Developing Software for Adaptive All-In-One Devices

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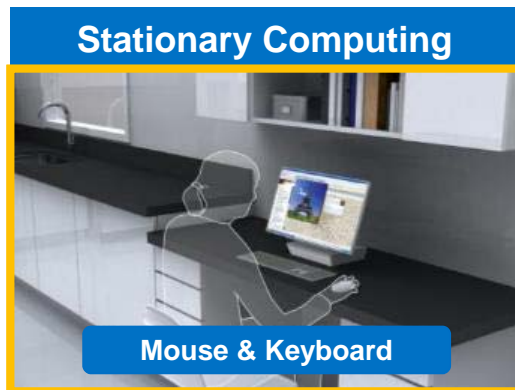
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Agenda

- What Is An Adaptive All-In-One (AIO)?

- Software Opportunities

- Creating Multi-User/Multi-Touch (MUMT) And Lay Flat Applications

- MUMT Application Challenges

- Summary & Next Steps

What Is A Portable AIO?

What is a portable AIO PC?
Portability, Versatility, Collaboration

Stationary Computing

Mouse & Keyboard

Move from room to room

Upright, recline or lay flat

Multi touch

Multi User

portable Computing

Multi touch, lay flat, portable

Great visuals: Screen Size (18" – 27")
Consumption, Creation, and Collaboration:
Built-in Recline Mechanism (upright, recline, lay flat), kbd/mouse, multi touch
Portability: battery operated

Redefines the computing experience:
Portable AIO, social interaction, and lifestyle

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Adaptive AIO Vision

It's an All-in-One PC when we need it.
It's an adaptive surface when we want

We like the way it looks

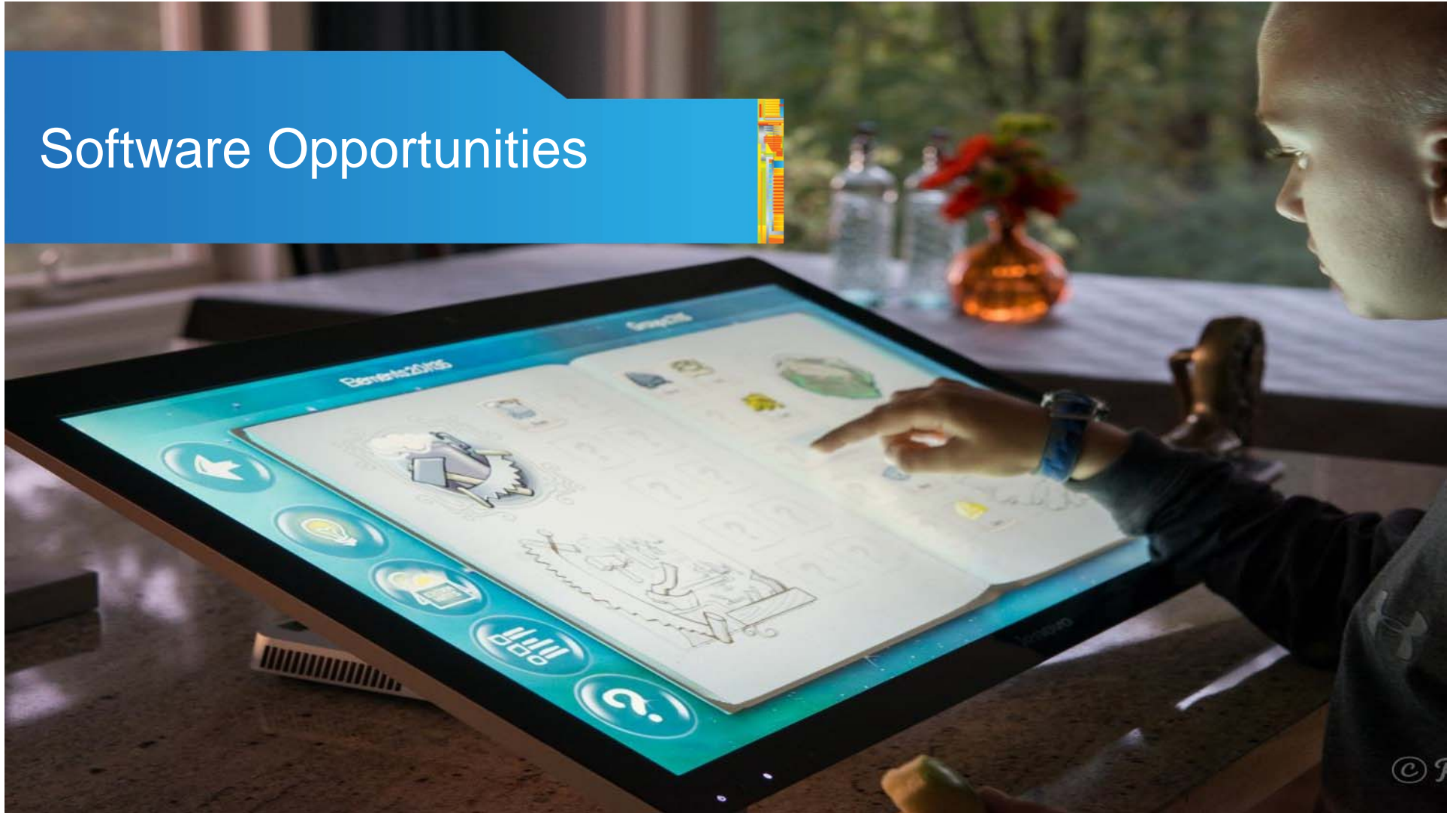**It brings my friends and family together**

