Community Offerings for the Audiopoint Service

A Preliminary Exploration

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August 25, 2000

Audiopoint has initiated a project to analyze ways of incorporating a "chat" or message-board offering into its service -- that is, a voice community feature. The voice community concept has considerable potential to drive callers to our service and to differentiate our offering from our competitors. Audiopoint has contracted with John Craig, a specialist in voice communities, to develop preliminary planning documents. The aim is to transform the voice community concept into a tangible business opportunity, giving consideration to the feasibility of all aspects, including strategic, financial, and technical perspectives, as well as the user-interface.

This report is not a complete or final assessment. Ideas about an initial Audiopoint voice-community offering are still evolving. However, this report lays a solid groundwork for future explorations.

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1. Four Models of Potential Community Services

This section presents four kinds of services that Audiopoint might consider providing if it moves into community offerings:

- Voice message boards
- Structured voice groups
- Direct-response (or response-to-broadcast) voice boards
- Live conference calls

Before presenting these four services, it would be useful to review the two basic kinds of community offerings commonly provided through electronic media. These are:

- Live interactions, like chat rooms or live telephone conference calls. These require that all participants are at their terminals (whether PCs or telephones) at the same time.

- Time-delayed interactions, like message boards or the structured voice groups presented in this report. These do not require that participants be at their terminals at the same moment but allow them to post or access messages whenever they wish (within limits).

Most of the services described in this section (three of the four) involve time-delayed communication.

Voice Message Boards

One of the most popular community services on the visual web is the message board. It seems logical that voice message boards on an audio system, designed to resemble text-based message boards on line, would prove popular with users.

Like web-based message boards, voice boards could be made available in a variety of interest categories, and each board could feature specific topics of interest within the larger category.

Voice message boards might be the most logical community service for Audiopoint to offer first, for several reasons:

• Boards require only passive involvement

A voice message board would allow newcomers to listen to the posted messages of others without making a commitment to become actively involved themselves (by posting a message of their own).

• Boards allow participation anytime

Structured groups usually require a user to begin participation during a designated time period. Message boards have no such requirements. A user can jump in and get involved anytime.

• Boards require no commitment

Structured voice groups require a commitment from users because they require repeated involvement over a period of days, weeks, or months. Voice message boards require no such commitment.

• Boards are a time-delayed service

A live service might be difficult to launch as a first offering, because a live service would require that enough users were logged onto the system at one time to constitute a group. This situation might be unlikely in the early days of a service, before a large user base has been developed.

Accessing the voice boards

Users could access voice message boards with a single key word, or by moving through a series of menus or choice listings:

Financial Information
Financial Community Offerings
Financial Voice Message Boards
Specific Topics
Message Board #1
Message Board #2

An introduction for newcomers

An audio introduction to voice message boards could be created to present this new service to users. The introduction could not only explain the overall concept and how to participate, but provide an example of a message board (specially created for this purpose). The final part of this introduction could

invite the user to go directly to an active message board, on the topic of his or her choice, in order to experience this new service firsthand.

<u>Topic Summary</u>

Each message board could be initiated either by a posting from a user, or by a posting from a professional designated by the sponsoring organization. (For example, a stock analyst might post a message reviewing an important development in the financial world and posing a question or two for users.) Callers hearing this Topic Summary message could then post their own messages, and these would be stored on the system immediately after the initial message, in chronological order.

Here are other areas within the current Audiopoint service where message boards could be inserted to help introduce the voice community concept to the callers/consumers:

- after a news event, prompting people to respond/comment regarding breaking news

- after stock quotes, prompting callers to state how they think the stock will perform in the future

- after sports scores (team reports), prompting callers about how the team will do against the next opponent

- after reports on congress, prompting users to discuss political issues

<u>Follow-up postings</u>

On most web-based message boards, users have the opportunity to post messages that respond to or comment on a previously posted message. Later, users can access "threaded messages" and thus follow the trail of the discussion.

However, web-based boards have the advantage of a visual interface. Thus, the multiple levels of messages on various topics, branching out in different directions, are easier to negotiate. But the chance for confusion in an audio environment is much greater. Thus the design of voice message boards should probably be kept simpler than the design of visual boards.

One simple way of structuring the initial voice-board service would be to keep all messages in one line or one sequence, instead of creating multiple tiers which would contain responses to other messages. Although their postings will be held by the system in a single sequence, users can still, in their postings, refer back to or respond to any previous messages in that board.

