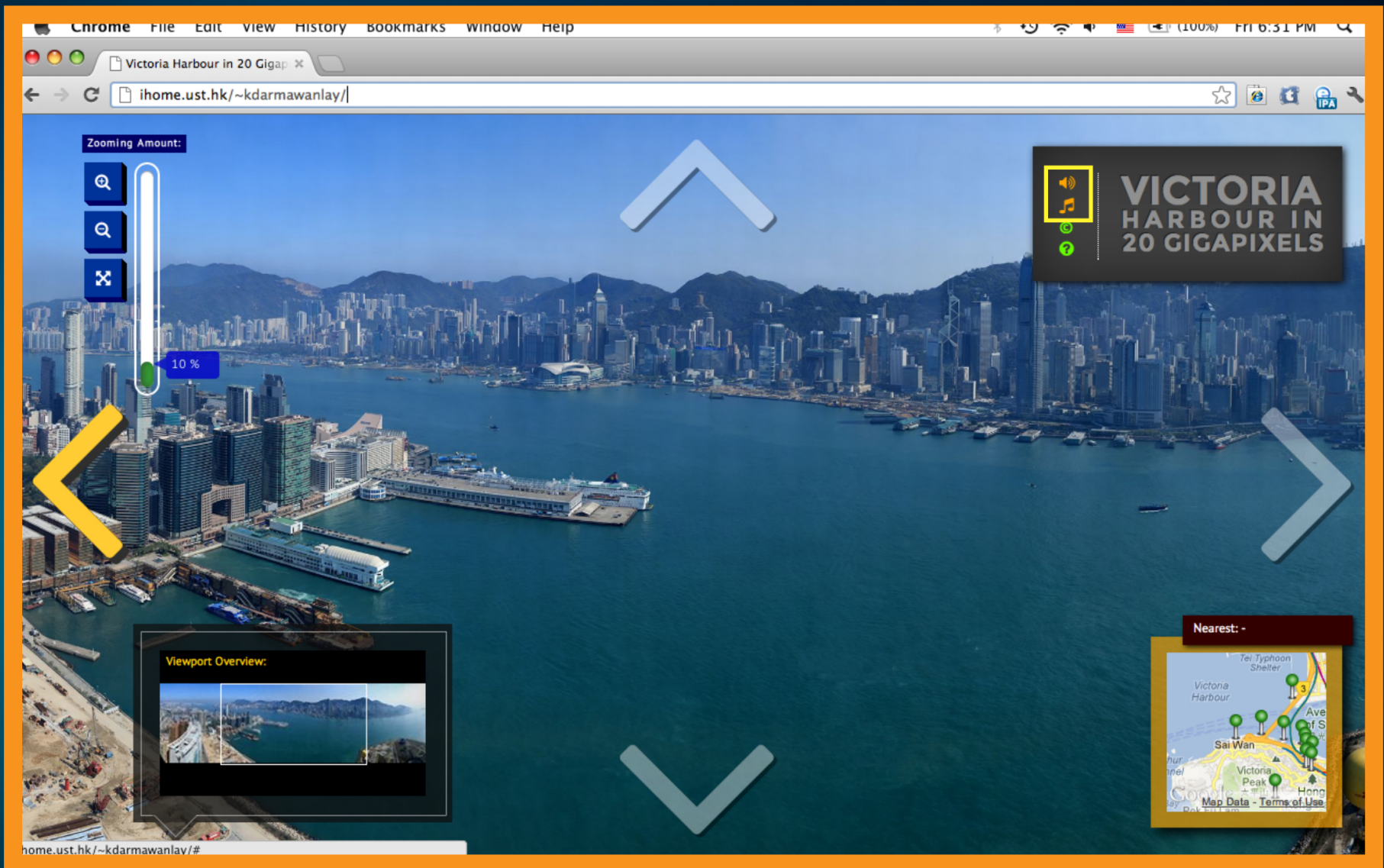


Focused State





Future: Video Annotations



Sound Effects

HOW MULTIMEDIA HELPS

INCREASING
AUDIENCE DIVERSITY

SOUND FX
MAPPING FOR **BLIND PEOPLE**



HOW ANNOTATION HELPS

PEOPLE WITH BLINDNESS
UNDERSTAND A PANORAMA

OVERLAYS
SCREEN READERS LIKE THEM

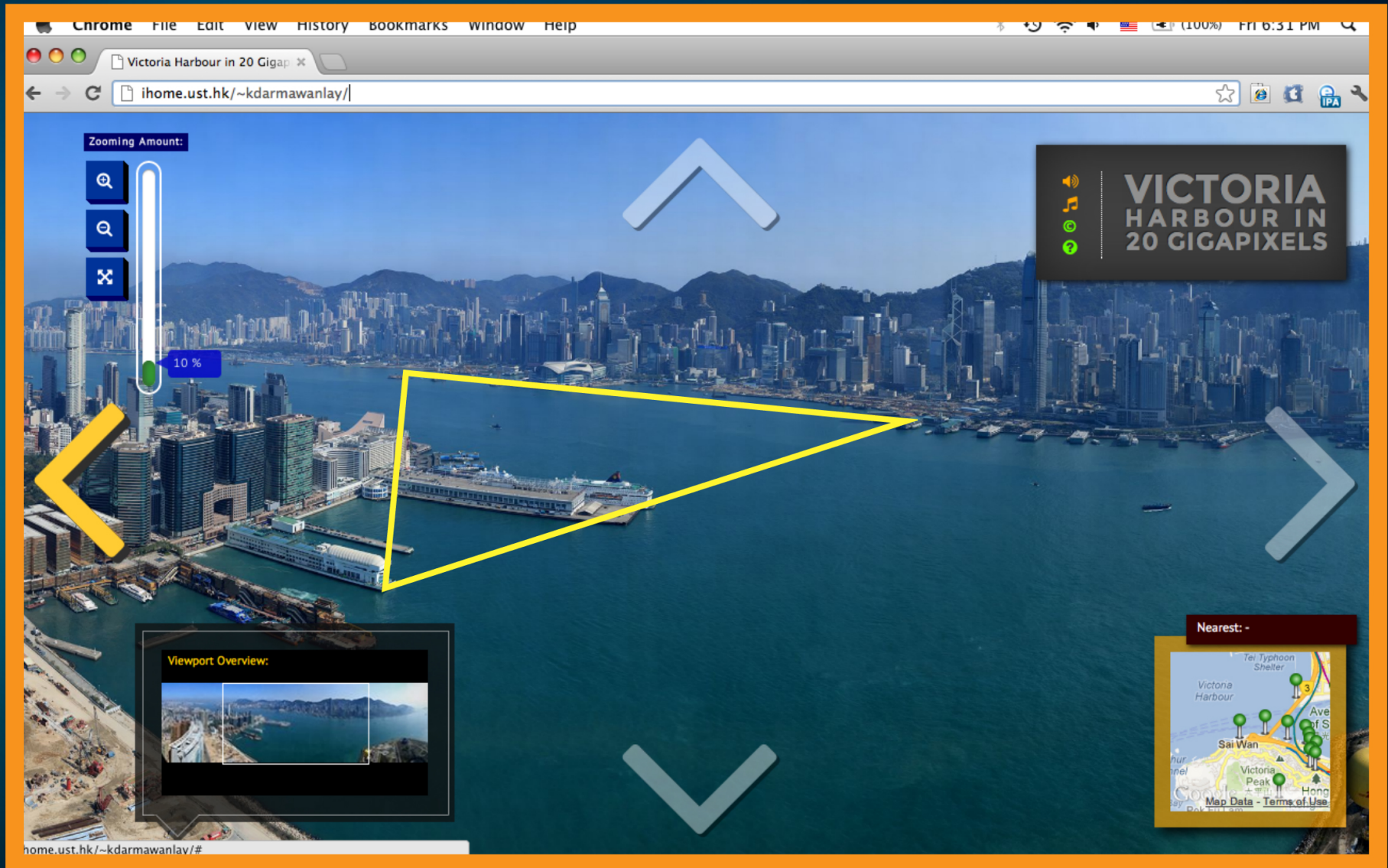




WIKIPEDIA COMMONS

Why not
FLASH?