It is an expression of us

IT IS FUN AND INTUITIVE TO WORK WITH

It helps us complete our work efficiently

Software Opportunities

Adaptive AIO Usages

Portable AIO: Flexible & Versatile	Social & Lifestyle: Keep The Family Together

Productivity
Everything you expect in a PC

Gaming
10 point immersive touch
Flat 2+ players
Interactive experience

Everyday Computing
Email, Web Browsing

Collaborative Computing
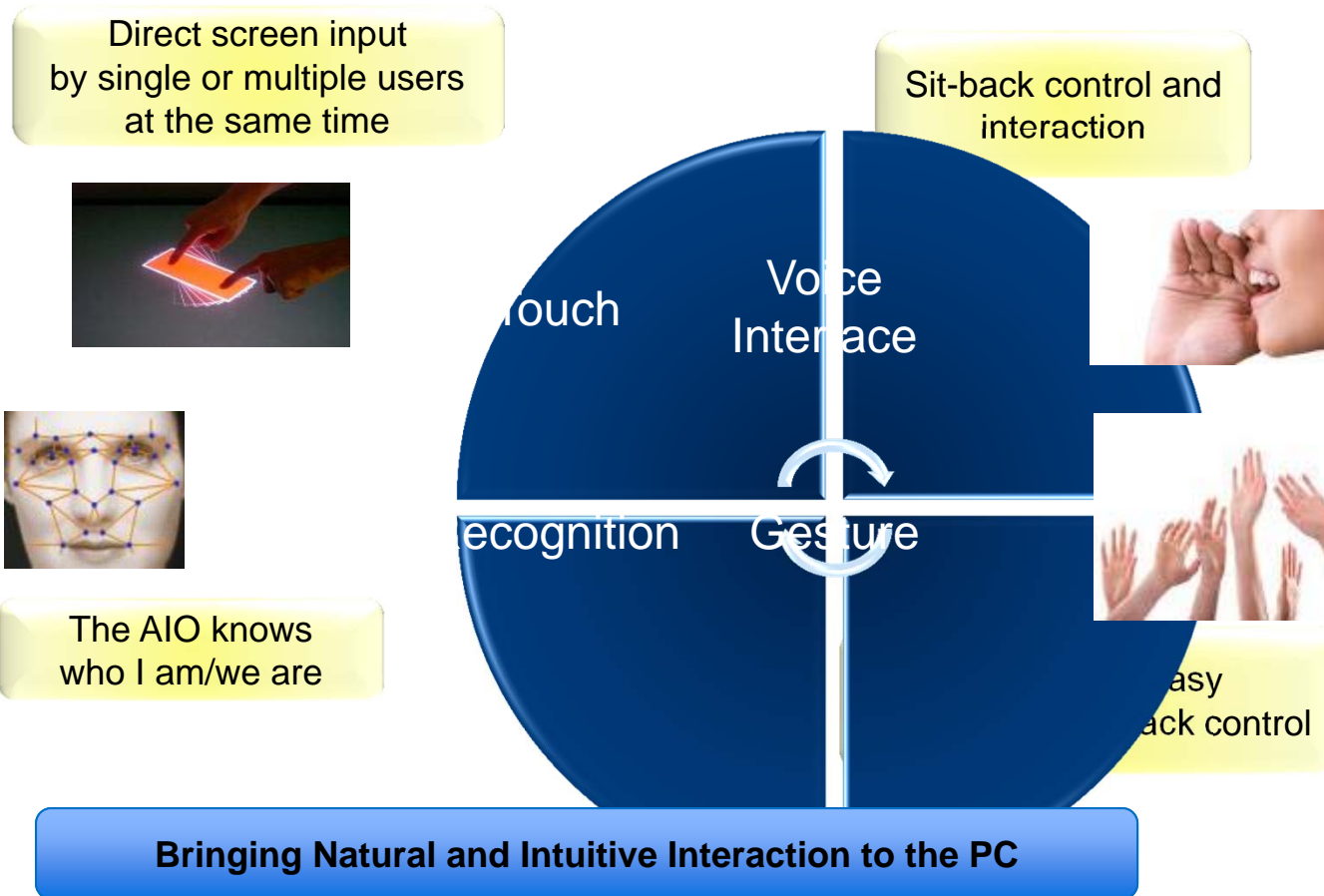Photo / Video Sharing / Creation