<u>Holding time for voice message boards</u>

Web-site message boards usually retain messages for months or years, or even indefinitely. As this procedure is impossible in the voice arena, decisions must be made as to how long messages will be retained on the system.

The fact that voice messages cannot be stored over the long term may prompt Audiopoint or a sponsor to create specific kinds of offerings: those that make long-term storage of messages seem unimportant. For example, voice boards might be created which focused on the day's top events (in financial markets, in sports, etc.). These boards would be maintained only through the end of the following day. Users would know that boards created for comments on Monday's events would be maintained only through late Tuesday night.

<u>Simplicity and complexity</u>

An important consideration in introducing any new service is, How simple or complex should the service or application be? How many bells and whistles should we offer -- at first? In the long run?

It is clear that, in the long run, technology-oriented consumers do value and in fact demand advanced features. However, when a company first offers a service, the best idea is probably to create a simple offering. In the first place, it may be a waste of time to create advanced features when the usefulness or popularity of the basic service has not yet been proven. In the second place, most users will not use advanced features right off the bat anyway. Rather, they will first use only a new service's basic features, and will probably have their hands full exploring just these basics.

Even in the long run, when advanced features or options have been created, it is important to focus the attention of newcomers on the basic features a service offers, advising them to learn the basics first, to avoid confusion.

Structured Voice Groups

Structured groups are designed for users who want to engage in a planned, time-delayed dialogue with a specific number of other users, over a specified period of time. The dialogue develops through organized rounds of interaction.

Structured groups are usually closed and private. Because the same individuals are involved in every round of the ongoing conversation, participants get to know each other better and better as time goes by.

How the dialogue develops

In a structured group, each participant is required to:

- contribute a message early in each round
- listen to a series of messages from other members later in each round

For example, in a group that "convenes" on a weekly basis, each participant would be expected to: call the system during the first part of each week; enter the group code; hear a prerecorded welcoming message (which could be either generic or recorded by the group's moderator); and, at the tone, deliver a message. Later in each week, each participant would: call the system; enter the group code; and listen to all the messages contributed earlier in the week by the other members, one by one.

During the first week of the interaction, members would be introducing themselves to each other. By the second week, they would begin speaking directly to each other in the messages they contribute, just as they would if they were sitting in a circle. After that, they would continue to develop the group dialogue every week -- by asking each other questions, by responding to questions asked by others the previous week, and by continually contributing new ideas and observations.

Advantages and disadvantages

Structured groups create a more sophisticated form of group interaction than message boards. They can be extremely useful from a professional point of view, and very enjoyable from a personal point of view. However, they do require commitment.

Also, in structured groups the quality of the experience is highly dependent upon the reliability of the participants. If a significant number of members fail to participate on schedule, the experience of all will suffer, and the group may even fall apart.

Thus, with structured groups, it is important that all members be drawn from a "trustworthy" or committed pool of users. If the larger community consists of dues-paying members of a professional organization (for instance), most members will probably deliver on any commitments they make to a structured group interaction. In this kind of environment, structured groups would probably thrive.

On the other hand, in a mass-market environment, special steps might need to be taken to increase the likelihood that those registering for a structured group would follow through on their commitment.

Direct-Response Voice Boards

Live radio broadcasts can trigger strong reactions in listeners -- and an accompanying desire for immediate self-expression. This is especially true if the broadcast focuses on controversial political or social topics.

Radio stations could provide listeners an opportunity to voice their opinions -- and hear the opinions of others -- by creating short-term voice message boards, which might be called "direct-response" boards or "response-to-broadcast" boards. Such boards would be available only during (or just after) a particular program or broadcast.

These boards would give callers the chance to interact in several ways. For example, they would give callers the chance to record their opinion on a particular topic (perhaps after hearing a recorded prompt from the program host -- such as, "Tell us what you think about..."). The time limit on messages could be as little as 15-20 seconds, or as long as a minute or two.

In addition, callers could be given the chance to tag or label their opinion in a certain way -- for example, pro, con, or neutral. In this way, the system could generate a report summarizing how callers were lining up around a particular issue.

Callers could also be given the opportunity to listen to the opinions (messages) of others. To facilitate this process, callers might be sorted into groups of 8 or 10, perhaps by zip code or some other criterion. Then callers could choose to hear the opinions of others in their local area -- that is, opinions on the board associated with their zip code. For broadcasts on controversial issues, callers might be asked to label themselves liberal or conservative, and the system could create groups with half liberal and half conservative callers. In this way, callers would feel both the challenge of the opposition and the reinforcement of like-minded thinkers.