Future: Topography



1.00



H/W

SEADRAGON COORDINATES

COORDINATE MAPPING

X >> **DISTANCE** to center
<< to viewport's **ZOOM**
>> to viewport's **CENTRAL P.O.V.**

SCREEN SIZE
MATTERS

Y

1

MOUSE
DOWN

MOUSE
UP



MOUSE
DOWN

MOUSE
UP

MOUSE
DOWN (2)

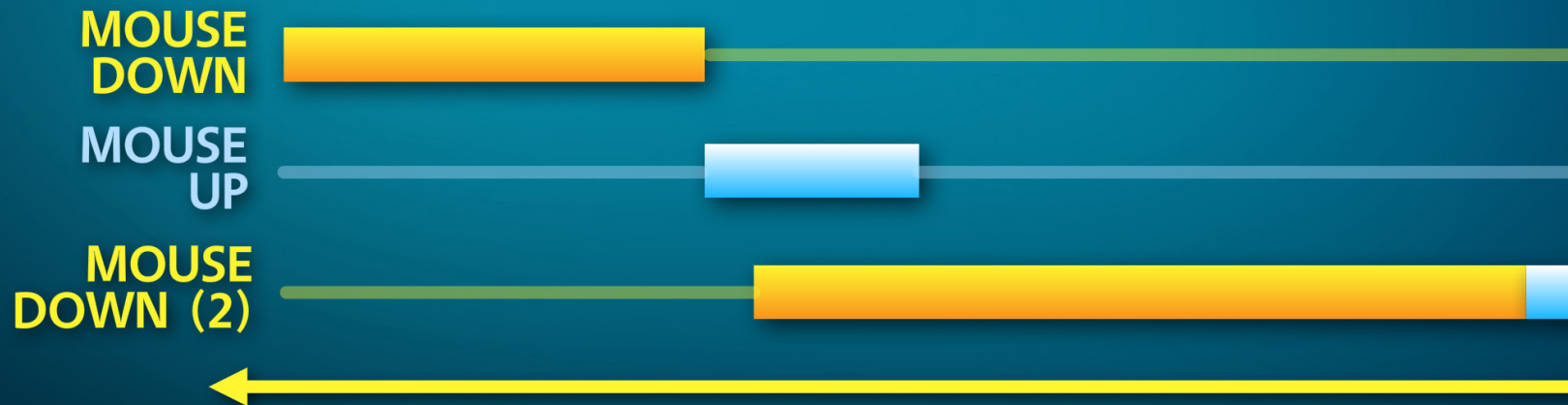


2

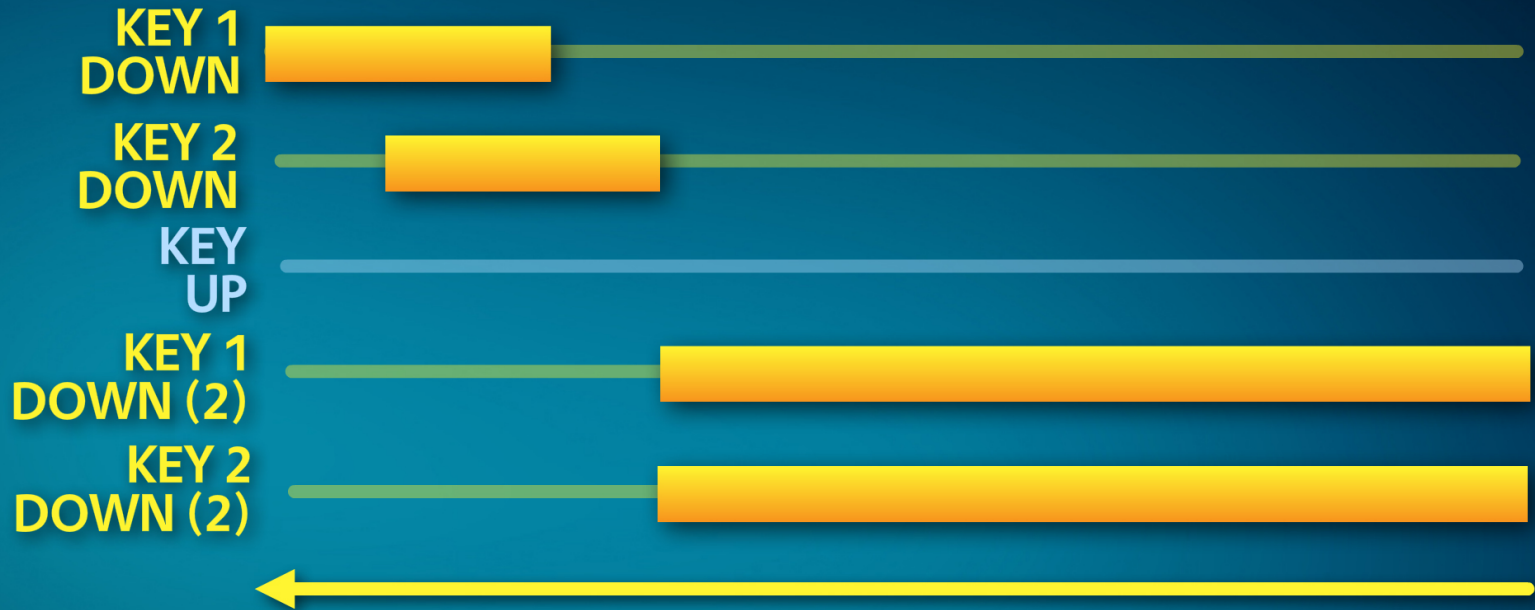
NEW **MOUSE**
NAVIGATION

TEST CASES

SEPARATED **CLICK** AND **HOLD**, PLUS
THIS ONE:

