TaleBlazer Zap and Go with Organizations: 
A Platform for Managing and Broadcasting Location-Based Augmented Reality Games

by

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Submitted to the Department of Electrical Engineering and Computer Science
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Abstract

The TaleBlazer mobile application, developed by the MIT STEP Lab, allows users to create and play custom location-based augmented reality games. Many of the current games are created by TaleBlazer partner organizations, but the means of sharing these games with the general public is difficult and restricted. Zap and Go was conceived as an easier way for organizations to broadcast games to the public, and for the public to download, find, and play these games on their personal mobile devices. This paper presents the backend modifications and user interface designs implemented to support the desired Zap and Go features. This work paves the way for an improved gameplay experience and the growth of the TaleBlazer user base.

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Chapter 1

Introduction

1.1 Background and Motivation

TaleBlazer, developed by the MIT STEP Lab, is a platform for making and playing mobile location-based augmented reality (AR) games, and consists of both a web-based editor and a mobile gaming interface. The online Editor allows users to create their own AR games and uses visual blocks-based scripting for more finely tuned control over game features. These AR games have a wide range of use cases, from pure entertainment purposes to informing tourists about the history of a location, to educating students about wildlife as they try to complete game missions. Once created, games are saved to the TaleBlazer server and given a unique ID.

The mobile application allows any user with an Android or iOS mobile device with GPS functionality to play these games by walking around a real-world location and interacting with in-game characters. The mobile application has many features to create a robust AR experience, such as real-world maps, a player inventory to store items “picked up” in the game, passcodes to unlock new features, and a “heads up” screen that allows a player to use the phone’s camera to “search” for game items associated with real-world surroundings. In addition, the mobile application has a visual interface which is consistent among all games, though game creators can customize icons and actions, and design games which include or exclude these features.
to suit their purposes.

The only currently supported way for users to find TaleBlazer games created by others is by entering a game code, which is randomly generated upon saving a game in the Editor. This game code is not made available to the general public, so someone wishing to play a game must be given the game code by the game creators or site administrators.1 So far, this has not been a problem as the game creators have been members of TaleBlazer’s partner organizations: locations such as the Columbus Zoo and Aquarium (Columbus, OH) and Old Sturbridge Village (Sturbridge, MA), which use TaleBlazer to develop AR games for tourists and visitors to play on-site. The audiences for these games have been players who visit one of the TaleBlazer partners as part of an organized field trip or tour group and play games that have been pre-loaded on loaner phones owned by the organization.

However, as the numbers of TaleBlazer partner organizations and game creators increase, and as the amount of people interested in playing TaleBlazer games grows, the current approach of playing games on organization-provided phones will no longer be feasible for several reasons. The number of players at each partner site is limited by the number of devices available on location, and having to store the phones and reset the game between gameplays can be cumbersome. People wishing to play a TaleBlazer game should be able to browse for games and play at their own leisure, without needing to make formal appointments. In addition, anyone who knows a game code is able to play that game, but only the latest saved version; a critical feature that organizations need is a way to broadcast a stable version of a game to the general public, while being able to develop and test new changes to that game in private.

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1 The decision behind requiring game codes for sharing games mainly involves the fact that TaleBlazer games can be created by minors who may share private details, such as home addresses, in the games they create. Restricting the means of sharing games protects this information from becoming public knowledge.
1.2 Zap and Go

Zap and Go is an improved method of discovering TaleBlazer games, which will allow anyone with an Android or iOS mobile device to download the TaleBlazer app, browse games by organizations, and play those games immediately.

When people open the TaleBlazer mobile app, if they are at the location of an organization they will automatically be directed to the organization’s publicly broadcast games. This feature is highly appealing to organizations who want the on-site experience of downloading and playing their games to be seamless, with automatically appearing game screens giving visitors the impression of a custom version of TaleBlazer for each partner organization - without the need to actually develop and rebrand separate applications for each partner organization.

