

Assignment #4: Heuristics/Inspection Based Usability Testing of Gezdir

Berna Yıldiran 26431

Game Overview

Gezdir is a location-based mobile game that allows players to collect gift packets which contains different objects while exploring the Sabanci University Campus. In order to collect different gifts packages, players physically navigate through different locations on campus.

Gezdir App provides a “backpack” feature that allows players to follow their current status in the game by displaying all the objects they collected in a given location. In this way, Gezdir enhances the game experience by engaging the player to the game through motivating them to expand their collections and collect more items.

The game is designed for players whose age range is approximately between 18 - 45.

Technical Structure

Gezdir is an developed using Unity and it is compatible with iOS and Android mobile platforms. The game has a simple user interface which consist of 3 main sections.

1. Map

Map is the main panel that user interacts with game system. The map shows the Sabanci University Campus, which is the area where this game can currently be played. The map consist of 4 subcomponents which are Location Pointer, Zone Circle, Gift Packets, and Objects.

- **Location Pointer**

Location pointer shows the player's current location in the given map area.

- **Zone Circle**

Zone Circle reveals the objects inside the gift packets which are close to the user's current location.

- **Gift Packets**

Around 200 gift packets that contain an object within themselves are distributed on the Sabanci University campus.

- **Objects**

Objects inside the gift packets are revealed when the player physically moves through Sabanci University and get closes to the gift packets. To successfully reveal an object player must physically walk through the campus towards the gift packets and get gift packets inside their Zone Circle.

2. Bottom Navigation Bar

Bottom Navigation Bar consists of 4 main section which are Profile, Backpack, Notifications, Game Rules.

- **Profile**

Players can display their personal information such as their name - surname, email, their date of registration, and their language preference for the game in the "My Information" tab. Besides, that user can change their password from the "Security" tab. In the "Profile" section the user can take actions like updating their information, viewing the agreement for playing the game, clicking to "go back" button for navigating to the previous tab, deleting their account, or logout.

- **Backpack**

Players can view the object they collected until now in the "Object" tab. In the "Area" tab, they can view their collected object based on the location they found the object.

- **Announcements**

Players can display the system notifications in this section.

- **Game Rules**

Players can display the same agreement which they encounter in their profile's "Agreement" section which includes game rules besides terms of use, personal data protection law, and conditions for playing the game.

3. Top Bar Tools

- **Compass**

The Compass tool placed on the top left corner of the map assists users to understand which direction they are heading.

- **Score Display**

Score Display placed on the center of the top bar allows the user to see the number of objects they have collected so far.

- **AR Camera**

AR Camera tool placed on the top right corner of the map allows users to display the objects in the real-world environment using their phone camera.

My Experience with Gezdir

Due to technical problems with the game, last week I approximately spent 10 - 15 minutes for 4 days playing the game. One major problem that the app

has is, most of the time it does not immediately display gift packets on the map when I launched the game. Because of this reason each time I want to play the game, I open - close or log in - log out to the game multiple times. This is the major drawback of the game in the sense of providing a good playing experience.

Due to these reasons, I can state that each time I open the game, I spent at least 3 - 5 minutes making the app display the gift packets and after that, I spent 10 - 15 minutes collecting the gift packets around me.

At the end of this 4-day trial of the Gezdir game, I collected in a total of 116 objects which are 25 Eyesoft, 34 Teddy Bears, and 27 Let's Know.

Evaluation

Heuristic #1: Visibility of system status

- **Problem Explanation**

1. The system does not provide any feedback or direction when gift packets cannot be loaded successfully. [High]
2. On the iOS system, the game's Score Display is not fully visible to the player due to the iPhone's top notch. [High]
3. The game does not provide feedback related to gift packets not showing up when the player is outside the campus area. This is because the game service is not available outside the Sabancı Campus. [High]
4. The AR Camera tool in the top right corner of the screen does not have a header to indicate its functionality; it simply opens the phone's camera. [High]
5. In the current version of the game, the AR Camera tool is either not available or has not been implemented yet. The game does not make the icon unclickable or provide error messages to players. [Medium]
6. When entering a password during the login operation, the user cannot see the password text field directly because the keyboard blocks the view. The system attempts to solve this issue by displaying the text field on the keyboard, but this unfamiliar use of the keyboard hinders visibility of the system status. [Medium]
7. There is no loading indicator when the map is still loading; the app simply displays a plain screen with the location indicator and zone circle displayed. [Medium]
8. The target board icon near the score display, which is not clickable, gives the impression that it is clickable because it has a cross in the lower left corner. [Low]

