

Broadening the Appeal of **Portable Media Players**

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New Product Definition, Fall 2005

The Commuter spends 90 minutes on train each day

“The train is always packed. I like watching TV shows— it helps me pass the time and carve out my own space.”



- > 30 minutes daily
- ISSUES:
 - » frequent fresh content
 - » battery life
 - » holding the device

Commuter

- 2–10 hours, occasionally
- ISSUES:
 - » content update on-the-go
 - » battery life
 - » holding the device

Traveler

CUSTOMER CLUSTERS

Youth

- > 30 minutes, 4–5 day/week
- ISSUES:
 - » repeated viewing
 - » durability
 - » sharing

Gadgeteer

- 10 minutes – 2 hours, daily
- ISSUES:
 - » multiple formats
 - » adaptability/expandability
 - » coolness

Personal Video Player Usage

Content Types *vs.* Desired Screen Size *vs.* Context

Screen Size



Context Content Types

<p>Feature Movies</p> <p><u>duration</u> 75-200 minutes <i>(might watch in segments)</i></p> <p><u>frequency</u> from time to time</p> <p><u>repeat</u> seldom</p> <p><u>alternatives</u> boredom, book, in-flight movie</p> <p><u>requires</u> larger screen; entire battery charge</p>	<p>TV Show</p> <p><u>duration</u> 20-50 minutes <i>(might watch in segments)</i></p> <p><u>frequency</u> from time to time</p> <p><u>repeat</u> unlikely</p> <p><u>alternatives</u> boredom, book, magazine, newspaper</p> <p><u>requires</u> one-time purchase (can't rent)</p>	<p>Kid Videos</p> <p><u>duration</u> 20-50 minutes</p> <p><u>repeat</u> over and over and over</p> <p><u>alternatives</u> audio, crying, sleeping, fighting</p> <p><u>requires</u> headphones</p>	<p>Cartoons</p> <p><u>duration</u> 7-12 minutes</p> <p><u>repeat</u> occasionally</p> <p><u>alternatives</u> being bored, magazine, comics</p> <p><u>requires</u> works on smaller screen</p>	<p>Short Films</p> <p><u>duration</u> 1-12 minutes</p> <p><u>repeat</u> occasionally, to show friends</p> <p><u>alternatives</u> conversation, being bored</p> <p><u>requires</u> ability to share</p>	<p>Music Videos</p> <p><u>duration</u> 3-5 minutes</p> <p><u>repeat</u> occasionally</p> <p><u>alternatives</u> watching videos on large screen</p> <p><u>requires</u> headphones</p>	<p>News/Sports Highlights</p> <p><u>duration</u> 1-15 minutes</p> <p><u>repeat</u> never</p> <p><u>alternatives</u> being bored, magazine, newspaper</p> <p><u>requires</u> frequent downloads/updates</p>	<p>Short Clips</p> <p>like the Daily Show monologue</p> <p><u>duration</u> 1-3 minutes</p> <p><u>repeat</u> seldom</p> <p><u>alternatives</u> being bored, magazine, comics</p> <p><u>requires</u> download-on-the-fly</p>	<p>X/Adult</p> <p><u>duration</u> 5-15 minutes</p> <p><u>repeat</u> occasionally</p> <p><u>alternatives</u> other forms of porn</p> <p><u>requires</u> non-public viewing</p> <p>?</p>
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Travel long trip, air or car 360+ min. (6+ hrs.)	Travel medium, air or car 120-360 min. (2-6 hrs.)	Commuting 30-120 min. daily	Working Out 30-60 min. every few days	Waiting 10-60 min. occasionally	Just Hangin' Out 5-120 minutes
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Competitive Landscape

Personal Media Players

- + Great for passing time
- Cost, battery life
- \$ 125 up for DVD
- 300 up for digital



Portable DVD Players
GoVideo DP8440
Panasonic DVD-LX9



Portable Multimedia Players

- iriver U10
- Creative Zen Vision
- PQI mPack P800
- MSI Megaview 561
- Samsung YP-T8
- New iPod

Mobile Electronic Devices

- + Functionally optimized
- None (except MP3) as engaging for passive entertainment
- \$ 100 up



MP3 Player
iPod Shuffle/Nano
Creative Zen Micro (5GB)