Entertainment
Videos to go!

Music / Education
Piano / Guitar Tutor / Music
Home School / Interactive Tutor

Adaptive AIOs Provide Many Experiences On One Device

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Publishing Applications for AIO

Adaptive AIOs are currently
shipping with Windows* 8

Fix AppUp logo

Windows 8

Windows 8 Application stores:

- Windows 8 Marketplace*
- Intel AppUp®:
    - Many developer tools available
    - Intel AppUp Developer Program
    - Intel AppUp SDK Suite
    - http://software.intel.com/en-us/appup

Intel AppUp℠ developer program

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Creating MUMT & Lay Flat Applications

Developing Multiplayer Games

- Perspective

- Touch

- Multiplayer Considerations

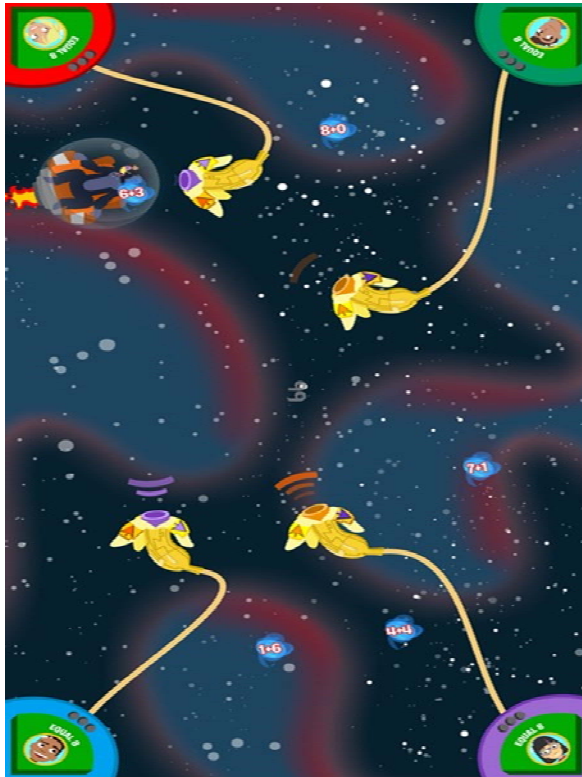- Other Issues

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Perspective

Lay flat screen allows developers to create multiplayer interactive game play on the same screen