As a further refinement, regular users might be sorted into groups with other regular users, so that group members would get to know each other over a period of weeks or months.

Callers would perceive these boards as time-limited opportunities. They would realize that participation had to be immediate, that messages would not be retained on the system for more than, say, an hour.

Advertisers sponsoring the broadcast could place audio advertisements on the system, which might be played as a caller waited for messages from other listeners to come in. Advertisers might value highly the chance to transfer listeners from a non-interactive audio medium (radio) to an interactive audio medium (the telephone). The interactive medium would provide advertisers the chance to gather from (willing) listeners information about their interest in the advertiser's products or services. Listeners could request that additional information be sent to them, or even place a credit card order.

Live conference calls

At some point in the future, Audiopoint might want to offer users the option of joining live telephone conference calls.

Advantages

Conference calls would of course provide callers with the opportunity for instantaneous interaction. Many callers would value this opportunity, whether the group involved strangers or users they had come to know during previous interactions of various kinds. Live interactions allow for substantially more spontaneity and for quick responses, which can be highly desirable in certain situations.

Disadvantages

Conference-call technology can be expensive, although costs will probably be falling. And with conference calls, background noise can be a problem, as it flows into the system not just from the environment of one caller (as is the case with message boards), but from the environments of 8-10 callers at once (depending on how many callers are on the line).

In addition, a moderator or facilitator will probably be required for such calls, and the moderator will probably have to be much more active in a conference call. In a live interaction, the opportunity exists for any participant to barge into the conversation at an inappropriate moment, or to take more than his or her share of the allotted time. These inappropriate actions are not possible in message-based group interactions, in which barging in is not possible and message time limits are automatically set.

Finally, users have less control of the communications process in a live call. In a message format, they can skip certain messages, fast forward, or listen repeatedly to messages that have special importance to them. This is not possible in a live interaction.

2. Variables and Other Considerations

Voice-based community-building involves creating ways for users of a voice system to interact with each other. When voice-based community offerings are designed, a number of important decisions must be made about the nature of the interactions that the offerings will make possible.

Below is a list of some of the variables involved, with a brief explanation of each.

Structured vs. unstructured interactions

Message boards -- whether voice-based or text-based -- create the opportunity for an open, unstructured interaction among a potentially large number of users. The extent of involvement by any participant is unpredictable, being completely up to that individual.

Structured, private groups, on the other hand, usually follow a formal procedure -- one that creates scheduled rounds interaction among a specified group of individuals.

Moderated vs. unmoderated interactions

Message boards and group interactions can be unmoderated, or they can be moderated by a paid or volunteer facilitator. Volunteer facilitators can be trained or untrained.

Public vs. private groups

The communication that takes place in on-line message boards is usually public: any user can post or access messages. Most voice message boards would probably also be public forums. Most structured groups, on the other hand, would probably be private, requiring a code for access.

It is also possible to create voice message boards or voice groups in which active involvement (posting messages) is limited to certain individuals -- who possess a code -- yet passive involvement (listening to messages) is unrestricted.

User-created groups vs. company-created groups

Companies sponsoring specific community services may elect to specify the kind of group interactions that will be offered. Or, users can be given the opportunity to create the kinds of group interactions they desire.

Registered vs. unregistered users

Depending on the sponsor's needs or preferences, involvement in group interactions may or may not require user registration.

Participation: Mass-market consumers vs. company employees

Involvement in community offerings can be made available to a mass market, or only to employees of a specific sponsoring company.

<u>Selection of group members: Random selection vs. self-selection</u>

Users desiring to join structured groups on specific topics could be assigned to these groups at random. Alternatively, a procedure could be established by which users would indicate a preference for being placed in groups with other specific users -- users whom they had gotten to know through previous interactions.

<u>Length of messages</u>

Message lengths can be limited. Longer messages allow users to express themselves more fully, but they may be a burden to other users, who might have to listen to long, rambling messages (or else skip over them). Short message lengths allow users to get through a listening session more quickly, but may feel restrictive to some.

Limitations on message length are also important in storage-space considerations.