- **Proposed Solution**

1. The system should display an error message that informs the user that gift packets cannot be loaded successfully. To improve the user experience, the system can provide suggestions on how to recover from this situation. These suggestions could include steps the user can take to troubleshoot the issue, such as checking their internet connection or restarting the application.
2. The game's Score Display should be redesigned, so that it takes into account the presence of the iPhone's top notch and ensures that the entire display is visible to the player.
3. A notification should be implemented for informing the player when they are outside the campus area and therefore cannot receive gift packets. The notification could explain the reason why gift packets are not showing up, and suggest that the player returns to the campus to receive them.
4. A header like "AR Camera" should be added to the AR Camera tool in the top right corner of the screen, clearly indicating its functionality and purpose. This would provide a clear and intuitive cue for the user to understand what the tool does and how to use it.
5. If the AR Camera feature is not implemented in the current system, consider disabling it or making it unclickable. Alternatively, if there is an error in the tool, the system should display an error message or notification when players try to click on the icon. This will inform users if there is an error or if the tool is not available or has not been implemented yet.
6. When entering a password, the keypad should not obstruct the view of data entry fields. Instead, users should be able to scroll the screen to adjust the position of the data entry field. The currently used solution, which displays the data entry field on top of the keypad, is not effective because it is unfamiliar for the players.
7. A loading indicator for the map should be implemented to let users know the system status and how long they need to wait for the view to load successfully.
8. The target icon near the score display should be removed from the interface because it lacks any functionality and misleads users. Removing it will also reduce the visual complexity on the game play screen.

Heuristic #2: Match between system and the real world

• Problem Explanation

1. The order of the menu choices in the "Profile" section is not logical. A generic screen element like the "Go Back" button is located in the middle of the profile actions menu. [High]
2. The meaning and importance of the "teddy bear" and "eyesoft" objects are unknown to the user because of a lack of information provided. [High]
3. The icon used for the AR Camera tool is not a familiar icon for representing the AR feature. [High]
4. The icon used for the Game Rules page is not familiar to players. [Medium]
5. Using a text button for the "Go Back" action, instead of an arrow icon, does not align with players' mental model of familiarity. Additionally, placing the "Go Back" button in the bottom

center of the screen instead of the top left corner goes against users' habits for the "Go Back" action. [Medium]

6. The close icon on the "Let's Know" objects is not familiar to users, causing confusion. This is a low-priority issue. [Low]

- **Proposed Solution**

1. The "Profile" section menu choices should be reorganized to follow a logical order, such as based on frequency of use or importance of each option. The "Go Back" button should be moved to a consistent location, such as the top or bottom of the menu, to improve navigation and ease of use.
2. It may be helpful to include a tutorial after the onboarding process, to introduce the system, game rules, important objects and their meanings in general.
3. The icon for the "AR Camera" tool should be replaced with a more recognizable icon.
4. The icon for the "Game Rules" page should be replaced with a more recognizable icon.
5. The design of the "Go Back" button should be changed and an arrow icon should be used instead of a text button. This would align with players' mental model of familiarity and make it easier for them to recognize the button's function. Additionally, the "Go Back" button could be placed in the top left corner of the screen to match users' habits for the "Go Back" action. This would improve the usability and user experience of the mobile app.
6. In case of the close icon on the "Let's Know" objects a more traditional and recognizable close icon should be selected for users to better understand the meaning of the icon.

Heuristic #3: User control and freedom

- **Problem Explanation**

1. After asking a question, the system does not wait for confirmation from the user before submitting their answer. The user's initial selection from the options provided for the answer of the question is directly processed and accepted as the answer for the question. [High]
2. The player can zoom in and out on the map, but they cannot drag the map left or right to see the location of the gift packets. This hinders the user's control and freedom within the system. [Medium]

- **Proposed Solution**

1. A confirmation button should be added before the system submits the user's answer. This would give the user an opportunity to review and confirm their answer before it is submitted.
2. A drag function should be added to the map to allow the player to move the map left, right, up, or down to see the location of the gift packets. This would give the user more control and freedom within the app, allowing them to easily find and collect the gift packets.