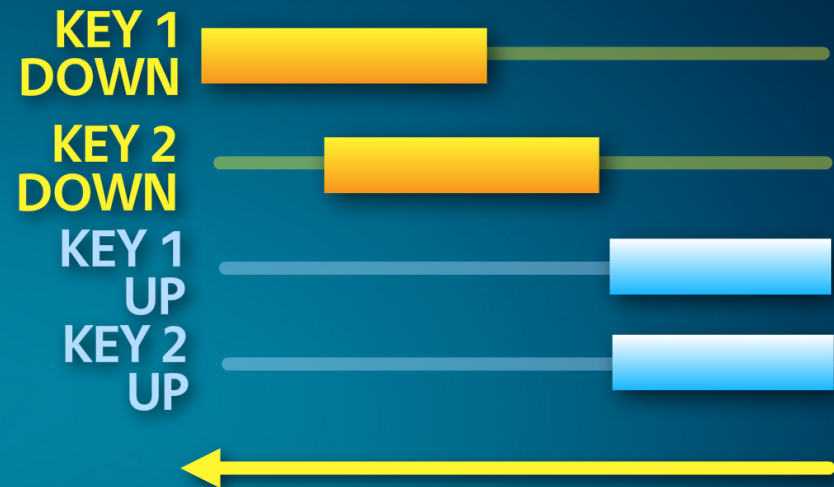


3



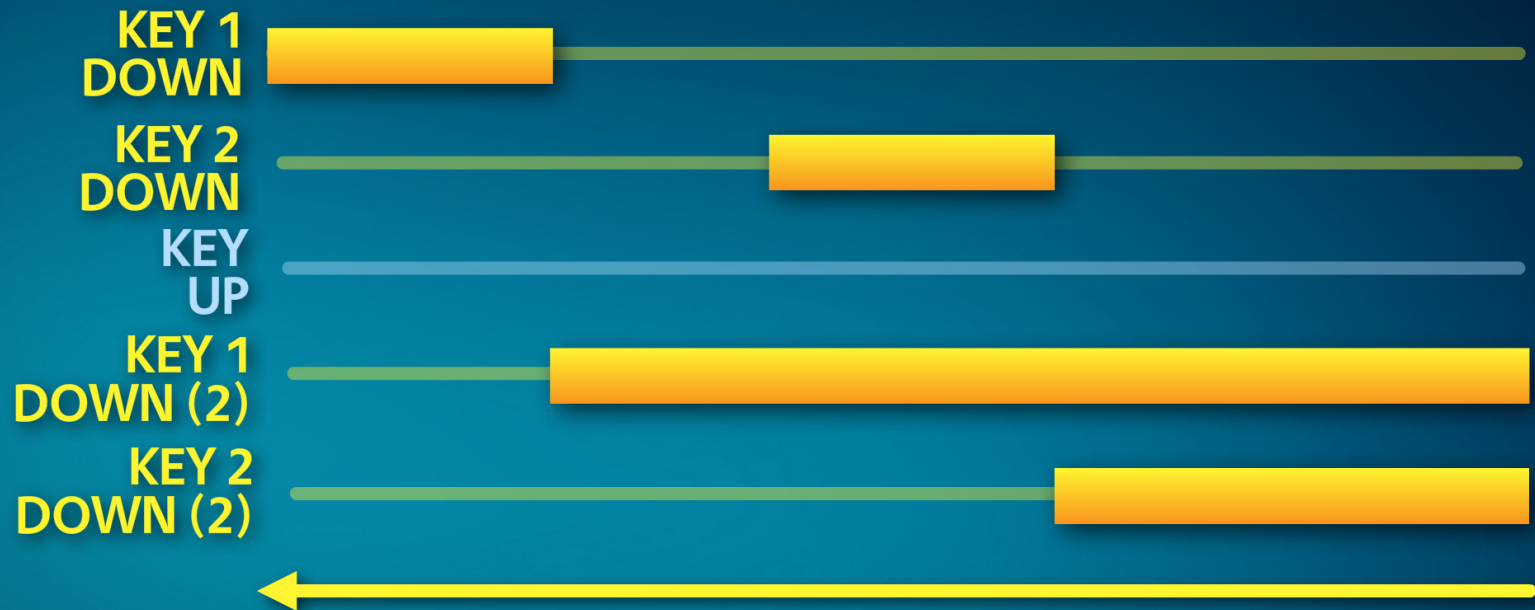
KEYBOARD NAVIGATION (1)

4



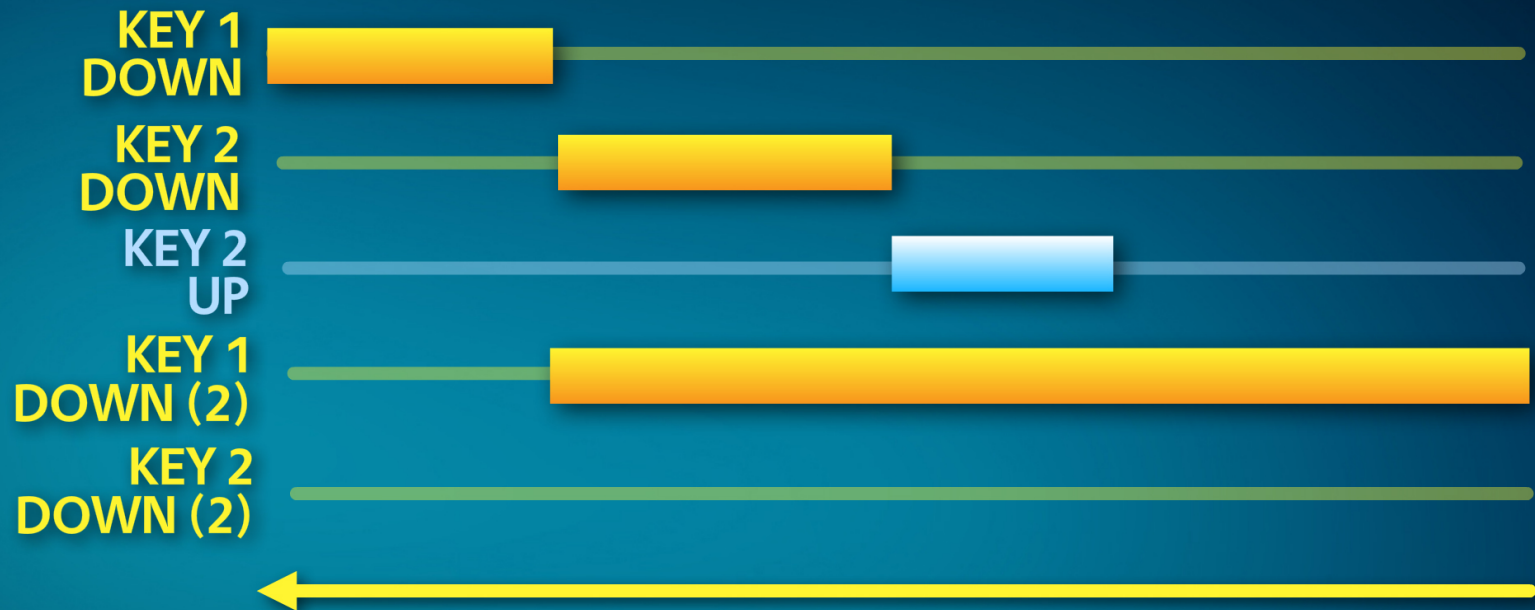
KEYBOARD NAVIGATION (2)

5



KEYBOARD NAVIGATION (3)

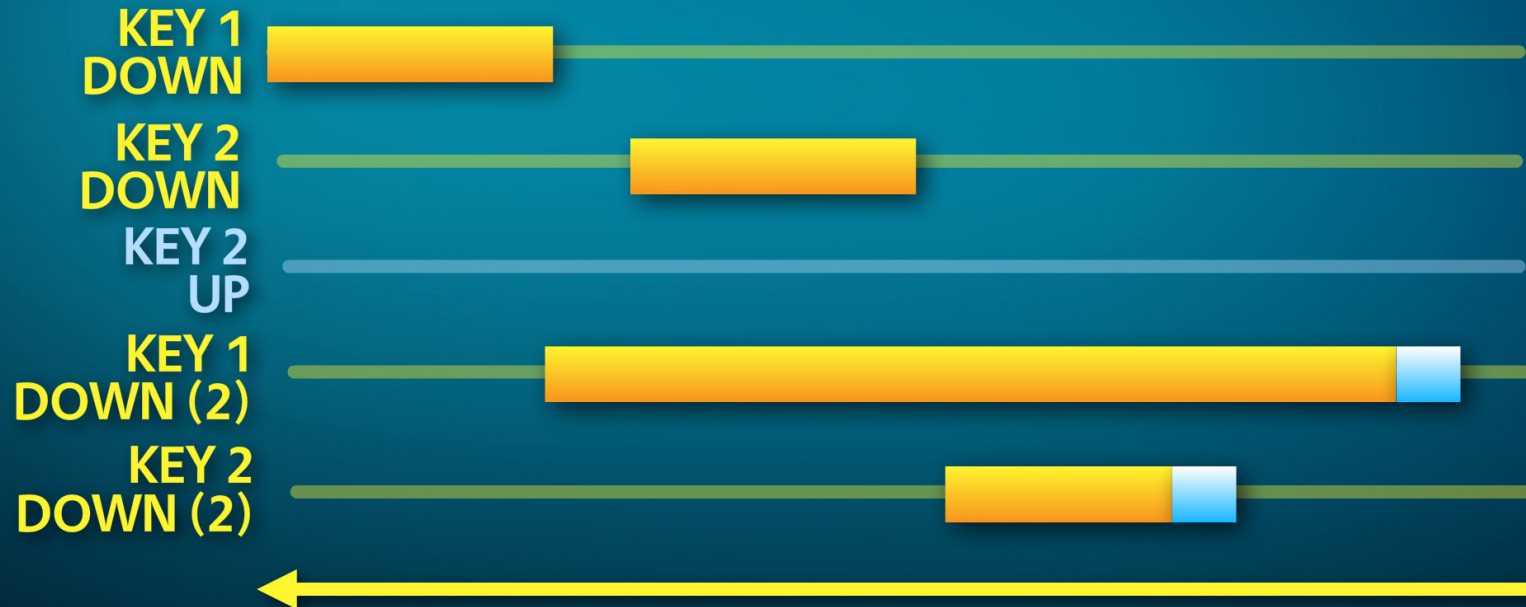
6



KEYBOARD NAVIGATION (4)

