Mobile User Experience Issues and the Mobile Ecosystem

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Carriers want to control revenue streams.

PLAN COST

Billing schemes can be difficult for users to decode. When per KB or subscription data costs are added to already confusing plans, users may hesitate to sign up for additional mobile services, or hesitate to use data services for fear of high monthly bills.

Two year contracts and financial incentives making it cheaper to call people served by the same carrier causes users to feel locked in and/or manipulated by the carrier.

Multimedia services are expensive, so users have high expectations for them.

NETWORK QUALITY

Users differentiate between carriers in part based on perceived network quality. If they experience dropped calls they may be concerned that data transfers will be disrupted. This will be of particular concern if they are paying per KB.

Video requires a higher level of bandwidth not yet available to mainstream US customers or offered only at premium prices. In many cases video is slow to display or play.

CONTENT ACCESS

Carriers determine which content is available to subscribers through partnerships with content providers. This increases information efficiency, but it also means users need to consider which content partners a carrier has deals with in order to determine which will serve them best.

Most carriers do not allow users to browse the world wide web on their phone easily. Marketing and sales information promising "the Internet on your phone" is misleading. Users are disappointed and frustrated at paying a premium when the service does not match their expectations.

If a phone is WAP-enabled (wireless access protocol, allowing the user to access the world wide web through a browser), per KB data fees may be charged on top of subscription costs or additional data service charges.

In the future...

Wi-fi enabled phones will allow users to browse the world wide web.

Carriers want to contain free web competitors such as Google.

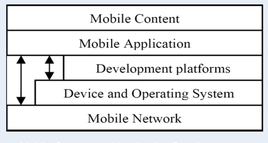
APPLICATIONS

Agreements between carriers and application providers determine which applications are offered on which phone, limiting user choice.

Applications are often bundled, or aggregated, into branded products such as Yahoo Go, including applications such as search, IM, maps, email, etc.

Third party applications may not be compatible with other applications on the phone (such as contacts), causing user frustration.

Carriers want to increase ARPU, or average revenue per user, and prevent user "churn."



Mobile Content and Application Development Interdependencies *(Tarnacha et. al.)*

Carriers want to ensure quality controls over applications served on their phones. They (or an agent) manage certification processes that application developers must follow and pass.

It is not cost-effective for developers to build for multiple combinations of platform factors (operating system, development environment, and phone display), so they choose to enter into agreements with carriers for select phones.

In the future...

Applications that might resolve user needs or provide truly innovative experiences are not developed due to ecosystem and development complexity.

Codesign among carriers, application developers, content providers, and phone manufacturers may resolve these issues

Carriers want to control and influence branding opportunities.

Phone manufacturers choose the operating system, development platform, and user interface for their products.

Carriers control which phones can be used on their network.

PHONE CHOICE

Especially when purchasing more expensive phones, users want to optimize phone features such as storage/memory, form factor, and battery life. However, users often can't use the phone they prefer with the service they prefer(or are contractually bound to).

The display format and quality of rich media varies widely across devices

Standards are changing rapidly, deterring users from purchasing expensive handsets that will quickly become obsolete.

Semantic map of existing mobile phones. The y axis represents the perceived simplicity of the device; the x axis represents the degree of innovation. (*Ornella and Stéphanie*)

USER INTERFACES

User interfaces are not designed collaboratively among carriers, application developers, content providers, and phone manufacturers. The interactions, interfaces, and conceptual models can be different for each item the user comes in contact with, creating a steep learning curve.

CONTENT AND APPLICATION UI

The amount and layout of content from different providers is not always consistent across all categories of content. Applications generally do not behave in a consistent manner. Different screens may have different information structures and learning patterns, creating more cognitive work for the user.

PHONE UI

Input controls are inconsistent from phone to phone, making it difficult to design an experience that will work across all phones:

? The way users type information
? The placement and labeling of the OK/Enter, or Home/Back buttons
? Navigation control (pointer stylus, arrow keys, or navigation wheels)

Screen displays vary significantly (width, depth, and resolution), requiring multiple versions of screen layout and visual elements for any application. The same application or site may look and behave very differently from phone to phone

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Note: This map is specific to the US market