Video Game Consoles
Sony PSP
Nintendo Game Boy Micro



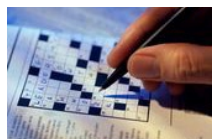
PDAs/Pocket PCs
Palm TX
HP iPaq Pocket PC hx4700



Cellphone
Motorola Razr V3
Nokia N-Gage QD

Entertainment on the Go

- + Free
- Not nearly as engaging as video for many people
- \$ 0-5



Crossword Puzzles



Read newspaper/magazine
Doze
Coffee/Drinks



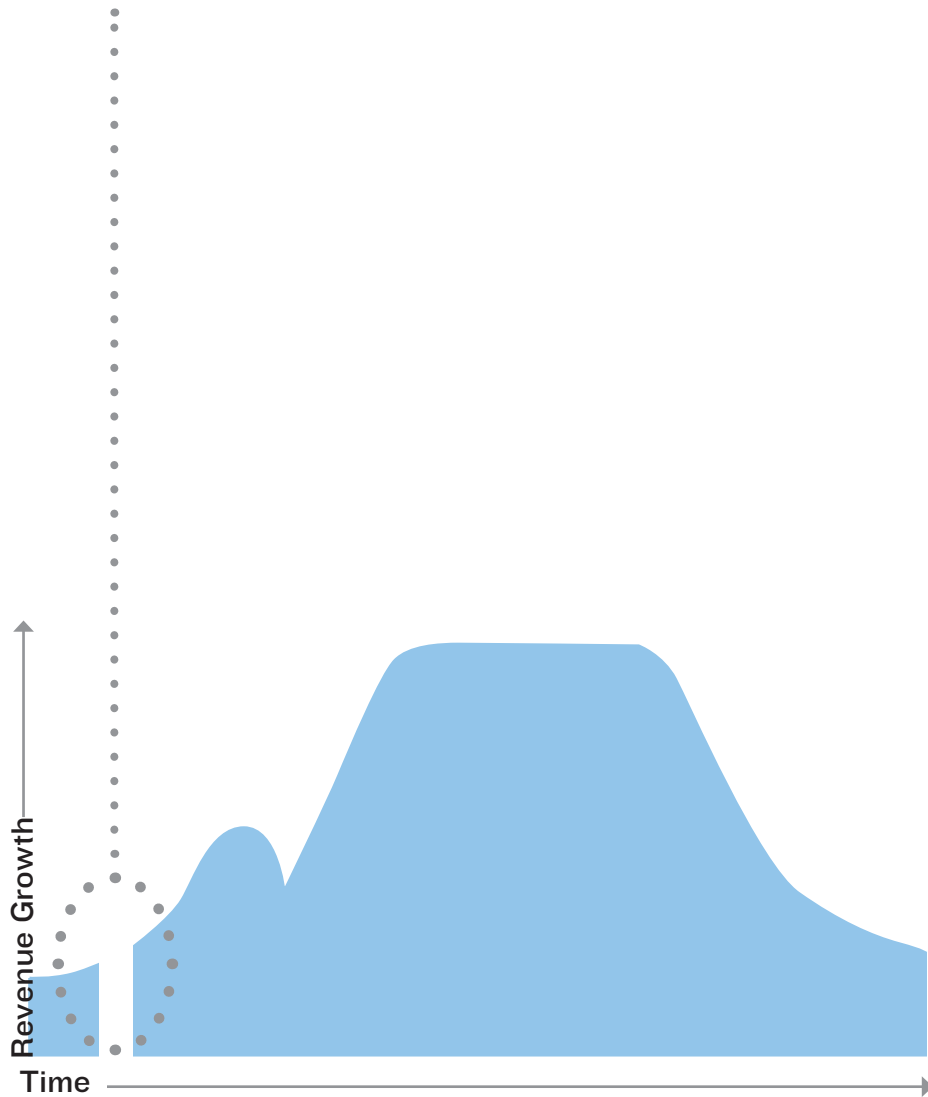
Stare out the window



Take pictures

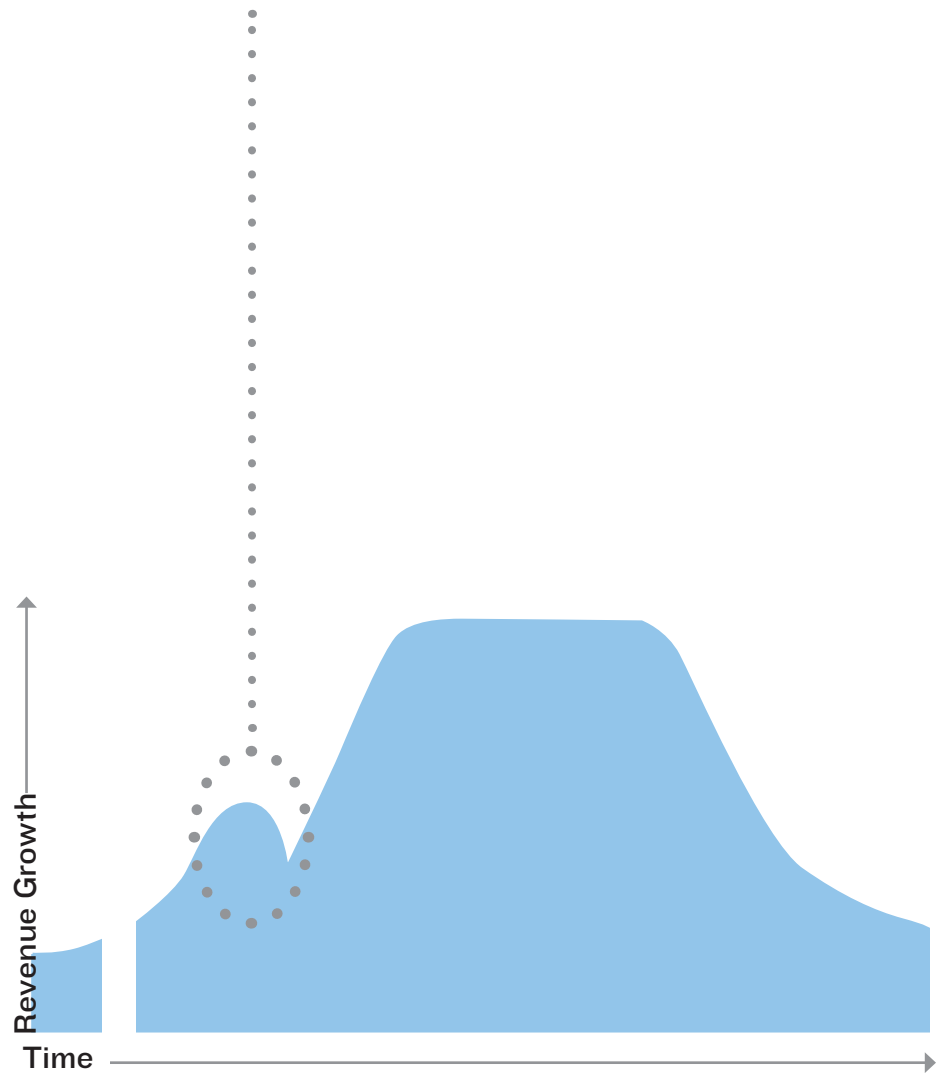
PMP is crossing the chasm.

Portable Media Players have been in the market for more than two years, but sales have yet to grow strongly. Price points remain high for the level of functionality provided.



Portable DVD player crossed it.

The Portable DVD player was also in the chasm, but its market quadrupled from 1999 to 2003. Growth was spurred by dramatic price drops, and by the appeal to a new user segment: families with young children to entertain on trips and while commuting to and from school and activities.



Comparative Technical Context

While the Apple iPod has only recently become a video player, its long presence in the market provides a useful measure of how technology has progressed.