<u>Sub-communities</u>

It may be beneficial to assign users to various kinds of sub-communities, and to set up the system so that users only have access to message boards and structured groups created for their specific sub-community. Creating such sub-communities will increase the probability that users will interact repeatedly with others they have previously encountered. Users will thus be more likely to interact again and again with the same individuals, thereby building ongoing relationships. This arrangement will create a tighter sense of community.

<u>Unlimited access vs. call limits</u>

In some situations, users may be given unlimited access to the system. In other situations, limits may be placed on call length, or on the total amount of time a user may access the system each week or each month.

<u>Other features and considerations</u>

<u>Personal mailboxes</u>

If personal voice mailboxes are provided, they will allow private, one-to-one communication among users. This communication will strengthen interpersonal ties and build the sense of community. Personal mailboxes will allow users to be contacted directly without revealing a personal telephone number, e-mail address, etc.

<u>Audio subject headings</u>

Individuals using e-mail have the opportunity to create subject headings for the messages they send. Users of audio systems could be allowed to create similar "audio subject headings" for the voice messages they create. Such subject headings would summarize the contents of the messages. Other users could browse through a series of audio subject headings and select those messages they were most interested in hearing.

Bookmarking messages

Just as web browsers allow users to "bookmark" web pages for future reference, an audio system could allow users to flag or bookmark voice messages, in order to easily refer back to them in the future.

User, group, and message IDs

IDs could be assigned to users, to groups, and to posted messages. IDs would allow users to be easily specified. They would allow messages and groups to be quickly accessed. IDs might consist of a number only, or of a keyword + a number.

Policing or monitoring content

If a message board or group is assigned a moderator, the moderator can be made responsible for ensuring that all content is appropriate and non-offensive. In unmoderated interactions, the dialogue could be monitored by the users themselves: inappropriate comments could be flagged, and a notice sent to the appropriate system or company official.

Protection: Terms of service

Terms of service are regularly posted on visual-web sites, and participation in community services requires acknowledging that these terms have been read and agreed upon. The legalities involved will probably be the same for an audio site offering community features.

However, playing the entire terms of service for a user will be too time-consuming and expensive. A new, slightly different approach must be developed, by which a brief audio summary of terms might be delivered, with complete terms then being sent to the user via e-mail, fax, or U.S. mail.

Keywords and search features

On the visual web, users often search message boards for messages containing specific words. Because searching voice messages is much more difficult, all users might be asked to assign keywords to their voice messages when they create them. Users might be asked to spell these words out, in order to create a searchable text record. This procedure would allow all users to search voice messages on the system by keyword.

Technical and cost considerations

Considerable information is available concerning the costs and technical requirements of virtual-community services offered on the visual web. Community-building in the voice arena, however, is a new phenomenon. Virtually no cost or technical information is available from past experience. Thus careful projections in these areas will be required as voice-based community offerings are planned and designed.

Disk storage space and archived messages

Storing text messages requires very little disk storage space. Storing voice messages requires a great deal. It will therefore be impossible to archive large numbers of voice messages -- unless perhaps they are converted to text by speech-to-text applications, and stored as text.

<u>Defining community-building objectives</u>

Group interactions can be rewarding or frustrating for a variety of reasons. In designing community services, it will be important think carefully about the kind of group experience that will result, and tailor the service to the needs and desires of users.

3. PROTOTYPE OF A VOICE MESSAGE BOARD

This section presents a basic design for a voice-message-board service, expanding on the message-board description given earlier. Audiopoint might create such a basic service as its initial community offering. This initial or prototype service would serve as the basis of more advanced versions developed later on.

This description of the service presents the basic features of the prototype first. It then presents a number of optional features which might or might not be included in the first version offered.

[Note: In creating names for various functions, I have used suggestions from others at Audiopoint as well as my own ideas. I have also tried to use language consistent with word usage on the existing Audiopoint system. However, further discussions may yield better ideas about word choice for particular functions.]

Basic Features

Overview

Each message board created will focus on a particular topic. That topic will be stated (and perhaps discussed) in the Topic Summary -- a message that will serve as the starting point of each board.

The first step in creating a message board will be recording the Topic Summary. Once the Topic Summary has been created, the system will allow users to create and post their own messages in response to that topic. Messages posted by users will follow the appropriate Topic Summary, in chronological order.

Thus, users of this prototype will be able to: select a specific board (topic); hear the Topic Summary; and then hear, one by one, the messages posted to that board by other users. They will also be able to record and post a message of their own.