Players will also have the option to browse all TaleBlazer organizations, alphabetically or by nearest distance, as well (this is the default view for people who are not on-site at an organization.) Players will be able to download any of the broadcast games to their phone, and if they are on-site or the organization has enabled the option to play the desired game remotely, they will be able to access and play that game.

To support Zap and Go, a number of pieces were implemented. First, the backend database was updated to store new tables and fields, such as organization profile data and public access settings. Second, pages were created on the TaleBlazer website to allow organization members to modify their organizations’ public profiles as well as manage game broadcasts and public access settings. Third, the mobile application was modified to display organizations and associated games to users. This thesis project focused on developing the first two components, the backend and website modifications. The backend structure and modifications are discussed in Chapter 2, and the user interfaces on the website are discussed in Chapter 3.
Chapter 2

Backend Data

This section describes the backend for the TaleBlazer website and the modifications made to the database schema.

2.1 Framework

The TaleBlazer website is built on CakePHP, a PHP framework that uses the Model-View-Controller (MVC) approach to separate the user interface, backing data storage, and controller from each other. This creates modular components for easier development and maintenance. The website uses MySQL as a database management system, persisting information about users and games in database tables. When this data is needed, PHP controllers query the database and populate HTML templates, which are then displayed to the user.

2.2 Zap and Go Database Tables

There are many database tables used to store and organize the TaleBlazer data. Five of these tables relate to Zap and Go purposes: users, organizations, organization_users, drafts, and draft_states.

The users table stores information associated with each user account on the
The TaleBlazer website. The organizations table stores the attributes for individual organizations, containing fields for the name, description, image/logo, latitude, longitude, and radius (distance from the organization center, in miles, within which a player counts as being on-site). The organization_users table stores associations between users and organizations, linking user IDs to organization IDs one at a time. Multiple users can be associated with one organization, and one user can belong to multiple organizations as well.

The drafts table stores the attributes for each game, including the game code, location, and latest saved version. The draft_states table stores the metadata for particular versions of the same game. Every time a game is modified in the Editor, a new draft state is created.

2.2.1 Limitations on Functionality

One of the goals of Zap and Go is to allow organizations to broadcast a specific version of a game to the public, while still being able to modify a separate version (draft state) of that game in private. However, because a game code can only access the latest draft state created for a game, there needed to be a way to link old draft states of a game to an organization.

At the start of this project, the existing solution was to create two fields in the drafts table:

- organization_id: This provided the ID of an organization to which this game belonged.
- organization_draft_state_id: This identified a particular version of the game to broadcast to the associated organization.

This primitive approach to broadcasting a game version while allowing newer game versions to be saved and tested privately was non-ideal for two main reasons.

First, these associations did not allow the same game to be linked to multiple
organizations and should not belong in the drafts table. Ideally, there would be a separate table to store organization, draft, and draft state associations, similar to the organization_users table. While linking one game to multiple organizations may not be used frequently, one instance where this would be useful is with a “Featured Games” or “Sample Tutorial Games” showcase gallery. These galleries, though not technically organizations, would still require the same attributes and game management features as organizations. A game associated with the MIT STEP Lab could also be linked to Featured Games and be viewable under both profiles.

Second, this approach did not allow organizations to revert to previously broadcast game versions. If an organization decided to update the broadcast version, the organization_draft_state_id field would be replaced with the newest draft state ID; however, there would be absolutely no way to identify any previous broadcasts. If there happened to be an error in the game and the organization wished to return to a previous broadcast, the users would have to wade through all previously saved versions of that game to find the correct one to re-broadcast. Additionally, while this happened, there would not be a way for the organization to hide the game from the public unless they unlinked the game entirely from the organization. The problems associated with distinguishing previous game versions from each other and the lack of public access settings were also important issues that needed to be addressed.