Generation 1
October 2001

Black & White Screen

.78" thick

5 GB



Generation 2
July 2002

Black & White Screen

.78" thick

20 GB



Generation 3
April 2003

Black & White Screen

.62" thick

40 GB



Generation 4 (Photo)
October 2004

Color Screen

.75" thick

60 GB



Generation 5
October 2005

Color Screen

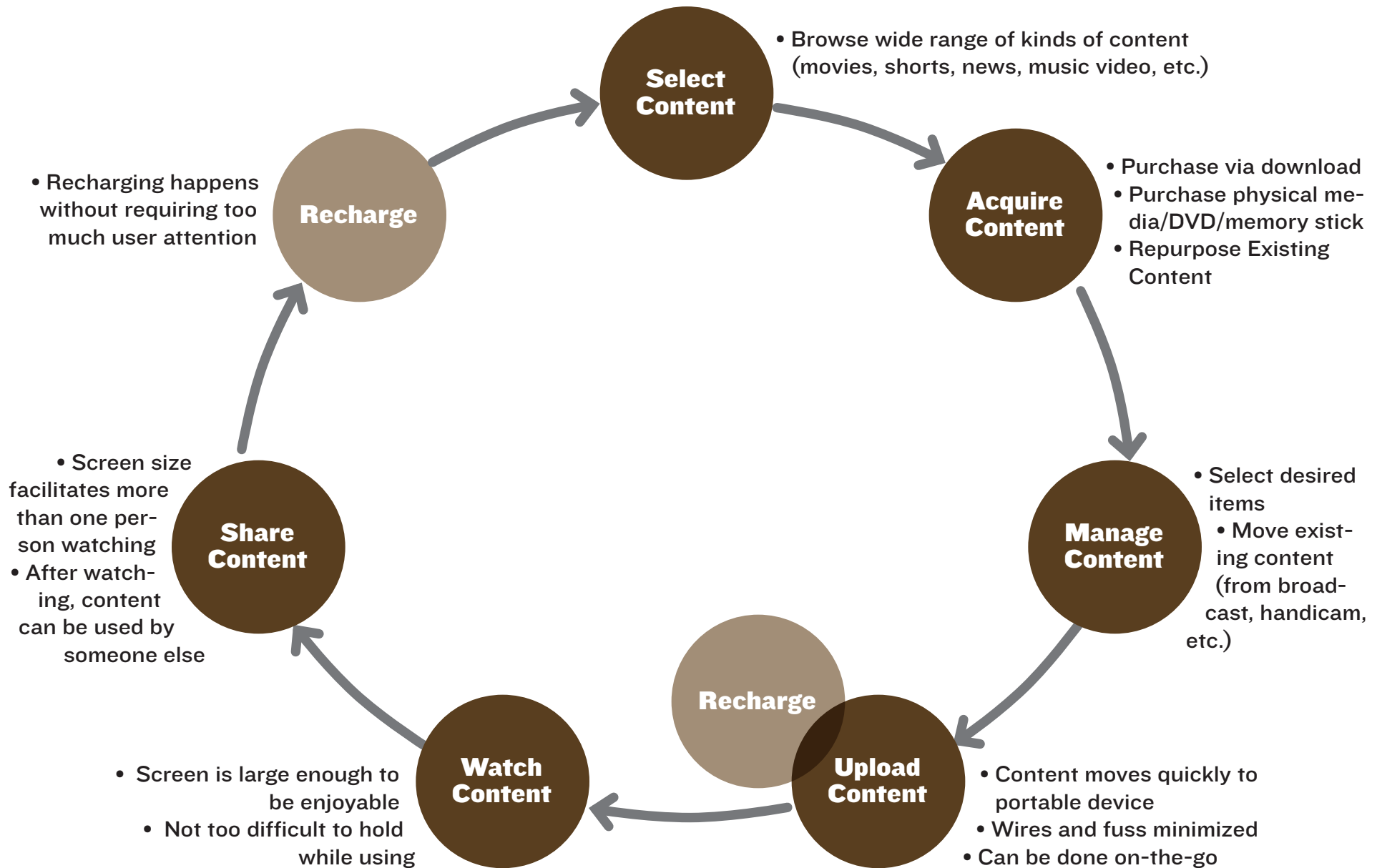
.43" thick

60 GB

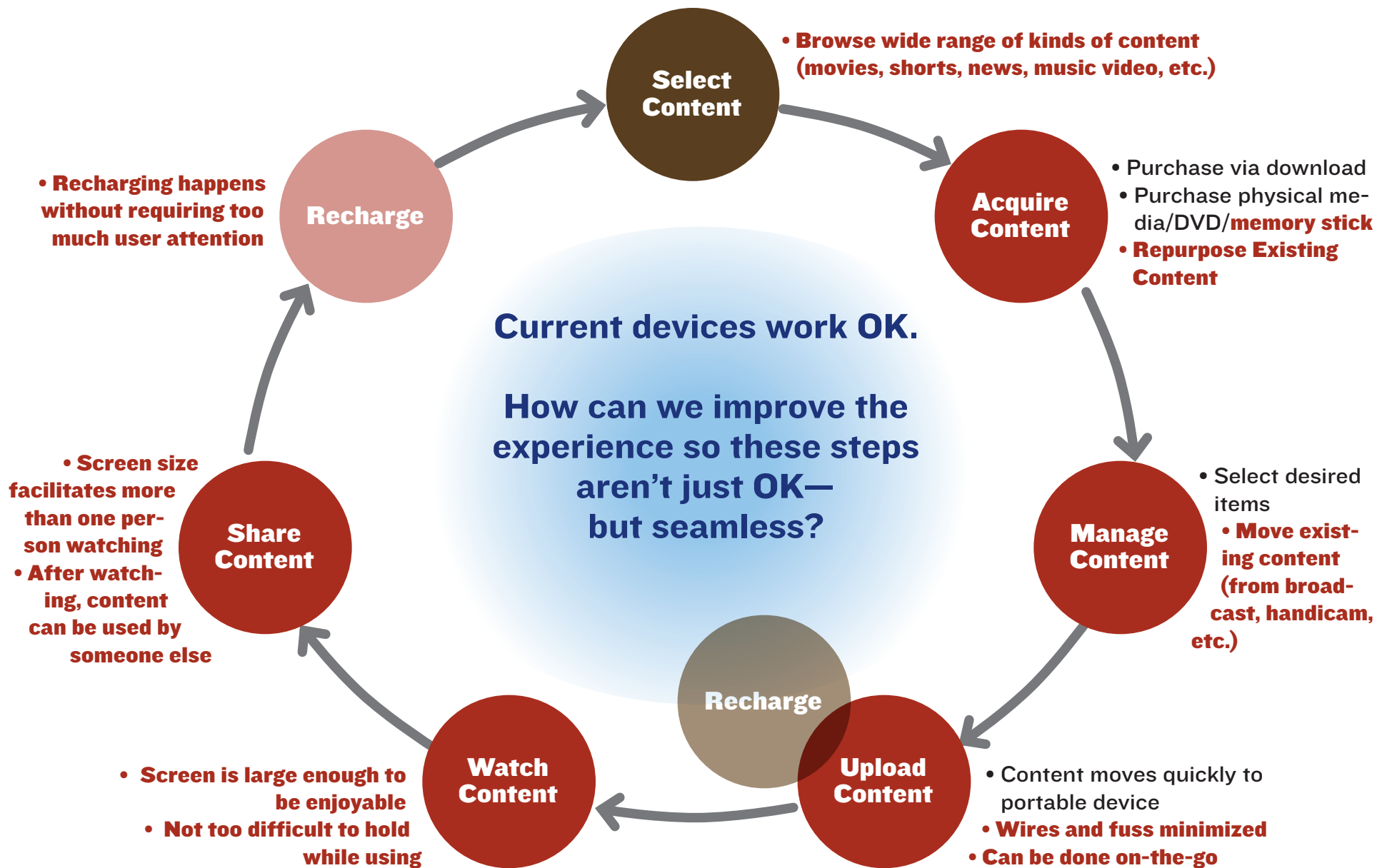
Technical Limiting Factors:

- » Screen cost & availability
- » Hard disk size, weight, power needs
- » Battery longevity

User's Ideal Activity Path



Opportunities



How can we...

... make it easier to hold?

... make it easier to use?

... make it more affordable?

... power the device with less hassle?

... improve media transfer?

Workshop Agenda for SONY

Day 1

- 8:30 am Breakfast
- 9:00 Welcome
- 9:30 Report on homework: When do you watch media? When do friends/family watch media?
- 10:30 Context presentation (Part I)
Break
- 10:45 Media Usage Presentation (Part 2)
Discussion
- 12:30 Lunch
- 1:30 pm Brainstorm #1:
Develop a content mix for each persona
Brainstorm review
- 2:45 Break
- 3:30 Orientation to field research
- 3:45 Field observation:
Take a short trip; report on what you saw
other people doing

Day 2

- 8:30 am Breakfast
- 9:00 Review Day One Activity:
Field observations
- 10:15 Brainstorm #2: New Ways of Passing Time
- 11:30 Break
- 11:45 Brainstorm review & Discussion
- 12:30 Lunch
- 1:30 pm Brainstorm #3: Product Line
- 4:30 Group review of line direction

Day 3

- 8:30 am Breakfast
- 9:00 Prototyping (product + content)
- 12:30 pm Over lunch, get public reactions
- 2:00 Team Presentation and discussion
- 3:15 Review concepts, dot voting
- 4:30 Celebratory cocktails
Core team review & next steps

Concepts

Concept sketches to be added.

