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On-Focus : A Web-Based Platform for Planning, Organizing, and Managing Focus Groups

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ON-FOCUS: A WEB-BASED PLATFORM FOR PLANNING, ORGANIZING, AND

MANAGING FOCUS GROUPS

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Title

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By

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The Supervisory Committee certifies that this ***disquisition*** complies with Montclair State

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ABSTRACT

Focus groups are a research methodology that researchers use to get qualitative data about a subject matter or a product. Owing to the Covid outbreak in 2019 and the prevalence of group think in focus groups, a web-based platform called On-Focus was developed as a means for researchers to organize and manage focus groups online.

On-Focus was developed by following the recommended design approach for conducting focus groups found in literatures. With On-Focus, researchers can filter out participants that are not a fit for the focus group by asking questions that are filled by participants before they send a request to participate. Researcher are required to enter a list of agendas for a focus group before they can create one. Also, the researcher can hide the visibility of a participants' chat during a focus group as a way of preventing group think in the meeting. Additionally, researchers can quickly get a quantitative response to a question by using the polling functionality.

A focus group was created to evaluate the effectiveness of On-Focus. The participants comprised of students from the Montclair State University's Computer Science Department. During the simulation of the focus group, the participants and the moderator tested out the various functionalities of the application. After the simulation, the participants were given a survey that asked Usability questions about On-Focus.

From the results that were gotten from the evaluation, On-Focus is an effective tool for conducting focus group research online with the added benefits of elimination of group think and a means to quickly get a quantitative response from participants by using the polling functionality.

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1. INTRODUCTION

Focus groups are interviews that are conducted within a group to gather relevant information about a topic from interactions between participants [1]. They are used by researchers or organizations to gain a better understanding and clarity on a group's opinions about a subject or topic and help them form a theory about people's behaviours and are also used to complement a quantitative research [2].

A focus group is a qualitative data collection technique used to understand commonalities in a group [3], bring to the fore front the differences of opinions in a group [4] and provide an avenue for examining people's opinions [5]. The duration of a focus group discussion typically ranges from 60 to 90 minutes, and it can be audio, video taped or both [6] or more recently online [7].

Focus groups typically comprise of a small subset of individuals that have been carefully chosen to be either the single, supplementary or a part of numerous sources of data collection [8].

The research methods developed by Paul Lazarsfeld, Robert Merton and their partners during World War 2 for examining the audience reaction to propaganda and media broadcasts formed the basis of focus groups methods [9]. Ever since then focus groups have continually been used by organizations to gather relevant data about their customers buying psychology, and it has it also been used in other sectors such as health care [2].

It is recommended to have an agenda when setting up a focus group, and the agenda should be as follows [10]:

- Salutation address

- Brief description of the topic

- Announcement of rules of the focus group

- Questions

- Collection of demographic data.

The year 2020 was a year that caused a disruption in the way people interacted. Due to the COVID 19 pandemic, individuals had limited time interacting face to face, and the globe is still reeling from the effects of the pandemic. As a result of this a web-based platform called On-Focus was developed to foster the planning and organization of a focus group.

On-Focus is an online platform that eliminates the need for an in-person interaction when conducting a focus group. With On-Focus, focus groups could easily be run online in the same manner as face- to-face focus groups. In addition, it eliminates a critical downside of face-to-face focus groups – 'group think.' It does this by allowing a moderator to specify whether he or she wants a participant's response to be visible to all or the moderator only.

In summary, On-Focus is an online web application that allows a representative of an organization conduct a focus group online for the purpose of gathering relevant information about a topic.

The paper is arranged as follows. Section 2 provides a survey of related literatures, types of focus groups, pillars of a focus group, and benefits and drawbacks of focus groups. Section 3 describes the requirements definition of On-Focus listed according to the components present in the web application. Section 4 provides a pictorial representation of the site map and database design of the On-Focus website. While in Section 5, the technology stack and the reasons behind the choice for the technology stack was discussed alongside with the user manual guide. Section 6 provides the evaluation of On-Focus based on the test run and feedback from users. Finally, Section 7, lists some recommendations of how On-Focus could be improved, and concludes on the work that was done.