With these limitations and desired new Zap and Go features in mind, a number of fields were added to the existing database tables, and two new tables were created. These changes are covered in sections 2.2.2 and 2.2.3, respectively.

2.2.2 New Database Fields

Organizations
Three new fields were added to the organizations table to improve support for organization profile pages. These fields were:

- **url**: Stores a link to the organization’s external website
- **public**: Indicates whether or not the organization is viewable by the general public. This allows organizations to set up their details and games in private without exposing the general public to unfinished or incomplete data.

- **location**: While fields exist for latitude, longitude, and radius, allowing the organization's position to be mapped, this field allows organizations to enter a short, user-friendly location string to display to the user, such as “Cambridge, MA”.

**Drafts**

The organization_id and organization_draft_state_id fields are no longer in use due to the reasons described in section 2.2.1. There were two new fields added to the drafts table, both to support on- or off-site gameplay requirements. These were:

- **proximity_required**: Indicates whether players must be on-site to play the game by visiting real-world locations to interact with game agents, as opposed to navigating the game map and interacting with agents from an off-site location.

- **password**: If the proximity_required field is set to true, this plaintext password field allows backdoor access for off-site testing and debugging purposes.

**Draft States**

Two fields were added to the draft_states table to aid a separate thesis project to support data collection and analytics on TaleBlazer gameplay:

- **analytics_enabled**: Disabled (false) by default, this boolean field is set to true and analytics are enabled when a game is broadcast for public consumption.

- **download_count**: This field was originally located in the drafts table. However, from an analytics standpoint it made sense for the count to be stored here in order to enable comparisons across different versions of the same game.

In addition to these, two fields were added in order to help users differentiate between
different versions of the same game:

- **version**: This text field stores a custom string that game developers can use to easily distinguish one game version from another. This field is also used on the analytics server to identify each game version.

- **notes**: Often, changes between versions of a game are fairly minor and not obvious just from looking at the displayed metadata. This field allows a user to add notes about each game version and what changes were made.

The Zap and Go tables also contained several numeric fields, such as for latitude and longitude, that were stored as strings and caused errors when the mobile client tried to parse that data. These fields were modified to be stored as floats to enable computation.

### 2.2.3 New Database Tables

In addition to modifying the existing database tables, two new tables were created to support the Zap and Go organization broadcasts: linked_games and broadcasts.

The *linked_games* table contains the associations between a draft and an organization (replacing the organization_id field in the drafts table). In addition to the organization and draft IDs, this table also stores the currently broadcast draft state (named current_draftstate, the equivalent of the old organization_draft_state_id field) for convenience of access, as well as a “public” field to indicate whether or not the game is visible to the general public, or private only to organization members.

The *broadcasts* table consists a history of all broadcast versions of a game. While the linked_games table mostly reorganized the organization, draft, and current draft state associations, the broadcasts table stores all previous associations of a draft state with a particular organization. Containing fields for organization, draft, and draft state IDs as well as a timestamp denoting the broadcast time, this table allows organization members to view the history of broadcast games, and to revert the
publicly available version of a game to a previous broadcast if necessary.

Overall, these new database changes allow much more flexibility in managing game broadcasts and public-facing data, while providing increased support for potential new features such as showcasing games. The website interfaces to view and edit the new database fields will be described in the following chapter.
Chapter 3

User Interface

The TaleBlazer website displays different content for each of three different user groups:

- **Organization Members**: The organizations that TaleBlazer partners with typically have several staff members involved in creating their AR games. Each of these members has an individual user account which can be linked to one or more organizations (these relationships are stored in the organization_users table). An organization member is able to manage that organization’s profile and games.

- **Administrators**: The TaleBlazer team can designate user accounts to be global site administrators. These users have editing privileges to all organizations, and can also create and delete organizations.

- **Public**: Anyone who is not categorized as either of the above user groups. A particular user can be an organization member with respect to one organization, but part of the public with respect to another organization.