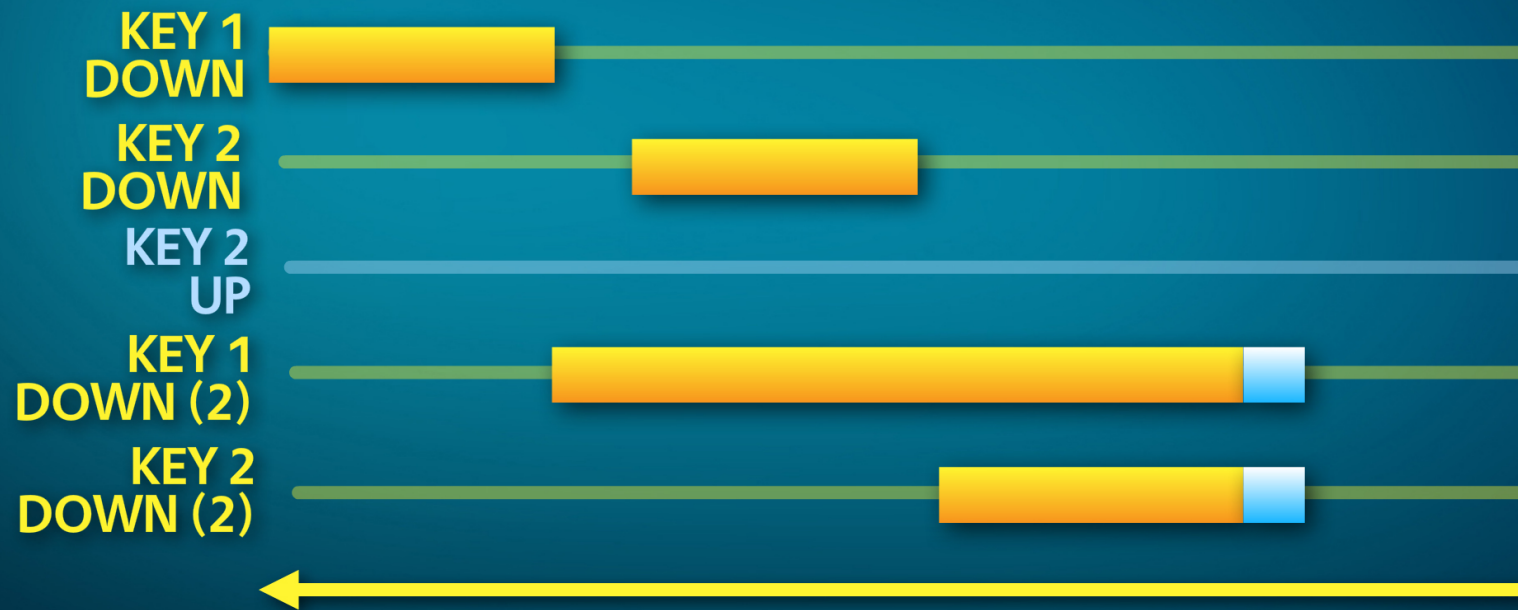
TEST CASES

ALL KEY **CLICKS** AND **HOLDS**
COMBINATION ARE TESTED, PLUS
THIS:



TEST CASES (2)

AND THIS ...





OVERVIEW VIEWPORT NAVIGATION



OVERVIEW VIEWPORT NAVIGATION

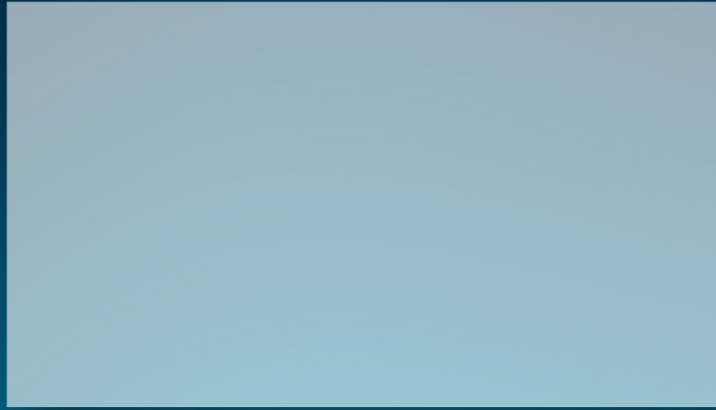
SIMPLE **MAP** INTEGRATION



SEADragon
OVERLAY

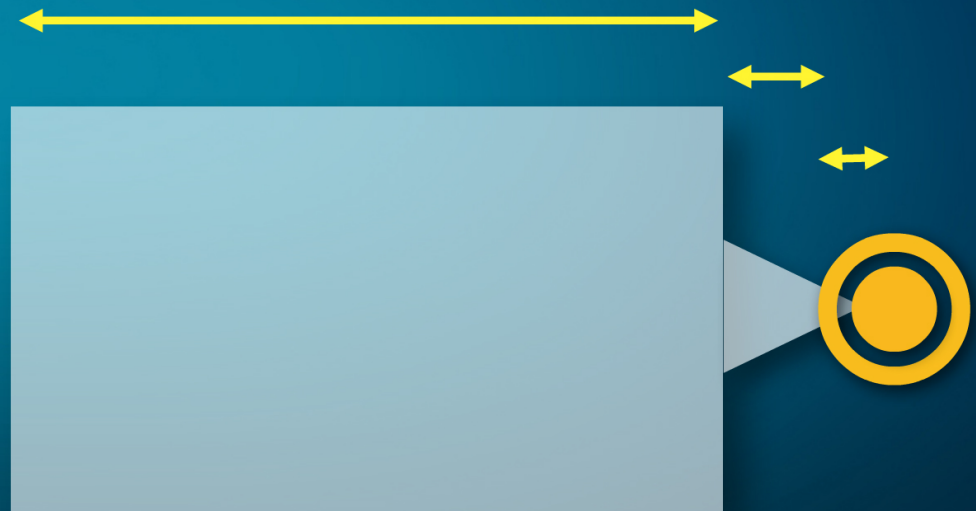
=

"REGENERATION"