For the purposes of this report, it will be assumed that only one message board will be available in each interest category (news, business, sports...). This might be a good way to introduce community features to users for the first time (in an experimental setting). The message board in each category would probably focus on one particular event prominent in the news that day or that week (e.g., in business, an announcement from Alan Greenspan; or, in sports, a new victory by Tiger Woods).

Another layer of instructions would need to be added if a number of boards are to be made available in each interest category. This additional layer would allow the listing of all boards in that category, and ways to select the desired board.

<u>Routes to the Message Boards</u>

Users will be able to get to message boards using a variety of different routes. One way of guiding users to the boards -- and of drawing attention to the them -- would be to include mention of the boards in the initial list of choices at the beginning of the service -- specifically:

"Your choices are business, traffic, ... entertainment, horoscopes, and [our new Audiopoint service,] message boards. Just say what you want, and I'll take you there."

<u>Message Board Directory</u>

After a user says "message boards," he or she will hear:

"Welcome to Audiopoint's message boards. Say your message board choice. Or say, What are my choices? If you have never used our message boards before and would like to find out about how they work, say Message Board Introduction."

<u>What Are My Choices?</u>

"Audiopoint now offers [four] different message boards. Your choices are: News Message Board, Business Message Board, Sports Message Board, or Entertainment Message Board. Please say your message board choice."

<u>Message Board Introduction</u>

"Audiopoint's new Message Boards give you a chance to hear what other users feel about various topics related to news, business, sports, and entertainment. You can also record and post messages of your own, either to share your own thoughts and opinions with other users, or to share your reactions to comments they have posted."

[Further information about the boards.]

<u>Message Board Welcome</u>

"Welcome to the [September 1st] [Business] Message Board.

"To listen to today's topic, say Topic Summary.

"To listen to posted messages, say [listen to messages].

"To browse the subject headings of messages, say [browse headings].

"To record and post your own message, say [post a message].

 "If this is your first visit to a message board, and you would like to hear an explanation of what a message board is and how it works, say [Message Board Introduction]."

<u>Listen to Messages</u>

"If you need help while listening to message boards, say [Message Board Help]. To skip ahead to the next message on a board, say [next message]. To go back to the previous message, say [previous message]. To go directly to a specific message, say [Go to and the message number].

"Now, I'll begin playing for you the messages on the [Business] Message Board.

- "Message #1 ..." [Message #1 plays.]
- "Message #2 ..." [Message #2 plays.]

<u>Browse Subject Headings</u>

"There are currently [23] messages on the [Business] Message Board. I'll play the subject headings of these messages for you now, one at a time. When you hear a subject heading that sounds interesting, say [that one], and I'll play that message for you. While I'm playing the message for you, you can say [resume browsing] anytime, and I'll resume playing the subject headings for you where I left off. Here are the subject headings."

[Play subject headings.]

<u>Post a Message</u>

"Beginning in just a moment -- at the tone -- you will have up to [45 seconds] to record your own message, which will be posted on the [Business] Message Board. You will hear a tone [10] seconds before the recording time limit is up, so you will know ahead of time that you are about to run out of recording time.

"Here comes the tone. Please press the pound key when you are finished."

[Recording of the message.]

<u>Record a Subject Heading</u>

After the recording of the message is completed, the user will hear:

"Thank you for recording a message for the [Business] Message Board. Before your message is actually posted on the board, you need to record a short subject heading for it. The subject heading should state the subject of your message, or briefly summarize its contents. You will have up to [10] seconds, at the tone, to record your subject heading.

"Here comes the tone. Please press the pound key when you are finished."

[Recording of the subject heading.]

"Your subject heading is now recorded. Thank you for creating a message for the [Business] Message Board. Your message is message number [24] on the board. It is entitled [subject heading] and has now been posted. It will be retained on the board for others to listen to until [date of deletion].

"To return to listening to messages on the [Business] Message Board, say [resume listening].

"To go to another message board, say [Go to and the name of the message board]."

"Or, to go to the beginning of the Audiopoint services, say, Go to the beginning."

<u>Creating A Message Board</u>

The board's sponsoring organization may want to make the option of creating a new board (on a new topic) available only to specific individuals. If this is the case, access to this section of the system will require a passcode of some kind. For the purposes of this report, I am assuming that only authorized individuals will be allowed to create a new message board -- for example, a new message board to replace the previous week's (now outdated) board.