The pages relating to organizations and Zap and Go that were implemented on the website can be encompassed by five main user goals:

- Viewing all TaleBlazer organizations
- Viewing an individual organization's profile page
• Editing an individual organization's profile page
• Linking a game to an organization
• Managing a game that has already been linked to an organization

Previously, the first four user goals existed in very primitive form with limited functionalities and user interfaces. The fifth goal, managing organization games, was not supported at all from either the backend or the frontend. The website pages developed to fully support the desired features for all five goals will be covered in detail in the following sections.

3.1 Places on TaleBlazer

The Places on TaleBlazer page lists all of the TaleBlazer partner organizations. The term places is used instead of organizations because organizations seems more formal and intimidating, and because the public will generally associate games with being at certain places or venues. This page displays each organization as separate information tiles containing the organization's name, description, and logo, with action buttons that differ based on each of the three user groups. Whether or not an organization is visible on this page also depends on user groups, as well as that organization's privacy settings.

3.1.1 Public and Organization Member Views

Non-administrators will only be able to see a list of all publicly viewable organizations (Figure 1). In addition, all organizations, public and private, for which a user is a member will display at the top of the page (Figure 2). Organizations which a user may edit will display with an Edit button, which provides access to management of organization attributes and games; all users have access to the View button, which displays a public view of the organization's profile page.
Figure 1 (above). The Places on TaleBlazer page, as seen by a user who does not belong to any organizations.

Figure 2 (below). The Places on TaleBlazer page, as seen by a member of the Columbus Zoo and the MIT STEP Lab.

The Columbus Zoo organization has its visibility set as private, which is why it does not display for the general public.
3.1.2 Administrator View

Administrators can view all organizations on the TaleBlazer website, regardless of whether they are public or private. The administrative view of the Places on TaleBlazer page is shown in Figure 3. In addition to being able to edit all organizations, administrators can also delete individual organizations and create new organizations. The interface for creating new organizations is a blank copy of the Edit Organization page, which is described in section 3.3.

Figure 3. The Places on TaleBlazer page, as seen by a global site administrator.
3.2 Organization Profile Page

The old version of the organization profile page, shown in Figure 4, was available only for site administrators to view. The page was created purely as a way to view the values of the fields in the database, and was hastily put together to accomplish that simple goal. Besides the lack of aesthetics, there were several important usability concerns with this page.

MIT STEP Lab
We invite you to visit us at 20 Ames Street in Cambridge, MA to play our latest and greatest location-based augmented reality games!
Latitude: 42.351101 Longitude: -71.426615
Members:
Lisaasump,
Organization Games
Add Games

Figure 4. The former view of an individual organization page.

The first concern was that the page displayed a link to add new games and a Show Options dropdown menu for each game that provided the option to either remove a current game from the organization or update that game to the most recently saved version. While these are necessary features, this page mixes viewing and editing data together, instead of clearly dividing them into separate interfaces. However, even though the page allowed some administrative features, editing the organization data itself was not even an option from this page, and had to be accessed from the former...
"Places on TaleBlazer" page. This unclear and incomplete separation of features created confusion for a user attempting to navigate the website and accomplish specific tasks.

The combination of viewing and editing data from this page meant that there was no public-facing profile page, and this public-facing profile is necessary for the Zap and Go goal of helping players discover new places and games. In order to create a public organization profile, the ability to edit the organization games needed to be moved to a new page. The old profile page also displayed the list of organization members, data which also needed to be removed as the public should not be able to see the individual user accounts associated with an organization (both for privacy concerns and to remove unnecessary clutter).

Finally, the latitude and longitude fields were also useless for display on this page. Not only is the data easily corruptible when being stored and modified as a string, as evidenced by the longitude value displayed in Figure 4, but people do not recognize locations by latitude and longitude numbers, so the public would have no sense of where the organizations are actually located, and the organization members would have no sense of whether the fields were even correct or not, or what they should be modified to.