OVERLAYS
ARE LIKE
PUZZLES

PREDETERMINE
RECOMPUTE
REMAP
REBUILD



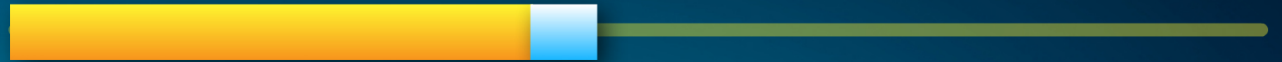


TEST  **CASES**



1

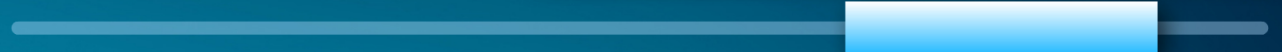
TRANSFORM



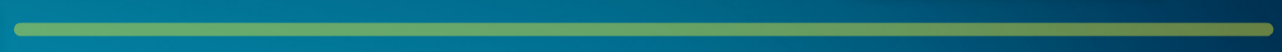
ZOOM OUT



MINIMIZE



REMAXIMIZE



TRANSFORM



MINIMIZE



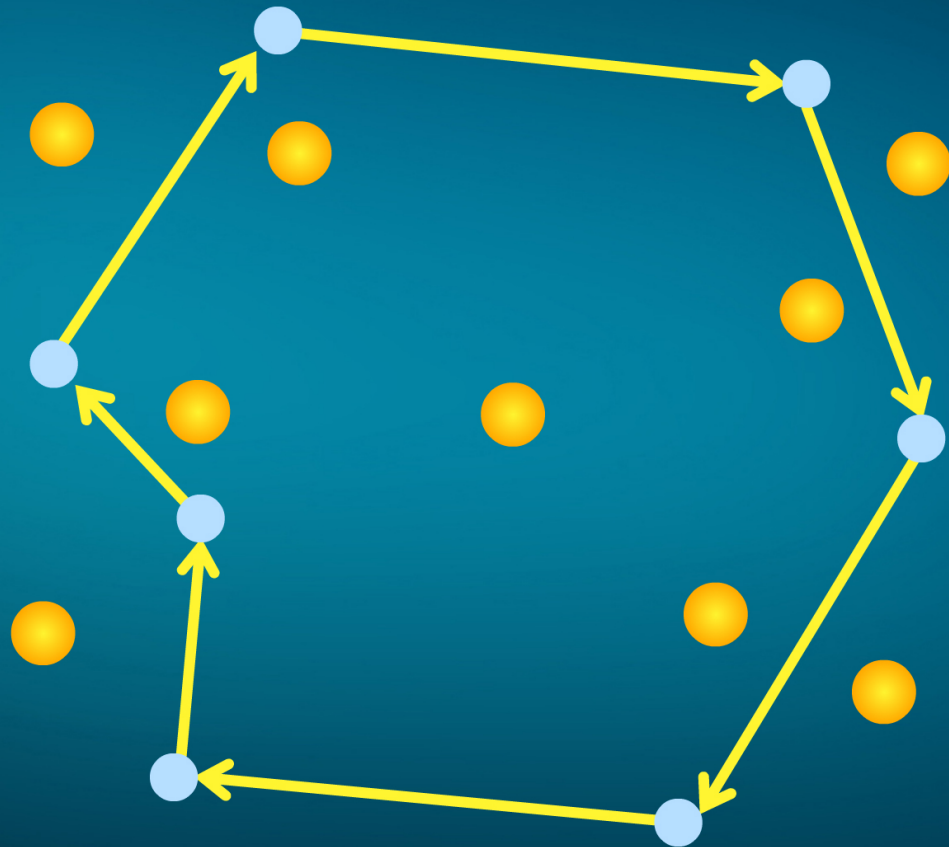
REMAXIMIZE



2

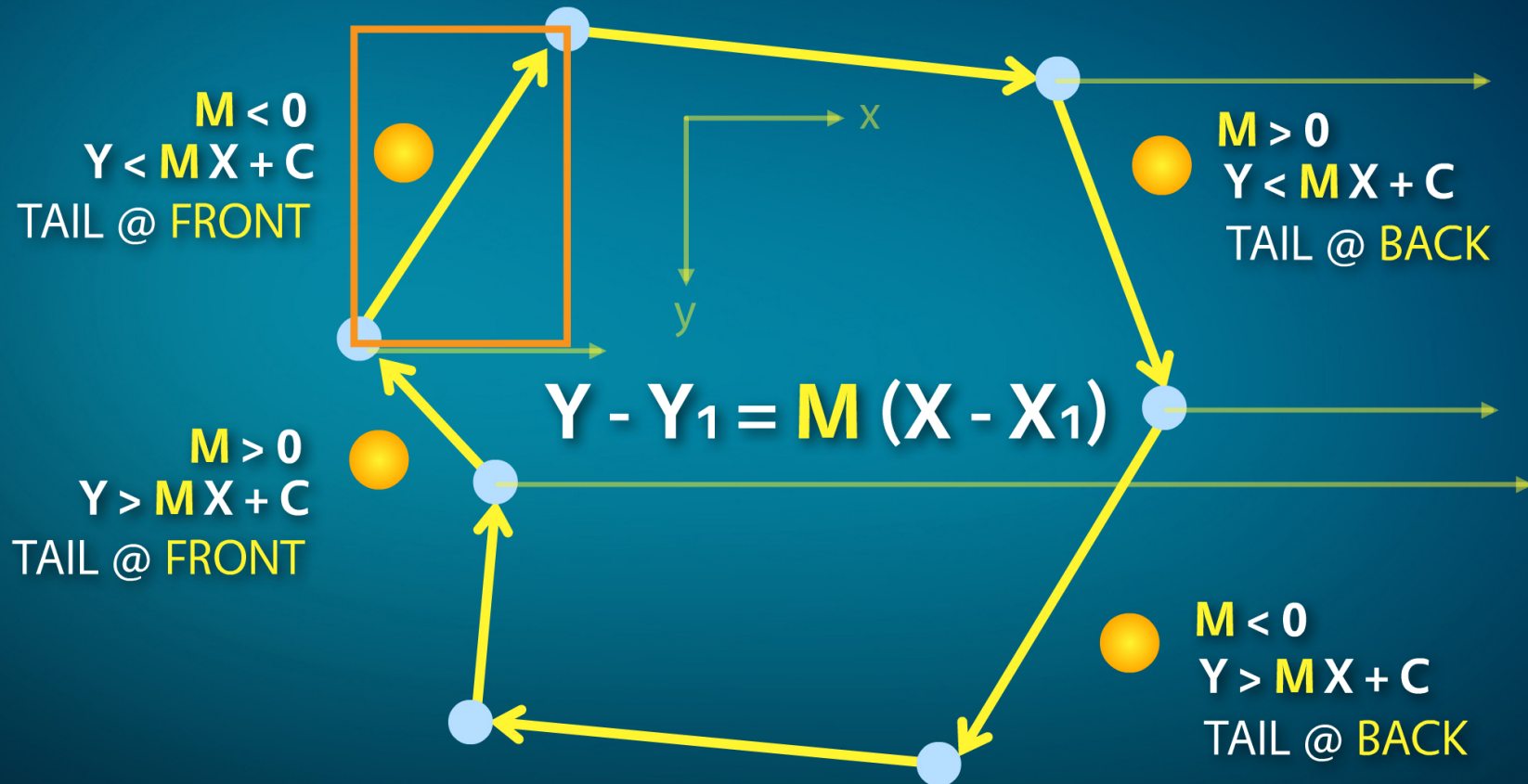
CHALLENGES

ZONING THE PANORAMA



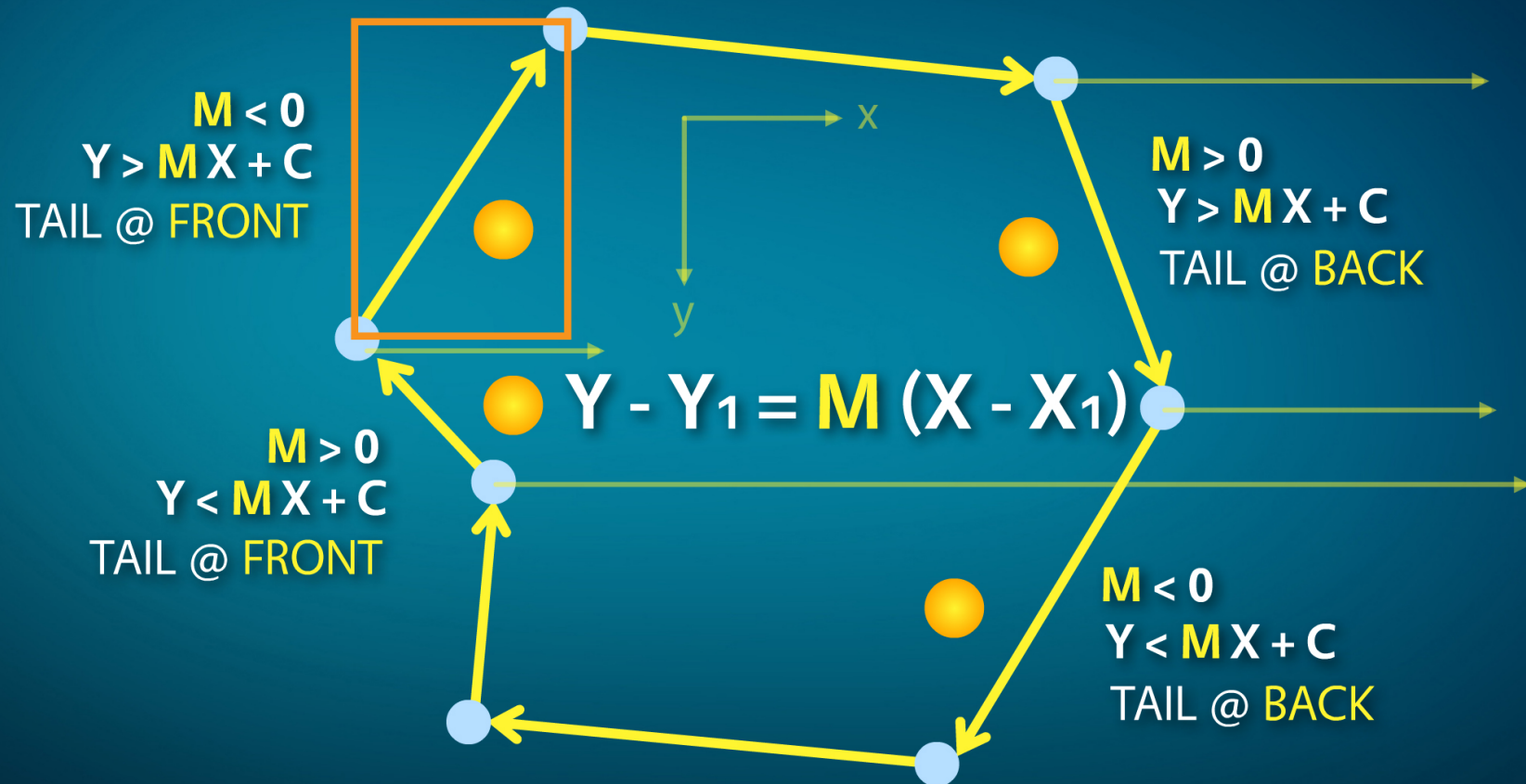
POINT IN POLYGON

RAY CASTING ALGORITHM CASE 1



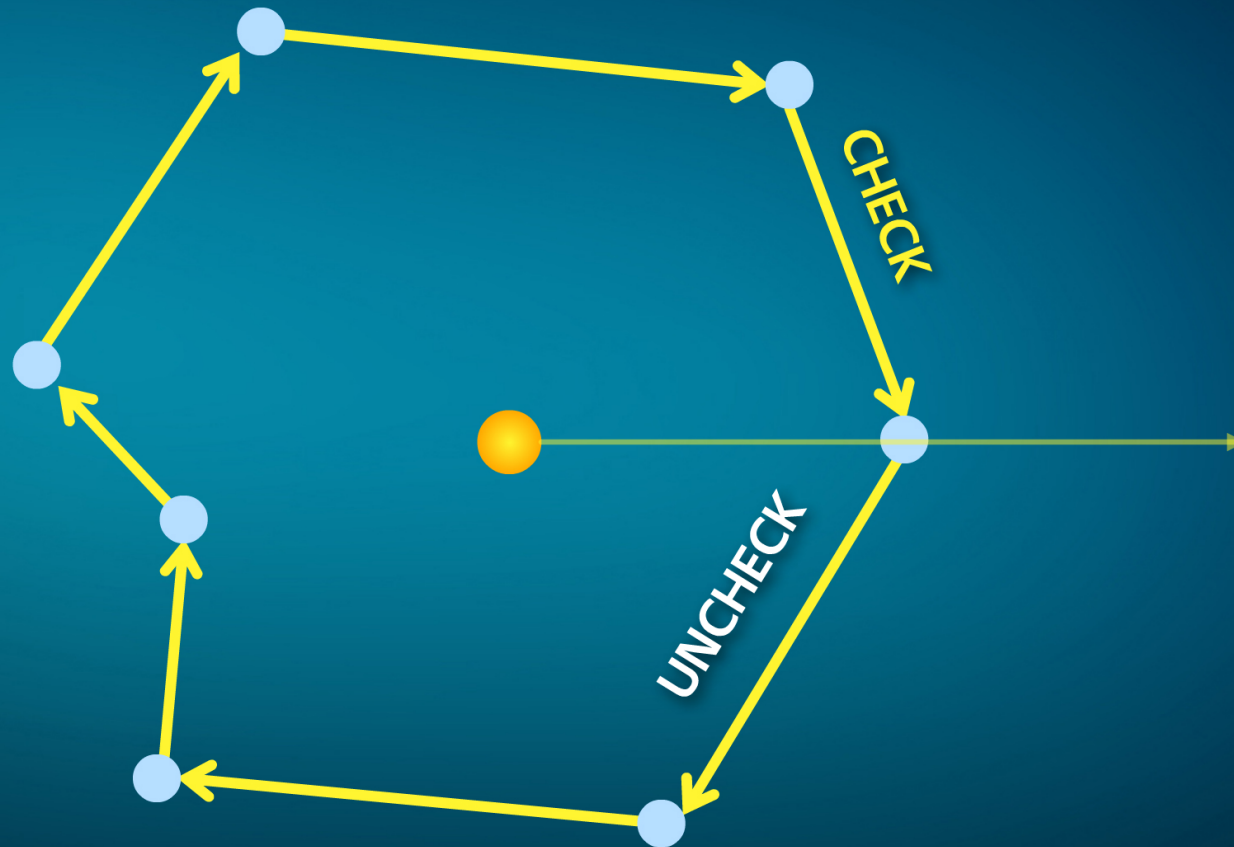
POINT IN POLYGON

RAY CASTING ALGORITHM CASE 2