2. BACKGROUND

This section starts by summarizing related literatures about focus group methodology, and proceeds by describing the various types of focus groups, roles present in a focus group, and concludes by listing the benefits and drawbacks of focus groups.

2.1. Literature Survey

This subsection presents a literature survey of focus group methodology. The following types of papers were reviewed during this literature survey: papers that talk about the steps to be taken when conducting a focus group, distinction between focus group methodology and quantitative survey methodology, and ethical challenges of the focus group methodology.

Nyumba et al [11] provide four steps to be taken when planning for a focus group. These steps are listed as:

- Research Design: This is where the objective of the study is defined, questions for the focus group are made ready, and ethical clearance is sought. Afterwards, participants are recruited and a location for the focus group is decided.

- Data Collection: Data is typically collected by one or a combination of the following means: audio, video, note-taking, or observation of participants.

- Analysis: When analysing data from a focus group the qualitative technique that is recommended of the three qualitative techniques (grounded analysis, content analysis, and discourse analyse) is the content and ethnographic analysis. This technique enables the researcher to gain both quantitative and qualitative data from the analysis.

- Results and Reporting: A report should be made after all the data from the focus group has been analysed. The report should be formatted in either a narrative or a pointwise

format, and it should be presented to meet the needs of the audience. Participants should have access to the report in order to validate the result.

Schuck et al [12] distinguishes focus group methodology from quantitative survey methodology by listing the following key differences between the two methodologies:

- Insight not Rules: They argue that focus group allows participants to voice their opinions without being confined to a set of answer choices such as 'A, B, C or D.' This gives the researcher better insights into a topic and reduces the generalization that occurs in a survey research.

- Social not Individual: Since focus group is a collection of individuals, the ideas formed, issues raised, and opinions expressed might be representation of a 'combined local perspectives. That is these may be depiction of a set of participants' opinions in the group and might not a representation of a single individual's perspective.

- Homogenous not Diverse: When selecting participants for a session, researchers typically invite participants with similar traits and doing otherwise would diminish the quality of the data gotten. To mitigate this, they recommend that researchers compose multiple focus groups with participants that are similar by some criteria.

- Flexible not Standardized: Focus groups discussions can be dynamic. They are like normal conversations that occur between two or more people. The moderator must strike a balance between the focus group moving according to schedule and for participants to express their opinions.

- Warm not Hot: They argue that the topics discussed in focus group sessions should not be private matters such as sex and salaries, and that participants should be carefully selected if the subject matter might be provocative.

- Words not Numbers: When a focus group is being analysed for results, the result should be represented in words and not in numbers. Survey methods, use statistical techniques to generate a report of the data generated, However the report produced by a focus group should be generated by grouping similar words together to get a theme based on the method the researcher employed to analyse the words.

Sim and Waterfield [13] discuss ethical issues faced by researchers that use the focus group methodology. They classify the issues in three main categories: Consent, Confidentiality and Anonymity.

- Consent: This is a means of validating the researchers' actions. They listed two models by which participants offer consent, one can be seen as the mental state of a person consenting and the other, is a public event where an individual consent. Four components of a consents were also listed: disclosure, comprehension, competence, and voluntariness.

- Confidentiality and Anonymity: Confidentiality and anonymity are sometimes used interchangeably. However, a key difference was pointed out by the authors. They described confidentiality as the actions the researchers take when they have a participant's information. And anonymity was described as concealing information about certain attributes of a participant so that they cannot be identified from the information they provided.

2.2. Types of Focus Groups

According to Nyumba et al [11], there are seven types of focus groups. They are:

- *Single Focus Group*: This is the most prominent and traditional type of focus group. Here all participants and moderators come together as a group in single location to discuss a topic.

- *Two-way Focus Group*: This type of focus groups involves two groups. One group interacts with each individual and discusses a topic, while the second group and the moderator pay close attention on the discussions being carried out by the first group.