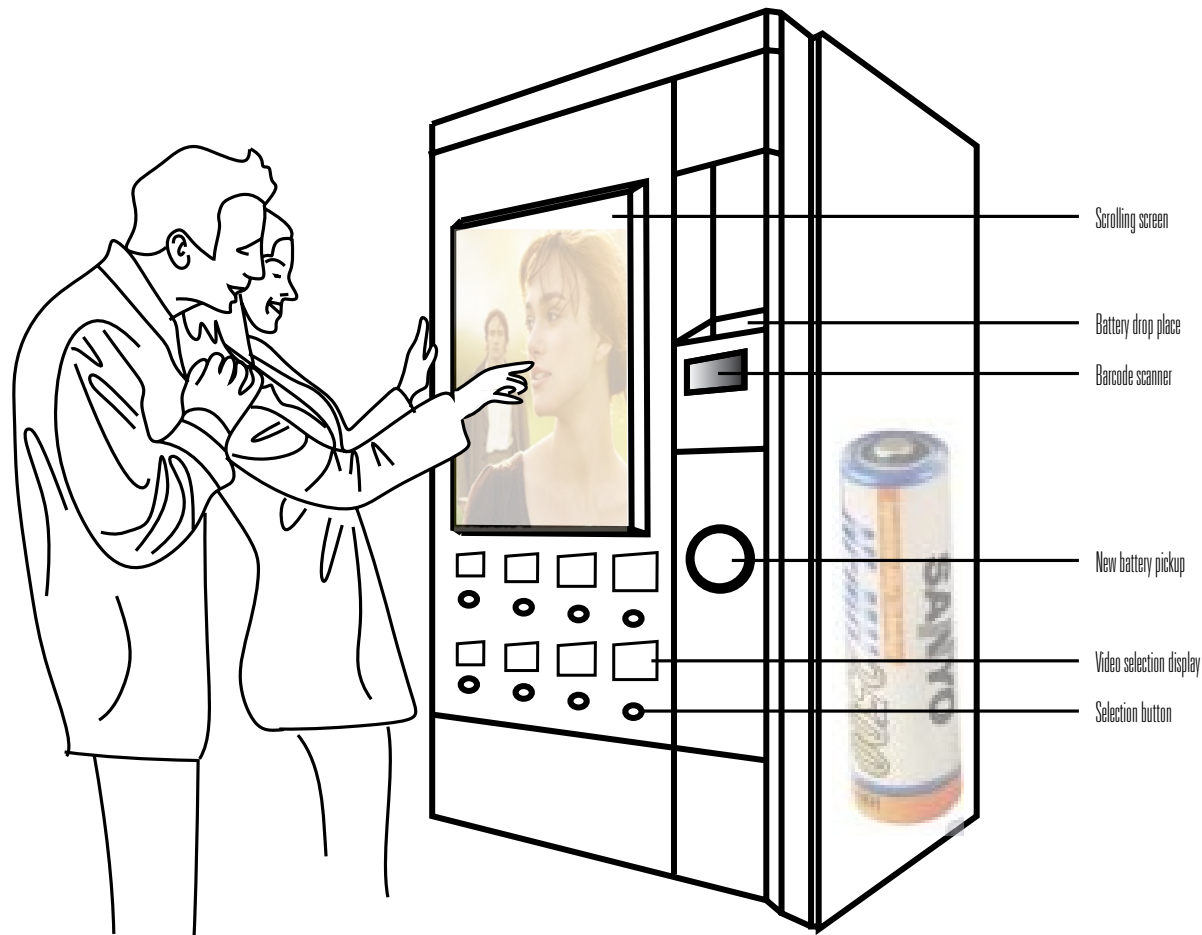
Alternatives

Commodity Power

Battery Recycle Station

When the video player runs out of battery, people can find battery recycle station for help by exchanging old batteries with new ones. Scan the old battery, drop it into the machine and then the new one will be ready for people to pick up right away. The bill will be sent to you directly.

This concept can be combined with previous one. Add video content to the battery.