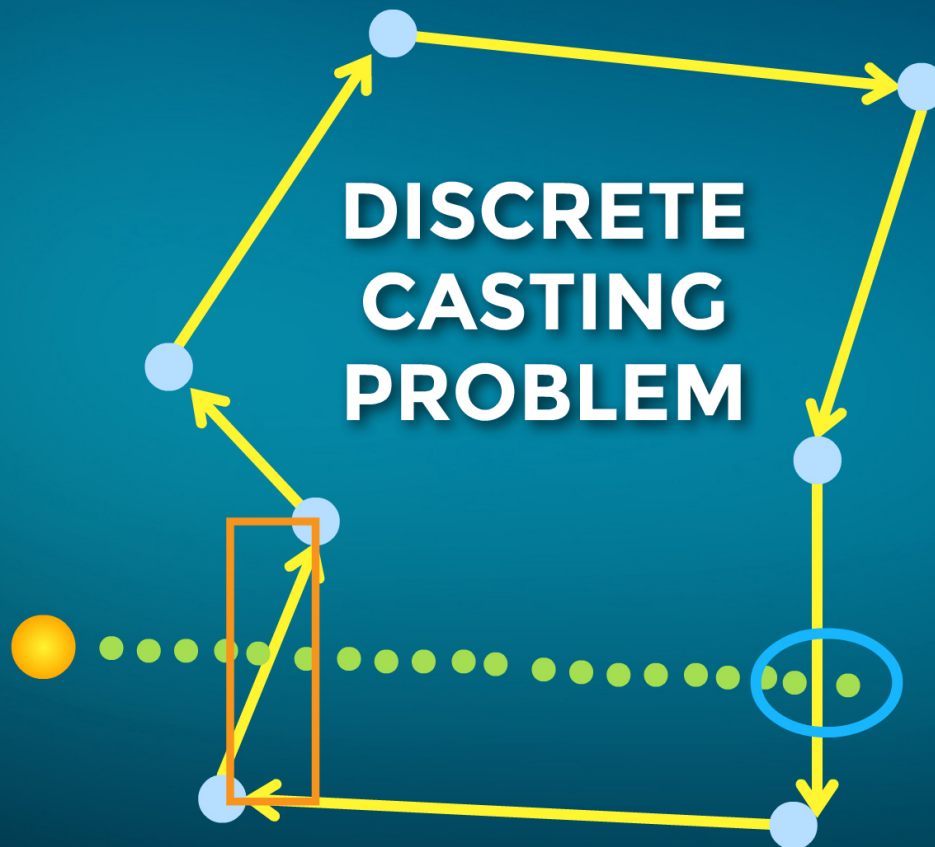
POINT IN POLYGON

RAY CASTING ALGORITHM CASE 3



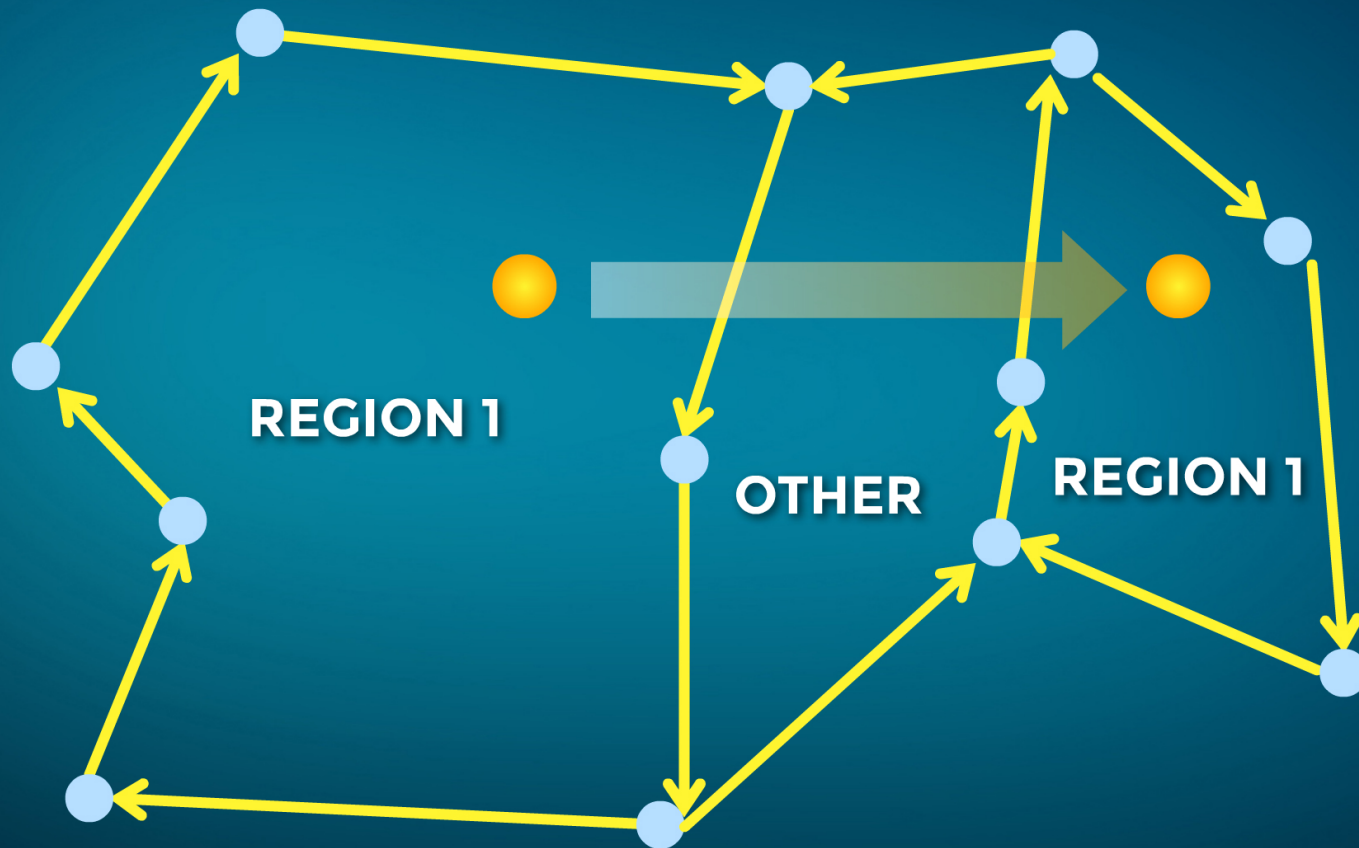
POINT IN POLYGON

INITIAL IMPLEMENTATION **MISTAKE**



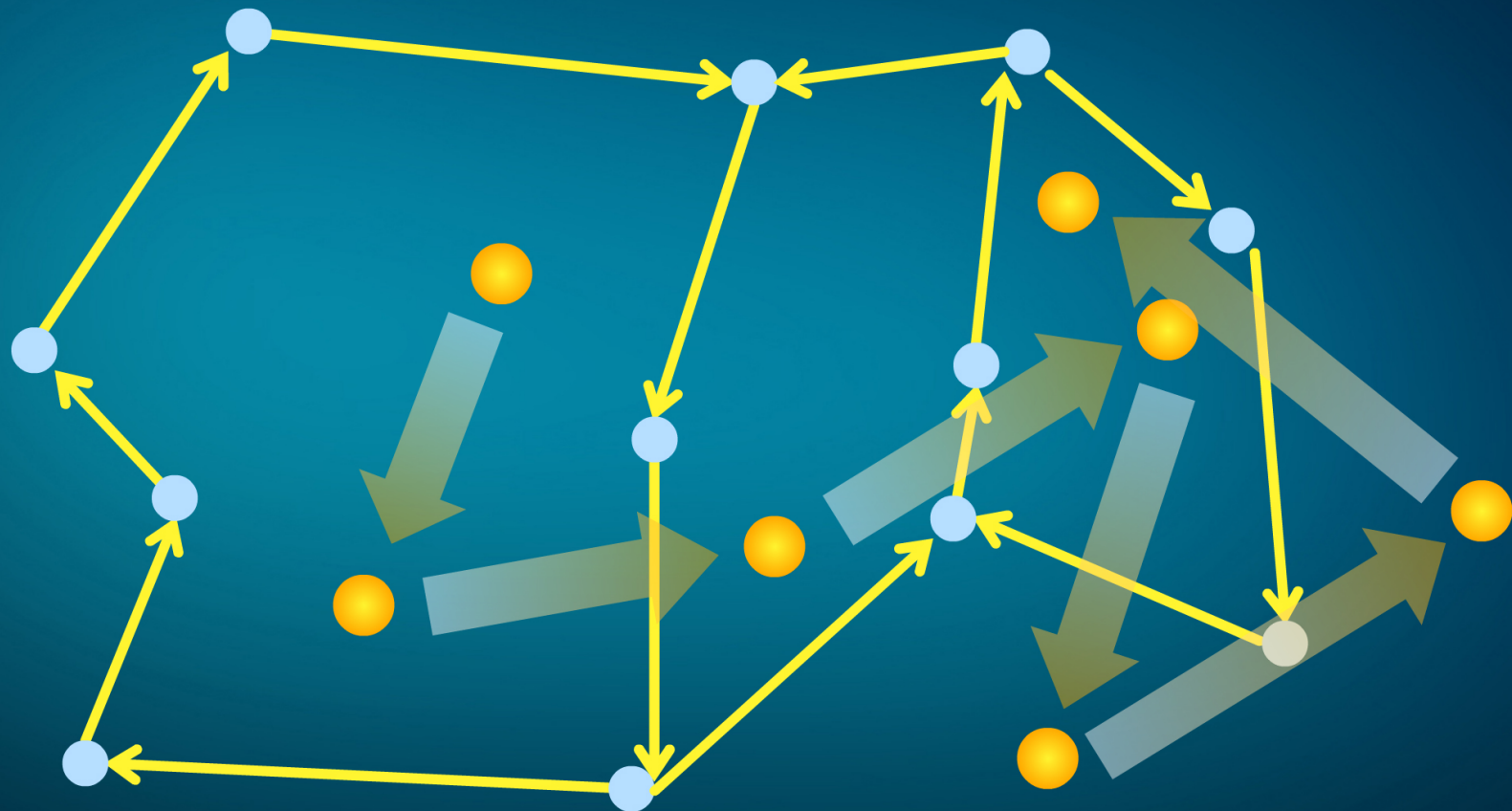
POINT IN POLYGON

IMPLEMENTATION CHALLENGE 1



POINT IN POLYGON

CHALLENGE 2: "RANDOM WALK"