Perspective

Corners: No one has an unfair reach advantage

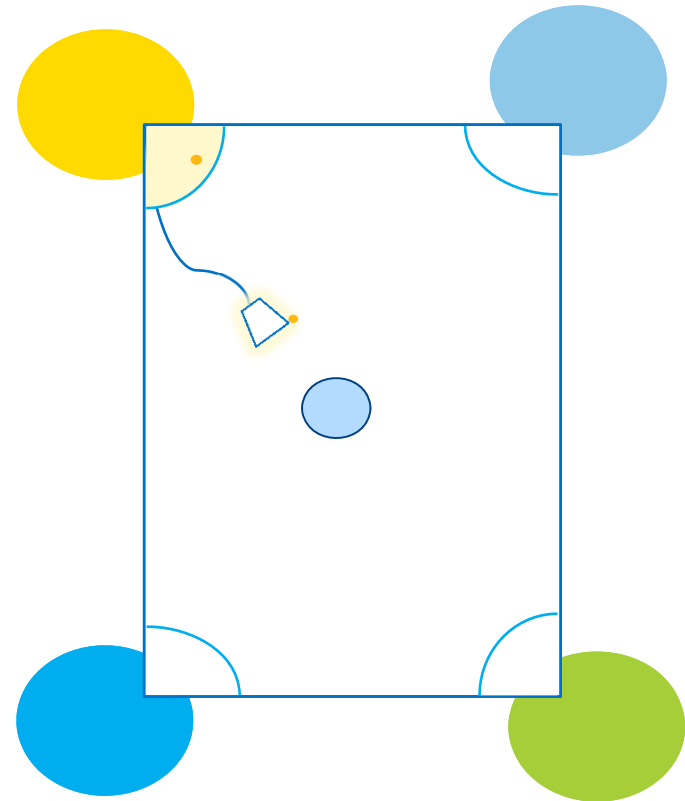Edges: More room for controls and text based instructions

Touch

Ten point multi-touch AIO systems give developers more choices for creating user interaction vs keyboard and mouse

Four players gives a total possibility of forty simultaneous touch points

Touch

Game design needs to think ways to **minimize total number of touches** on screen, while keeping the game play interesting

Touch

In case where simultaneous touches may exceed maximum supported, game design attempts to hide limitation in play pattern

- In multi-user goo removal, an individual unsupported touch point is unlikely to be unnoticed because the 10 supported touch points work together to successfully overcome the challenge (clean the screen).
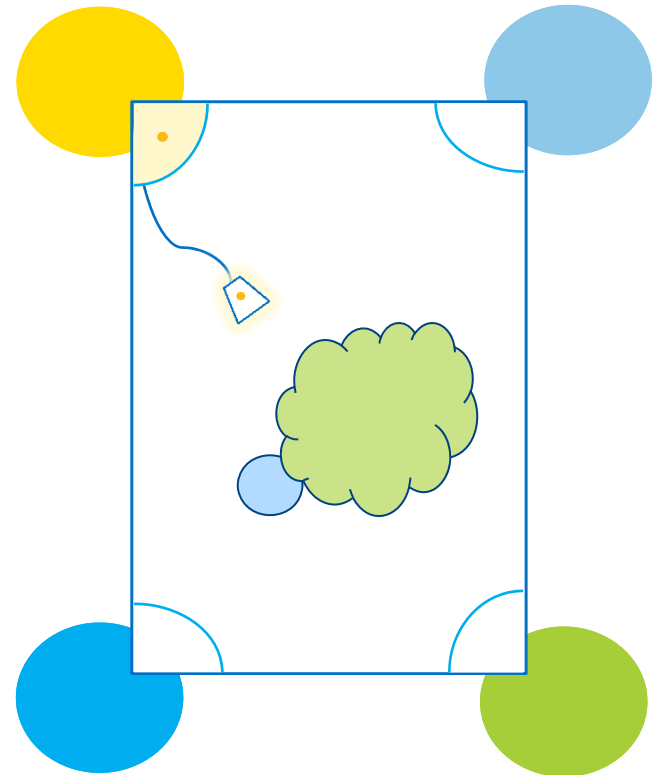
Multiplayer Considerations