Heuristic #4: Consistency and standards

- **Problem Explanation**

1. There are no distinctive colors or indicators used for dangerous actions like "delete account." This goes against generally accepted usability guidelines, which recommend using colors and other indicators to clearly distinguish between action buttons with different functions. [High]
2. The margins of the navigation bar and Top Bar are too narrow, making them aesthetically unappealing and impractical for clicking on icons, which are located very close to the corners of the phone. Not using necessary margin spacing goes against suggestions in generally accepted usability guidelines and standards. [High]
3. The AR Camera tool does not have a heading that indicates its functionality to the user, unlike all the other pages, which have headings that indicate their purpose. [High]
4. The design of the onboarding screens, such as "Create Account" and "Login," does not match the design of the other main pages of the app. On the onboarding pages, a blue shade is used to emphasize the page heading, but on other pages, only a line is used to separate the page heading from the rest of the page content. [Medium]
5. Most of the page headings, such as "Profile," "Backpack," and "Game Rules," use uppercase letters, which does not align with suggestions in generally accepted interface design guidelines. But different from these 3 pages, the "Announcements" page heading is written with sentence case letters, causing a style mismatch and hindering the establishment of a standard based on the UI design system of the game. [Medium]

• Proposed Solution

1. The "delete account" action button should be redesigned using distinctive colors such as red and indicators like an exclamation mark or danger icon. This would align with generally accepted usability guidelines and users' mental maps for specific actions, helping them easily identify and avoid accidental deletion of their account.
2. The margins of the navigation bar and Top Bar should be increased (suggested 16px) to provide adequate space for clicking on icons and improve the aesthetic appeal of the app. This can be done by following generally accepted usability guidelines and standards on margin spacing and user interface design.
3. A clear and concise heading can be added to the "AR Camera" tool page to emphasize its purpose and functionality. Additionally, ensuring that all other pages within the app have clear and informative headings can help to improve the overall navigation and usability of the app, as well as achieving a unified standard within the app's UI design.
4. A consistent design language throughout the app, including on the onboarding screens should be adopted to provide better user experience and brand identity. This could involve using the same font, color scheme, and visual elements on all pages to create a cohesive and intuitive user experience. Additionally, the design team could consider using the same method for separating the page heading from the rest of the content on all pages, such as using a line or other visual element consistently across the app. This would help to maintain a consistent and familiar look and feel for users as they navigate the app.
5. Headings of the "Profile," "Backpack," and "Game Rules," pages can be redesigned by using sentence case letter just as in the "Announcements" page.

Heuristic #5: Error prevention

- **Problem Explanation**

1. The app should display error messages for critical situations, such as system errors or failed loading of map views or map elements, to prevent user dissatisfaction or misunderstandings. [High]
2. The critical placement of the "delete account" action button among the profile action buttons and its unobtrusive design may cause critical errors. The user may accidentally click this button instead of other commonly used buttons like "Go Back" and "Logout." [High]
3. The confirmation message before the "delete account" action does not use clear and professional language to inform the user of the consequences of deleting their account. This may cause users to make mistakes that they may regret and cannot undo. [Medium]
4. The navigation bar disappears when a page is selected, requiring the user to click the "Go Back" button to view it again. This two-step process may lead to misunderstandings, dissatisfaction, and errors for the user, as the navigation bar is a critical and essential element for navigation within the app. [Low]

- **Proposed Solution**

1. Error handling and messaging mechanism should be implemented to the app. These messages could be designed to clearly communicate the problem and provide any necessary information or instructions for the user to resolve the issue.
2. The "delete account" action button can be relocated to a separate section of the user's profile. Additionally, the button can be made more prominent, such as with a red color, to make it less likely for the user to accidentally click it.
3. A clear and professional language should be used for the confirmation message before the "delete account" action. The message should clearly explain the consequences of deleting the user's account, such as the loss of access to their data, and any other relevant information. This will help inform the user about consequences of their decision, and give them the opportunity to reconsider before proceeding with the action.
4. The navigation bar should always be visible when navigating between different pages. This will eliminate the need for the user to click the "Go Back" button to view the navigation bar again, reducing potential misunderstandings, dissatisfaction, and errors. The navigation bar of the app should be a consistent and easily accessible element of the app's interface, so that users can easily and intuitively navigate within the app.

Heuristic #6: Recognition rather than recall

- **Problem Explanation**

1. The map screen does not display the count of objects; instead, it only shows a total score for the number of elements. This system structure forces the user to remember their

collected items or go back to the backpack page to see the total number of each object.

[High]

- **Proposed Solution**

1. A feature should be added to the map screen that displays the count of each type of object that the user has collected. This could be done by adding a separate section on the map screen that shows the count of each object. This would allow users to easily see the number of each type of object they have collected without having to remember this information or switch to the backpack page. Additionally, providing this information on the map screen would make it more convenient for users to track their progress and plan their actions while playing the game.