FADE IN



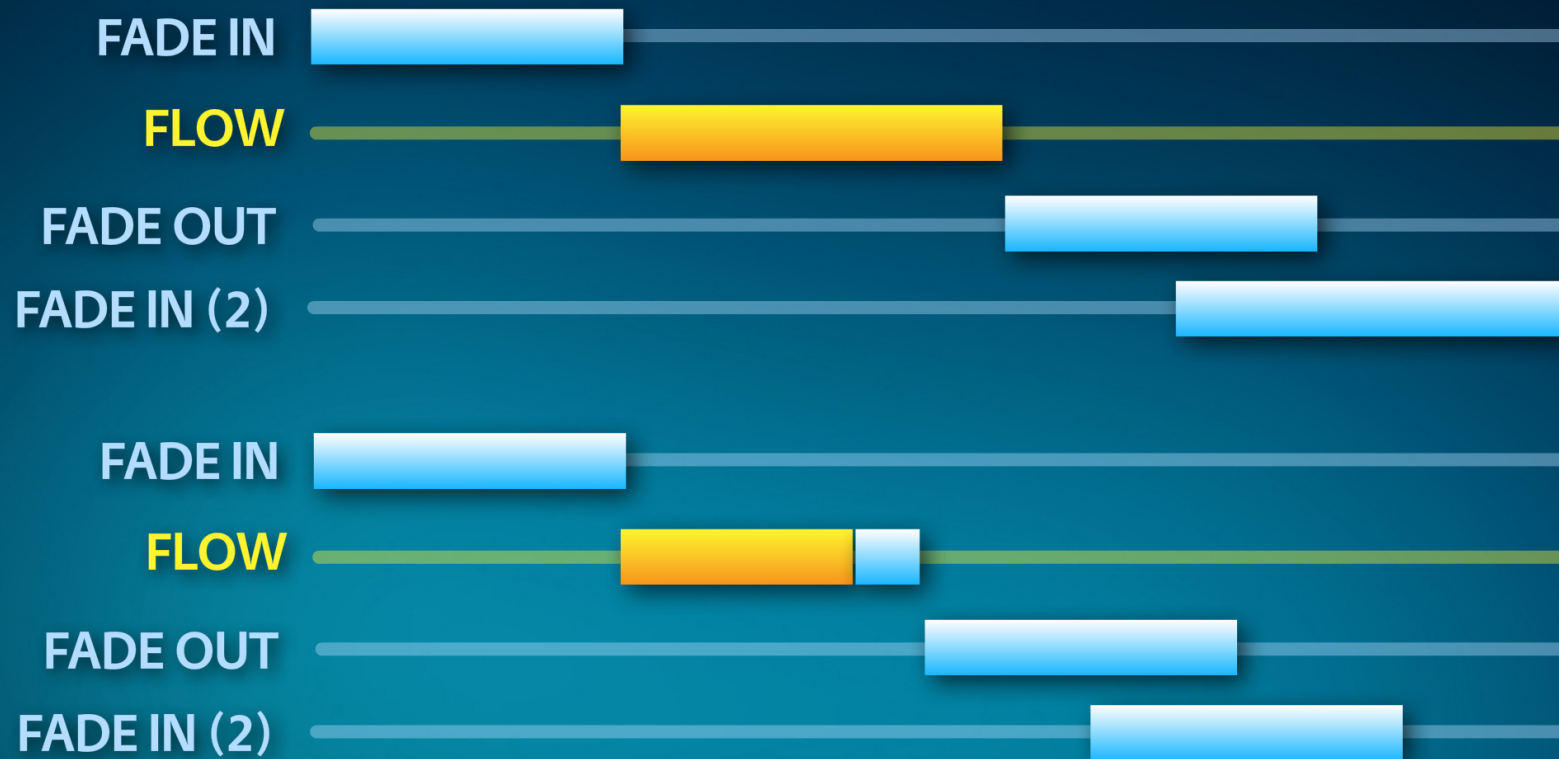
FLOW



FADE OUT

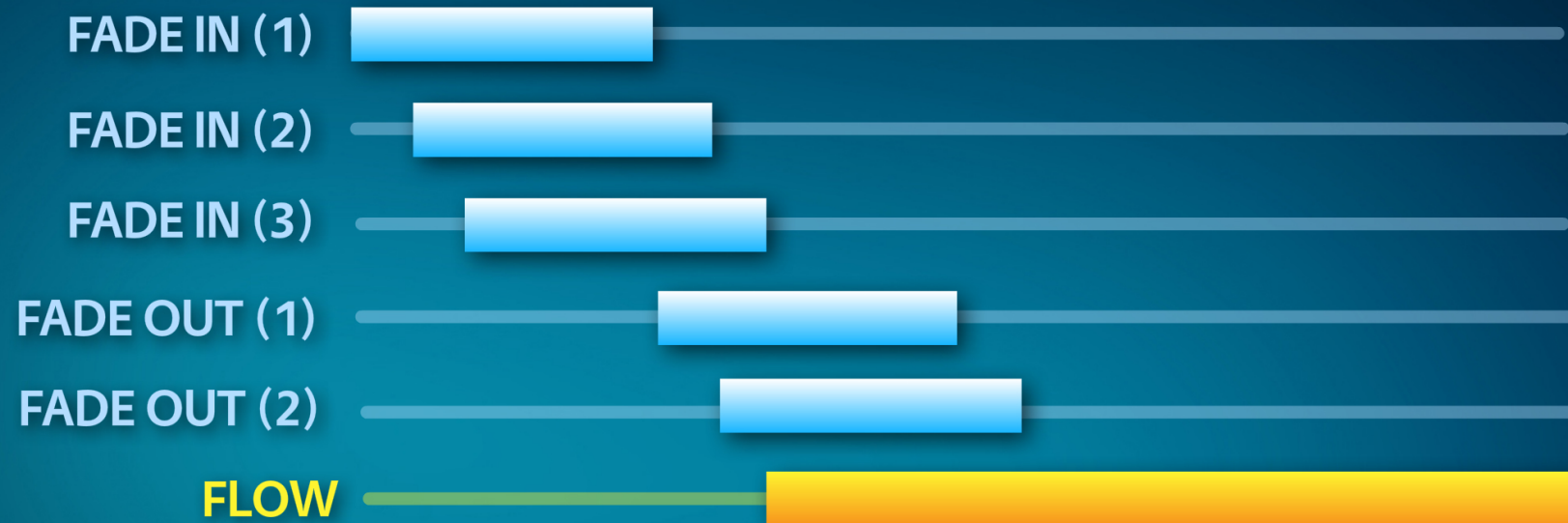


SOUND FX AND TRANSITIONS



SOUND FX AND **TRANSITIONS**

TEST CASE (1)

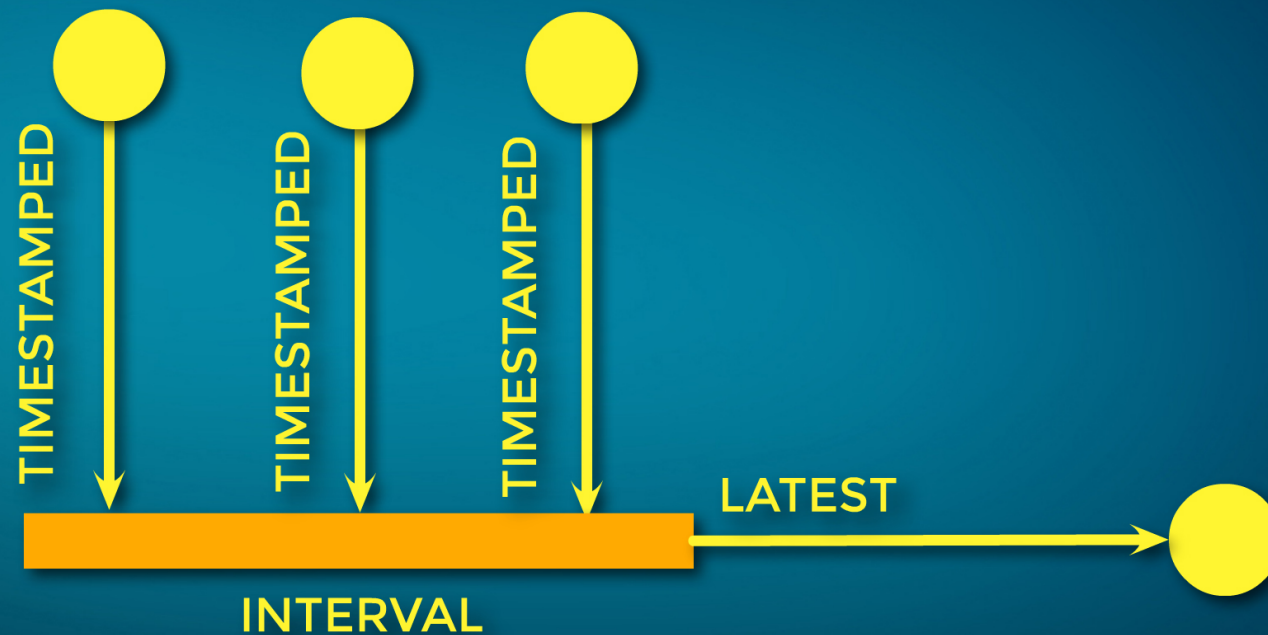


SOUND FX AND TRANSITIONS

TEST CASE (2)

SFX AND TRANSITIONS

CHALLENGE: "OLD" vs "NEW" THREADS



CROSS BROWSER ISSUES

FUTURE IMPROVEMENT

ИНЪКОЛЕНЕН
И ДОЛЪГ

danke
igracias!

**THANK
YOU**

terima kasih!