Alternatives

Smart repurposing PMP

Problem

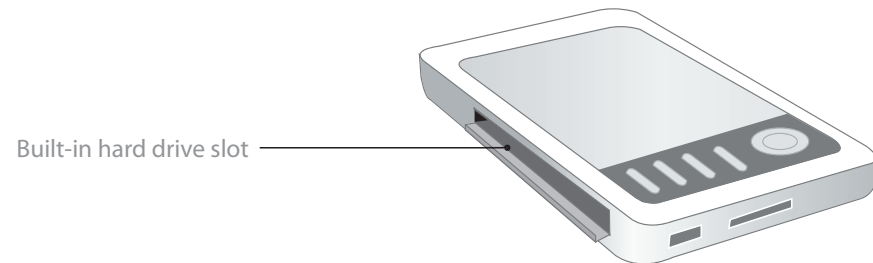
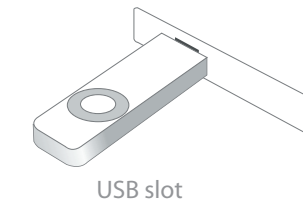
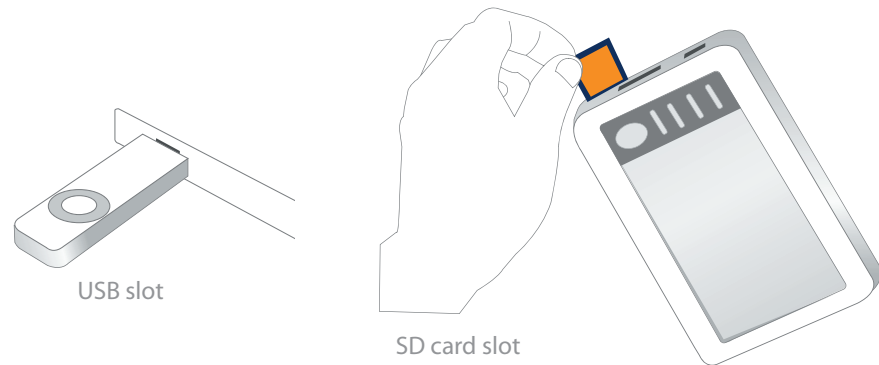
Whenever the new product is being released, users cannot replace old one by improved and new one, and afford all kinds of brand new devices. Even though users can purchase cool things, it keeps what you have idle.

Concept

Basic mechanism (Screen, Processor and Battery) + Repurposing system
The repurposing system supplies or expands multiple ways to store the contents using old iPod, USB flash memory and SD card as hard drive.
Basic mechanism enables users to add features such as built-in capability if it is necessary.

Benefit to User

- User can utilize what you have as a part of new gadget.
- Providing basic features makes a retrenchment in the expense for new purchase.
- User doesn't need to convert the contents from other devices to this portable media player.



Alternatives

Advertising-Supported Business Model

Obstacle for the User

The high cost of many personal media players is a barrier to wider market penetration.

Insight

Advertising is a commonly used revenue model for media products. Why not use advertising embedded in the media player as a way of reducing the user's entry cost?

Innovation

A portion of the screen always carries an advertisement. The location of the ad could move to prevent users from simply obscuring the ad.



Alternatives

Pedal Power!

Challenge

How can we make existing PMPs human powered without adding bulky onboard hardware?

Insight

Users of stationary exercise machines generate an abundance of wasted energy for extended periods of time.

Innovation

Power PMPs with self-powered exercise machines via magnetic induction charging trays.



Feedback on Alternative Directions

General Comments

- Multiple data types (including PDF, pictures)
- Context of use determines feature set

Business Model Innovations

- All depends on the actual price points
- Vendor fit with product matters: will be of sufficient quality?
- Usage influences perceived value
- Advertising: liked by some, hated by others

Modularity

- Durability is a concern
- Does one component improve faster than other components—better to buy a whole new product?
- Environmental issue: how much has to be thrown out?
- Upgrades need to cost less than 1/4 cost of new system.