Heuristic #7: Flexibility and efficiency of use

- **Problem Explanation**

1. The app does not have advanced gestures or accelerators for skilled or experienced players. [Low]

- **Proposed Solution**

1. The current system requires the user to click on individual objects to collect them. An alternative solution could be to implement a gesture that allows advanced users to collect all objects in an area at once.

Heuristic #8: Aesthetic and minimalist design

Does the app prioritize simplicity and clarity, and does it avoid cluttered and unnecessarily complex layouts and features?

- **Problem Explanation**

1. The low resolution of the map when zooming out makes it harder for the user to read map locations due to pixelation of the texts and creates a visually unpleasing experience. [High]
2. The complex icons used for map elements, top bar tools, and navigation bar sections, which include shading and 3D effects, do not provide an aesthetically pleasing view. [Medium]
3. The color, thickness, and the movement of the "Zone Circle" is too prominent and distracts the user. [Medium]
4. Most of the page headings are written in uppercase letters and, together with a large page icon next to the heading, they create a visually unaesthetic and non-minimalistic view. [Medium]
5. When gift packets are randomly distributed on the map, they can block the view of the AR Camera Tool, making it harder for players to notice and click on them. [Medium]
6. The spacing between the titles and related data in the profile section should be less than the space between other information in order to achieve visual grouping for the player.

[Low]

- **Proposed Solution**

1. The resolution of the map should be improved when zooming out. This could be done by using a higher-resolution map image or implementing a method for dynamically rendering the map at higher resolutions when the user zooms out.
2. The icons should be redesigned in a simpler and more intuitive way, without the use of shading and 3D effects. This can help to improve the aesthetic appeal of the app and make it easier for users to understand and navigate.
3. The color, stroke thickness, and movement of the zone circle can be adjusted to make it less prominent and distracting to the user. This could involve using a less eye-catching color, making the circle thinner, and reducing its movement or animation.
4. To reduce the complexity and unattractiveness of uppercase page headings, sentence case can be used for page headings instead of uppercase letters. This can create a more visually appealing and minimalistic view. Additionally, the large page icon can be replaced with a smaller icon or removed altogether to improve the aesthetic and minimalistic appearance of the app.
5. The top bar tools can be given a background shade to separate them from the map elements and provide a more visually organized interface to the user. This can improve the overall clarity and usability of the app, by helping users distinguish between the different elements on the screen and focus on the relevant information.
6. The use of different font sizes and weights for the titles and related data in the profile page can create a visual hierarchy. This will make the titles stand out and group the related data together, making it easier for the player to understand and navigate the information. Additionally, using appropriate spacing between the titles and data will enhance the visual grouping and make the information easier to scan and read.

Heuristic #9: Help users recognize, diagnose, and recover from errors

- **Problem Explanation**

1. The app does not display error messages for system malfunctions or errors, such as failed screen loading. This may cause user dissatisfaction or misunderstandings. [High]

- **Proposed Solution**

1. The system should display relevant error messages with clear meanings to guide the user and offer solutions such as reloading the page, restarting the game, or prompt the user to wait for the system to load. This will help the user cope with system errors without feeling overwhelmed and prevent the user from feeling offended or responsible for the errors.

Heuristic #10: Help and documentation

Does the app provide clear and accessible help and documentation, and is it easy for users to find and use when they need it?

- **Problem Explanation**

1. The game help & documentation is not written in a manner that lists concrete steps for the user to follow. Instead of briefly stating the user tasks, it is written as long bullet points. The document also includes unrelated sections, such as "terms of use", "personal data protection law", and "conditions that users must accept to play the game". [Medium]
2. The game's help and documentation are located on a separate page within the navigation bar, which hinders immediate access during gameplay. This also causes users to interrupt their game to check the help document and then resume playing. [Low]

- **Proposed Solution**

1. The game help and documentation should be written in short, direct, and concise statements that users can easily understand. Unrelated sections, such as "terms of use," "personal data protection law," and "conditions that users must accept to play the game," should be removed to avoid increasing the information load on the screen, as this makes it harder and more time-consuming for users to find the information they need.
2. Instead of placing the game help and documentation on a separate page from the game play screen, it should be placed on the top right side of the map. This can be done by using a question mark or info icon to open the game help and documentation as an overlay on the game play screen. In this way, the user can access the help and documentation easily, quickly, and without interrupting their game.