The new organization profile page is shown in Figure 5. All users, including the general public, are able to view this profile page, which displays the organization's description, logo, location in mapped form, and a link to its main website. The publicly available games are also displayed at the bottom; private games are hidden on this page even from organization members. Members and administrators will also see an "Edit Organization" button at the top of the page, which allows them to edit the data fields and manage all games public and private.
3.3 Edit Organization Page

The Edit Organization page allows organization members and administrators to edit profile information and public visibility, modify the list of users who belong to the organization, and manage the games associated with the organization.
3.3.1 Edit Profile Information

![Edit MIT STEP Lab Profile](image)

Figure 6. The top of the Edit Organization page, which allows the user to modify profile information.

The first feature of the Edit Organization page is the ability to modify the visible profile information, including description, logo, and URL. The previous view of this page, shown in Figure 6 and available only to site administrators, provided a default unstyled web form with plaintext input fields for modifying text fields (uploading images was not supported) and labels corresponding to the fields in the database tables.

Because organization members, possibly without engineering backgrounds, will now be able to edit their organizations, the form needed to be displayed in a more user-friendly manner. The input fields, shown in Figure 6, now display with concise labels as well as short descriptions to help alleviate any confusion about the purpose of the fields.

These form fields are pre-populated with the current values from the database, and edits are not saved until the Save Changes button is pressed. Although auto-saving
form field changes was considered, it was decided that because any changes would be
immediately propagated to the public and because some fields, especially the location
map, are susceptible to accidental errors but immediately impact players, it was safer
to not save any modifications until the user is ready to save. Due to the length of the
form, the Save Changes button is provided at the top and bottom of the form, and any
attempt to navigate away from the page prompts a dialog warning that any unsaved
changes will be lost and confirming that the user wishes to navigate elsewhere.

![Edit Organization Form](image)

**Figure 7. Former view of the Edit Organization page.**

### 3.3.2 Manage Location

The major changes to the Edit Organization page dealt with managing the location and
list of members. This section will describe the changes to location editing and the
member list will be discussed in the following section.

As seen in Figures 4 and 7, the former latitude and longitude fields were
displayed as numeric entries in a text field, which people cannot easily translate into a
physical location, and are easily corrupted. The old form also did not provide an option
to edit the organization’s radius, which sets the boundary within which the
organization’s games are accessible to players.
The intuitive solution for a user-friendly interface was to display the organization’s latitude/longitude position and its radius on a map. This feature, shown in Figure 8, provides a Google Maps widget with a pin marking the center of the organization and a circle denoting the radius. Latitude and longitude no longer have to be manually typed by the user; instead, the central marker on the map is draggable and its new position is queried and stored as the new latitude and longitude values. The pin at the border of the bounding circle can be dragged to resize the radius around the organization’s center. If the organization’s location has never been set, the map first attempts to default to the user’s current location; if that fails, the map will center on the MIT campus with a default radius of one mile. A search bar is also provided so that a user can easily move the pins to a new location without needing to click and drag the pins across the country.

Figure 8. The updated location fields. A text field allows the location to be written as a short string, while a map widget visually denotes the organization’s position and radius.
Figure 8 also shows a text field above the map widget. The mobile interface displays the organization's location (usually city and state) next to the organization's name. However, even though the coordinates for the organization's location were stored, trying to query Google Maps for a location string and interpret and format the result turned out to be a challenge. A simple solution was to allow organization members to define their own location string as text, and this was what was implemented.

3.3.3 Manage Members

The second major redesign was associated with managing the set of organization members. Figure 7 shows the old method of managing members - a scrollable list of all the users on the site, with the selected users corresponding to the organization members. This had several undesirable consequences:

- It is hard to find users. There is no discernible ordering of users, as can be seen from the few names visible. In fact, the list was displayed by order of account creation, which was extremely unintuitive.

- The selection field displayed the usernames of everyone with an account on the site. Not only will this list be potentially massive, but for privacy reasons it is better to hide the full list from organization members.