- *Dual Moderator Focus Group*: In this focus group, two moderators work in tandem to ensure that the agenda of the focus group is met. The moderators do this by splitting different roles between each other.

- *Dueling Moderator Focus Group*: Here two moderators have opposite view on a topic under discussions.

- *Respondent Moderator Focus Group*: For this type of focus group, a participant is recruited to serve as a moderator temporarily. The participants help influence the dynamics of the group, so that the responses from other participants are mixed and sincere.

- *Mini Focus Group*: A mini focus group is one that comprises of two to five group of people. This focus groups occurs when there is a small set of potential participants that are difficult to recruit. However, the research is still conducted because the research design is one that requires the topic to be discussed in a group.

- *Online Focus Group*: These are focus groups conducted via the internet. This category of focus groups has the same methods inherit in conventional types but are however conducted using various means such as chatrooms and conference calls online. There are two approaches of conducting an online focus group [7]:

- Asynchronous Online Focus Groups: These are typically carried out over a long period of time spanning from a few hours to weeks. Here participants tend to provide comprehensive response to a question asked by the moderator because of the large number of time available to them. Examples of platforms where this can be carried are; QualBoard, Dub, FocusForums, etc.

- Synchronous Online Focus Groups: These are focus groups conducted in real-time and are like in-person focus groups. They can be carried out with one or a combination of the following means: video, audio, or typed chats. If the group suffers from low bandwidth, video mode is turned off and the meeting is conducted as audio or typed chat. Examples of synchronous platforms are Skype, Adobe Connect, WebEx, etc.

2.3. Main Pillars of a Focus Group

This subsection describes the various roles and characteristics of moderators and participants in a focus group.

2.3.1. Moderator

The moderator of a focus group is the facilitator of the group who is charged with creating a relaxed atmosphere for participants, and encouraging participants to express their opinions on a subject matter [4][14]. The moderator partakes in notetaking and asks the participants a set of questions. He or she might require the participants to respond to a stimulus material [14]. In addition, the moderator should possess the following traits [5]:

- Should not judge the participants based on their responses to question.

- Should be open-minded.

- Should be knowledgeable about the subject matter.

- Should be a good listener.

- Should possess leadership skills and observational skills.

- Should be patient and flexible.

- Should be aware of participants needs.

2.3.2. Participants

Selection of participants for a focus group is an integral part of conducting a successful focus group [15]. Participants should include individuals who have experience in the subject matter to be studied [10]. For example, if the focus group to be conducted is about how video games influenced teenagers, the participants should be teenagers who have played a considerable amount of video games. Also, participants are cognizant that they would be participating in a meeting that might change their perceptions about the subject matter [10]. In addition, participants are encouraged to interact with each other as it could reveal information about the topic [14].

2.4. Benefits and Drawbacks of Focus Groups

Focus groups enable the organizers to make an educated guess on how consumers of a product would respond to a change in the product [10] and it sheds light on the differences and similarities in opinions among participants [3]. Qualitative data of a high calibre can be collected within a short period of time since focus groups are ephemeral in nature [5]. In addition, it complements or gives credence to statistical data obtained from other sources [10] and it enables moderators and participants to get quick feedback on a question as participants are encouraged to interact with each other [5].

Focus groups are a more costly form of data collection than quantitative methods [10] and the data gotten might be more challenging to analyse than individual interviews [2]. Perhaps, the biggest disadvantage of a focus group is that group bias tend to spring up if a or some group of participants are more outspoken than the rest [5]. In addition, participants might become hesitant to voice their opinions if other members of the group can't be trusted [2]. Finally, the logistical issue of finding participants in time for a group session might be difficult to navigate [5].

3. DEVELOPMENT OF THE ON-FOCUS PLATFORM: REQUIREMENTS DEFINITION AND SPECIFICATION

On-Focus will be a web-based software that will allow registered users to create and participate in a focus group. Before a user is eligible to create a focus group, the user must be registered with a verified professional email account. On the other hand, a user's account must be verified before he or she can participate in a focus group.