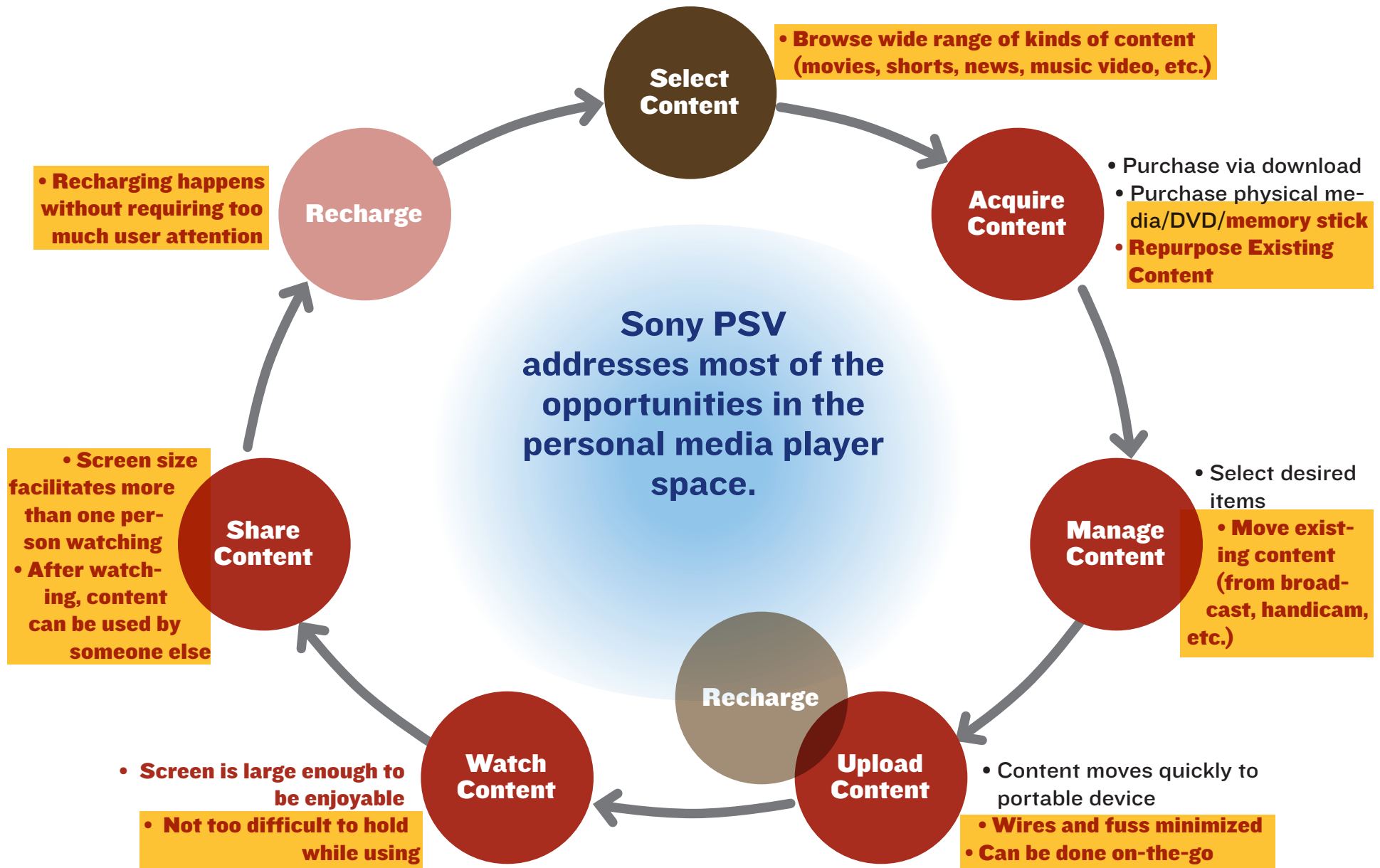
Power Sources

- Perceived value depends on expected usage
- Would pay \$10 for a watch-once movie
- Can't power just come from dock?
- Security issues of showing Media Player in public (for charging)

Expandable Screen

- How durable is it?
- Love the idea of a larger screen
- Large screen when seated; small screen while walking.

Opportunities Addressed



Recommended Direction **Sony PSV**

Uses existing PSP platform,
to reduce development &
production costs.

Specs

Battery life: 6 hrs
60 GB Hard drive
Comes with a portable docking station
Lightweight (8 oz) & small

Content can be added via:

Memory Stick™
Wi-Fi: share playback with 3 other PSVs
Broadcast (tuner in the dock)
UMD (mini DVD) (in dock)
Download from SonyConnect (in dock)
Handycam & iLink (in dock)

Pricing

\$250 for the player & dock
or
\$150 + 1 year subscription at \$15/mo,
(includes 2 movie downloads and 5 TV
shows each month.)