- To associate multiple members with an organization, administrators needed to press CTRL+mouseclick for each new user they wanted to add. If they only clicked on a name without pressing the CTRL key, that person would become the sole member of the organization and everyone else would need to be re-added. This interface was very prone to errors, as the only remedy for an accidental misclick was to either search for the rest of the desired organization members again, or to cancel the edit process, losing any pending changes in other fields, and start over.
Figure 9. The interface for managing organization members. Users kloper, steph, and admin are current members; user lstump has just been added but this change has not yet been saved.

Figure 9 shows the new approach to managing members. A list of current organization members is displayed, with an input box used to add a new user by username to the list.

If an incorrect user was added, or if a staff member leaves an organization, it is simple to remove that user from the list of members. Changes to the organization members are displayed immediately, though as with the other form fields, these changes are not saved until the Save Changes button is clicked. Pending changes to the member list are shown with a message indicating that the modifications have not yet been saved.

### 3.3.4 View Linked Games

Sections 3.3.1 - 3.3.3 described the user interfaces for editing an organization’s profile data and internal settings. The final important feature of the Edit Organization page, shown in Figure 10, is the ability to view all of the games linked with an organization along with their attributes and access settings.
These games, ordered alphabetically, display game information tiles with the format and content that the public will see on the organization's profile page. Only one tile, corresponding to the currently broadcast version, is shown for each game. To the right of each game tile are a few lines of private details indicating public access settings and broadcast version information.

Games and details may not be modified from the Edit Organization page, as it was decided that having separate forms on the same page would cause both clutter and
confusion about what and when to save. The left of each game tile contains a link to a separate Manage Game page which allows organization members to manage broadcast versions and settings associated with a particular game.

3.4 Link Game Page

The Edit Organization page contains a hyperlink directing organization members to the Link Game page, which allows members to associate games that they have created with that organization.

The Link Game page (Figure 11) contains a simple form that allows a user to select from a list of their created games. (Only one game may be linked at a time; if a user wishes to associate multiple games, the form will need to be submitted once for each game.) When a game is linked to the organization, the latest saved version of that game will be automatically broadcast; a preview of this latest version is displayed to indicate what will be linked and broadcast.

Before submitting the form and linking a game to the desired organization, a user can also fill out the private informational details associated with that game and broadcast version. These fields are optional and can be edited later on.
Figure 11. The interface for linking a new game to a given organization. All form fields are optional and can be modified later from the Manage Game page, described in section 3.5.
Once a game has been linked to a particular organization, it cannot be linked to that organization again (unless it is later unlinked). Instead, if a user chooses that game from the selection list, the Link Game page displays a message to inform the user that this game is already linked and a button to direct the user to the Manage Game page, where the user can modify access settings and update or revert the broadcast versions of that game. This screen is shown in Figure 12.

Figure 12. This game has already been linked to the organization, but there is a link provided to access the Manage Game page, where the game can be updated or unlinked.
3.5 Manage Game Page

When a game that has been linked to an organization is modified in the Editor, a new game version is created and saved, but the version that is broadcast to the public does not change. This allows organization members to release a stable version of their game for the public to play, while modifying and testing updates to the game in private.

As mentioned earlier, while a game is linked to an organization it cannot be linked again. In order to manage and modify the linked game’s settings and broadcasts, an organization member must visit the Manage Game page. This page allows users to:

- Unlink the game from the organization
- Update the public access settings associated with the game
- Update the current broadcast to the latest saved version of the game
- Replace the current broadcast with a previously broadcast version
- Update the version string and author notes for current and previous broadcasts

3.5.1 Unlink Game from Organization

Figure 13 shows the top of the Manage Game page. Clicking the Unlink Game button, and the subsequent confirmation dialog, removes the game from the organization. This game and its broadcasts will no longer be associated with the organization on the website and on the mobile application, but the game can be re-linked from the Link Game page. As a safeguard against accidental unlinking of a game, even if a game is unlinked its broadcast history is preserved in the database and will reappear if the game is later re-linked.
Figure 13. The top of the Manage Game page. Users are able to unlink the game from the organization (it can be re-linked later on) as well as view and manage access settings.