The functionalities of the system are arranged according to components. For this work, a component is a page that is rendered on the screen when a user interacts with the system.

The On-Focus system shall provide the following features: Sign-up Component, Section 3.1; Login Component, Section 3.2; Creation of Focus Group Component, Section 3.3; Modification of Focus Group Component, Section 3.4; List of Focus Group Component, Section 3.5; Focus Group Detail Component, Section 3.6; Manage Requests Component, Section 3.7; Chatroom Component, Section 3.8; User Profile Component, Section 3.9, Notification Component, Section 4.0.

3.1. Sign Up Component

- **Functionalities:**
  - The signup component shall allow a user sign up with the following details: Email, password, username, first name and last name.
  - The system shall determine if the email used for signup is a professional or personal one.

3.2. Login Component

- **Functionalities:**

- o The login component shall allow a user login to the system with their email and password.

3.3. Creation of Focus Group Component

- **Functionalities:**

  - o This component shall provide a form that allows a user to create a focus group. The user shall insert the following information about a focus group:
    - ▪ Name, Date, Time, Time zone, duration, questions to ask a participant when they send a request to join a focus group, Description, Agenda, Limit of participants, background image.

- **Constraints:**

  - o A user must be signed in before they access this component.

  - o A user must have a professional email address before they access this component.

  - o A user cannot ask more than five questions.

  - o A user can not set more than seven agendas.

3.4. Modification of Focus Group Component

- **Functionalities:**

  - o The component shall allow a user to edit the following information about a focus group:
    - ▪ Name, Date, Time, Time zone, duration, questions to ask a participant when they send a request to join a focus group, Description, Agenda, Limit of participants, background image.

- **Constraints:**

  - o A user must be signed in before they access this component.

- The signed in user must be the author of the focus group.

- A user cannot ask more than five questions.

- A user can not set more than seven agendas.

3.5. List of Focus Groups Component

- **Functionalities:**

  - This component shall provide a list of focus groups created.

  - The list shall be filtered according to 'recently created focus groups', 'upcoming focus groups' and by a specific date.

3.6. Focus Group Detail Component

- **Functionalities**

  - The component shall provide the full details about a focus group.

  - The component shall enable prospective participants to send a request to attend a focus group.

  - The component shall enable the author to download all the responses that were entered by prospective participants.

  - The component shall enable the author to start a focus group meeting.

  - The component shall enable the author to download the chat of the meeting.

  - The component shall enable a participant to enter the chatroom of a focus group when a focus group has started.

- **Constraints**

  - The component shall prevent a user from sending a request after the duration of a focus group has passed.

  - The component shall prevent a user that is not verified from sending a request.

- The component shall prevent a participant from joining the chat room after the duration for a focus group is past.

3.7. Manage Requests Component

- **Functionalities**

  - The component shall provide a list of requests that have been sent for a focus group.

  - The component shall enable the author of a focus group filter requests sent by 'all', 'approved' and 'not approved.'

  - The component shall enable the author of a focus group to accept a request.

  - The component shall enable the author of a focus group to decline a request that was accepted.

- **Constraints**

  - Only the author of a focus group will be permitted to visit this component.

3.8. Chatroom Component

- **Functionalities**

  - The component shall provide a text box for users to enter chat messages.

  - The component shall enable users view the number of people in a chat.

  - The component shall enable the author to create a poll.

  - The component shall render a list of polls.

  - The component shall enable participants in the chatroom react to a poll.

- **Constraints**

o Only users whose requests have been approved shall be allowed into the chatroom.

o The component shall prevent users from using profanity.

o The component shall prevent users from reacting to a poll multiple time.

3.9. User Profile Component

- **Functionalities**

  o The component shall allow a user to enter biographical information about self.

  o The component shall allow a user to edit his or her profile image.

  o The component shall list all the focus groups a user attended.

  o The component shall list all the focus groups a user moderated.