Make sure you are thinking of all the players and their relative position to the play area when designing levels for multiplayer

- For multiplayer collaborative play, spread out objectives of each level so that all players have a chance to participate

- For multiplayer competitive play, make sure levels do not give certain players an unfair advantage over others

Adapting single player games for multiplayer

- Make sure the multiplayer UI is compatible with original single player design

- Instead of only having power ups for each individual, power ups to impede/help other players also available

- Upgrade scoring system to support multiplayer

Multiplayer Considerations

Player Identification

- System does cannot identify any specific touch as belonging to any player

- Attaching player's tools to their base to make clear what is related to their play area

- Have player actions begin from their own base or dock

- Use voice prompts and animation to direct action from individual players or groups of players
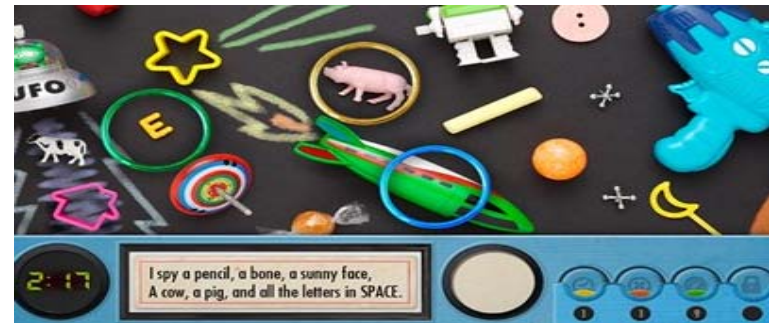
Other Issues

Loading of graphics takes time depending on hardware

- Game loads initial graphics during the game launch, after that it loads rest of the graphics in the background

Edge swipe

- Edge swipe happens from up, left and right. This is usually concern, but while game play is running and at least one touch is active on screen, wipe does not happen.

Snap View

- Decide how you will support the different resolutions in snap view

Touch Keyboard

- Only available from a single orientation

Final Summary

- Create perspective based on player positioning around the device

- Draw focus on important items on screen

- Think about the play patterns correlation to touch behavior

- Try out different control solutions to find the correct one for your app

- Make sure you are thinking of all the players and their relative position to the play area
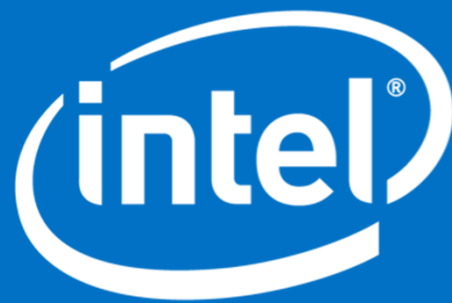
Extensive SW Ecosystem Optimized
For Intel Graphics

SW Enabling Strategy & Plans

Multi-User Multi-Touch

SW Catalog available at:
www.intel.com/AIOsoftware

Strategy and Plan

- Focus on growing branded and familiar titles worldwide

- Deliver usages that utilize Intel Technologies

- Expand all categories

- Grow Awareness of MUMT

- Geo Specific Apps & Localization

- Expand to other initiatives (i.e. CCF, Sensors, PerC, Voice, etc)

Over 160 MUMT titles and growing

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Press Review of portable AIO PC

"a fresh, new concept in home computing." – August 29th, 2012

" It's a transportable multi-touch PC designed to **adapt to your family's needs**" – August 30th, 2012

"Windows 8 has really spurred some incredible innovation in our PC ecosystem…we've started to see an explosion of new and unique form factors… like all-in-ones, like **portable all-in-ones**"
- Steve Ballmer, MS CEO, Keynote Build , June 2013

//build/

"… what tech would be the **most influential in your day-to-day** life…. By an overwhelming majority, the Lenovo IdeaCentre Horizon takes home the prize"
- January, 10th 2013

Sony - VAIO Tap 20 20" Portable Touch-Screen All-In-One

Dell XPS 18 portable AIO now available

ASUS Portable AiO P1801-T

HP intros the Envy Rove 20, a portable all-in-one…

PC World Review, Time, PC Magazine – Online Reviews

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