3.5.2 Edit Public Access Settings

Also visible in Figure 13 are the access settings - whether the game is visible to the public or private only to organization members, and whether the players must be on-site to access the game (with a password override for testing and support purposes if proximity is required). Clicking the Edit Access Settings button brings up a modal dialog (Figure 14) allowing organization members to change these settings.

Figure 14. The dialog with which access settings for a game can be updated.
3.5.3 Broadcast New Version

The game broadcasts are located below the public access settings. As shown in Figure 15, the currently broadcast version is shown first, followed by all previously broadcast versions of the game. If a newer version of the game has been saved in the Editor, a message appears on this page (and the Edit Organization page) prompting organization members to update the broadcast.

Clicking on the Preview and Update button brings up a form (Figure 16) displaying a preview of the latest saved version of the game as well as fields to add a version string.
and author notes. Broadcasting this version sets this as the current broadcast; the just-replaced broadcast moves down under the “Previous Broadcasts” header.

Figure 16. The dialog to preview and update a broadcast to the most recent game version.

3.5.4 Restore a Previous Broadcast

Figure 15 shows a Broadcast button to the left of each previous broadcast. This option allows organization members to restore this previous broadcast to the currently broadcast version of the game. This feature would be useful if a newer broadcast was found to have errors affecting gameplay, and an old version could be broadcast to the public while the errors were being fixed.

Clicking the Broadcast button brings up a confirmation dialog; if the user
chooses to continue, that version of the game becomes the current broadcast, and the
version that was just replaced moves down to the Previous Broadcasts section.

3.5.5 Edit Version and Notes

Each current and former broadcast can have an optional version string (to help
distinguish versions and identify versions on the game analytics server) and author
notes (to clarify the differences between game versions). These fields can be completed
at the time of broadcast, but can also be edited later on.

To the left of each broadcast tile on the Manage Game page is an Edit Version
and Notes button. Clicking this button brings up a modal dialog (Figure 17) allowing
the version string and author notes to be modified for that particular broadcast. These
fields are pre-populated with the current values.

![Figure 17. The interface for editing the version string and notes associated with a specific game version.](image)
Chapter 4

Reflections

4.1 Future Work

In conjunction with the development work that has been occurring on the mobile client, Zap and Go is now at a point where it can enter pilot testing with TaleBlazer partner organizations. There is still room for expansion and improvement of features, such as:

- Exploring alternate ways to display organizations to the public
- Implementing searching, sorting, or filtering
- Visually mapping organizations and games in relation to each other

TaleBlazer currently partners with just a handful of organizations, but these features will be necessary to scale the number of partner organizations without overwhelming the user interface. Feedback from user tests will also help guide the future direction of Zap and Go development.

4.2 Conclusion

As more organizations partner with TaleBlazer and create augmented reality games for the public to play, it is increasingly important for TaleBlazer to support a growing user base of organizations making TaleBlazer games as well as casual game players. Zap and
Go was conceived to allow individual users to discover and play AR games on their personal smartphones and tablets, and to promote partner organizations and their games to these individuals. The features implemented in this thesis project have created a system to support the goals of Zap and Go, modifying the backend database to contain important attributes and developing several interfaces on the website for organization members to edit public profiles and associate games with their organizations.

Ultimately, when Zap and Go is launched to the general public, it will allow casual players and visitors to TaleBlazer partner organizations to explore the various AR games available, and help generate public awareness of and interest in TaleBlazer. Increasing the publicity and accessibility of games through Zap and Go will hopefully allow TaleBlazer attract and retain many more users in the near future.