3.10. Notification Component

- **Functionalities**

  o The component shall provide a list of notifications for a user.

  o A notification is created when one of the following occurs:

    ▪ A user requests to join a focus group.

    ▪ A user's request to join a focus group was granted.

    ▪ A user was deleted from a focus group by the author.

    ▪ A user deletes self from a focus group.

4. DEVELOPMENT OF THE ON-FOCUS PLATFORM: SYSTEM DESIGN

System design is an integral part of software engineering. For software engineers to design a system according to requirements, they must have a good design of the system which details the interaction between 'components', 'modules', 'interfaces,' and 'data' [16].

During the design of On-Focus, steps were taken to ensure that the relevant components for the system were known and how they interact each was well understood. The major design considerations that were taken comprised of the site map and database.

This chapter briefly describes the Site map and Database design diagrams of On-Focus.

4.1. Site Map

A site map is a diagrammatic representation of the list of pages contained in a website. Site maps are of three types [17]: Site maps used when a designer plans a website, hierarchical, and structural site maps. A site map was created before implementing the requirements of the On-Focus platform. Figure 1 provides the planned site map for the On-Focus platform. The site map begins with the home page at the top of the hierarchy. The home page links to various pages such as the Sign In, Sign Up, Creation of Focus Group, Focus Detail page, Profile and Notifications page. From the Focus Detail page, a user can navigate to the chatroom, and only the moderator can navigate to the Manage-Request page and the Edit Focus Group page.
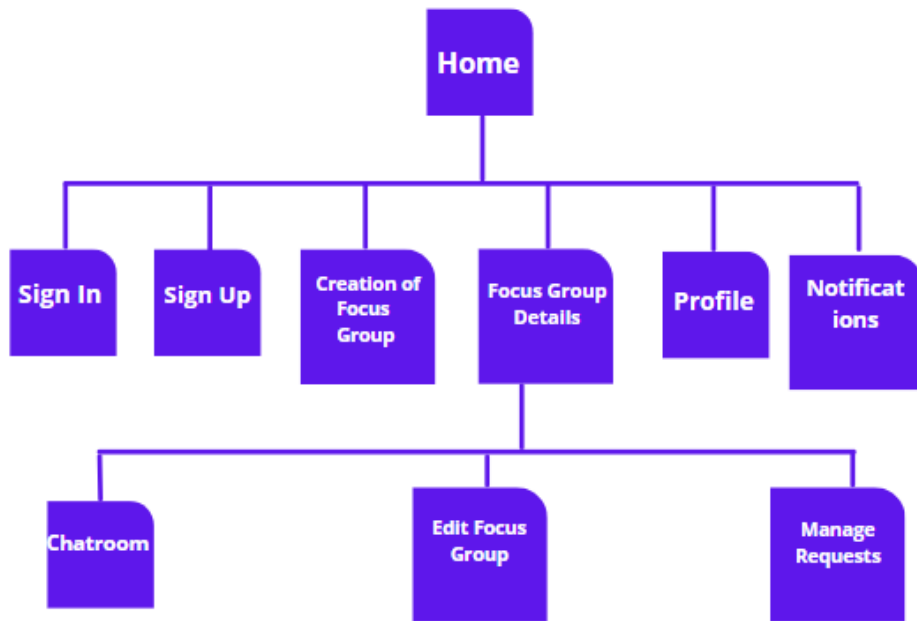
Figure 1. Site map of On-Focus

4.2. Database Design

The database was designed in a NOSQL structure. NOSQL deviates from RDBMS approach by organizing a grouping of data that have similar purpose into a collection. A collection is the equivalence of a table in an RDBMS. An entry in a collection is called a document, the equivalence of this in RDBMS is called a row. A NOSQL approach was chosen because our backend service, Firebase, only offers NOSQL database for its data store and because it is rapidly being adopted by major companies.

Figure 2, shown below displays the database design of the On-Focus website. The relationship between each document in the database is described as follows:

- Username and User: A username must belong to one and only one user, and a user must have one and only one username.