To create a new board, the authorized individual would access the system, enter a code, delete the previous week's board, and then record a new Topic Summary.

More advanced versions of this service may allow those creating new boards to create somewhat elaborate Topic Summaries -- for example, presentations that include recorded messages from several experts, assembled in a particular order, etc.

<u>Optional Features</u>

The initial prototype might include some of the following features.

<u>Registration & Terms of Service</u>

Some sponsors may want users to register before using the service, or before using community features on the system. For legal and other reasons, sponsors may also require that users be aware of certain terms of service, which users must agree to in order to participate in community interactions. These sponsors will want to include messages like the following:

"We do require that you register in order to participate in our new Audiopoint community. As you know, every community needs guidelines and rules if it is to function smoothly. To help us create the kind of community you'd like to be involved in, you need to understand and agree to the rules that govern our voice community. We call these our Terms of Service. Following is a brief summary of the Terms of Service...."

[Play Terms-of-Service Summary.]

<u>Receiving Full Terms of Service</u>

"To receive the full Terms of Service via e-mail or US. mail, please..."

<u>Bookmarks</u>

"As you listen to messages posted on a message board, you may want to bookmark one or more of them, so that you can easily refer back to these messages at a later date. To bookmark any message, simply [press the star key] while you are listening to it. Later on, if you want to go back to one of these messages, say [go to bookmarks]. You will then hear the voice subject headings of all the messages you

have bookmarked, one by one. When you hear the subject heading of the message you want to listen to again, [press the star key, or say "that one"] to access that message."

Help

"For help in using Audiopoint's message boards, say 'Message Board Help' anytime."

Message Information Or "Where Am I?"

Message boards on the web contain readily available information about the message the user is currently reading, including where on the system the message is located, the name of the user who posted it, etc.

The voice message board prototype could allow a user to say "Message Information" or perhaps simply "Where Am I?", in order to get information about the message he or she is currently listening to. The playing of the message would then be temporarily interrupted, and the user would hear information which would probably include the following:

- The name of the user who created the message
- The name of the message board the message is posted on
- The number of the message (on the message board)
- The length of the message
- The date the message was created
- The subject heading of the message

Announcements of the New Voice Message Board Services

Announcements of Audiopoint's new community features can be placed in appropriate places on the system. For example, the following might be heard after a user at the beginning of the service says "business":

"Audiopoint wants you to know about our new voice message boards, which give you the chance to hear what other users think about particular topics of interest in news, business, sports, and entertainment. The message boards also give you the chance to share your own observations and opinions with other users -- or to react to react to the comments they have made and posted. To learn more, say [message board introduction].

"Please say your business choice, or say, 'What are my choices?'"

A good opportunity for posting a house advertisement about the message boards will also occur just after a user hears a report on a topic of current interest, whether that topic in sports, business, entertainment, or news. Just after the report -- while interest is still high -- the user could be invited to visit the appropriate message board to post his or her own observations. Measuring the effectiveness of such house ads would also be a way of demonstrating to advertisers how effectively users can be routed from one area of the service to another

Note: Many of the features of the voice boards described in this section will be customizable (for example, maximum message length, retention time of messages on the system, etc.).

4. Feasibility

As Audiopoint approaches the actual launching of a voice message board, it should carefully consider issues related to the feasibility of any initial offering. These feasibility issues can be grouped into four categories: clients, revenue, costs, and technical issues.

Clients

A variety of clients might be interested in offering voice message boards to their members or customers. These could include:

- Phillips International
- Motley Fool

- CNN: a news board
- Nike: a sports board
- Sierra Club: a board for members
- DuPont Pharmaceuticals: a [breast-cancer] caregiver's board
- Weight Watchers International/Jenny Craig: a board for dieters
- Marvel Comics: a board for players of audio X-Men games

Revenue

The likelihood of generating revenue sufficient to support the service should also be carefully considered. Several kinds of revenue models might prove viable:

- Advertising
- Sponsorship of private boards (for company employees or organization members)
- Sponsorship of public boards
- User-paid subscriptions
- E-commerce

Costs

A careful projection of costs should be developed and reviewed. Areas of importance will include:

- Design, development, and testing
- Hardware

- Telco (airtime)
- Hosting
- Ongoing administration, maintenance, and support

Technical Issues

A variety of technical issues need to be considered, including:

- Database design
- Hardware: forecasting of needs

Other technical issues include:

- Threading/non-threading of messages
- Session-to-session bookmarks