19
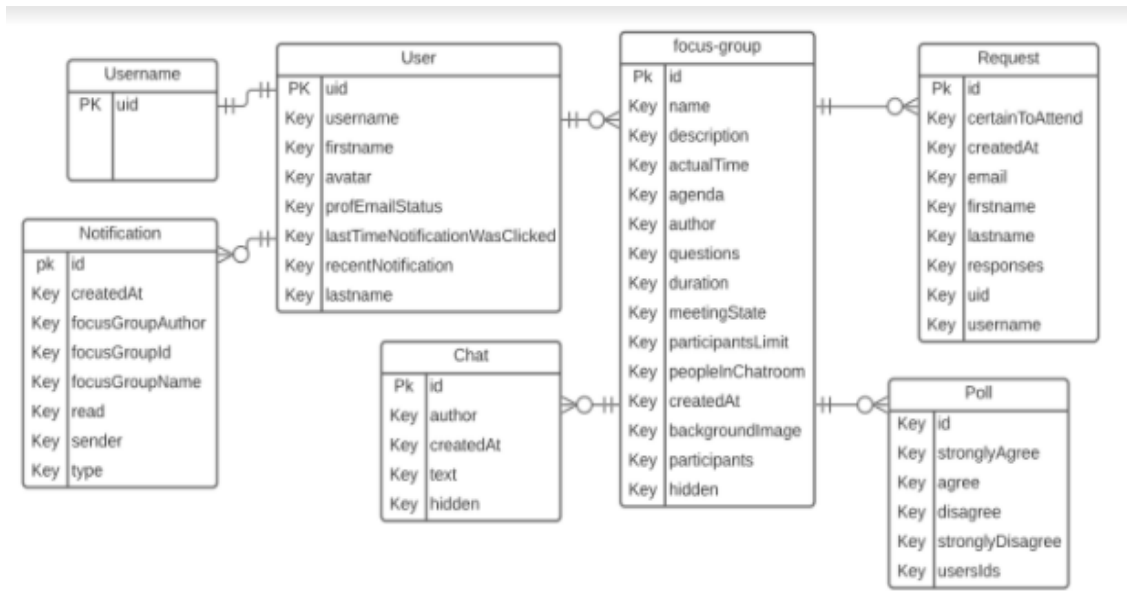
Figure 2. Database Design

- User and focus-groups: A user can have zero to many focus groups, and a focus group can belong to one and only one user.

- User and Notification: A user can have zero to many notifications. While a notification can have one and only one user.

- Focus-group and Request: A focus group can have zero to many requests. A request must belong to one and only one focus group.

- Focus-group and Chat: A focus group can have zero to many chats. While a chat can belong to one and only one focus group.

- Focus-group and Poll: A focus group can have zero to many polls. And a poll can belong to one and only one focus group.

5. DEVELOPMENT OF THE ON-FOCUS PLATFORM: IMPLEMENTATION

This section gives an overview of the technology stack that was used to implement *On-Focus,* and it also provides a user guide of the web application.

5.1. Technology Stack

On-Focus was implemented to be a single page application (SPA). An SPA is a web application that fetches data from a backend service without reloading the page. There are many tools used for building a SPA, however, for On-Focus, React and firebase were used.

React is a frontend framework that enables the developers to build interactive web applications that contain several UI components.

Firebase is a backend service managed by google that allows developers build, manage, test, and deploy their applications.

React was used because it is the most popular frontend framework used by developers to build SPAs, and as a result it has a large community. Also, react is an easy framework to pick up by any developer, and reusable components can easily be built using react.

Similarly, Firebase for the backend was used because it offers real-time data changes. That is, changes made to data are reflected real time to the applications – either a web or a mobile application subscribed to it. In addition, firebase makes it easy to scale up as the application grows.

5.2. User Guide

This subsection explains how users can use On-Focus to schedule and participate in a focus group and help guides user interactions with various components contained in On-Focus.

Figures 3 to 11 contains a notification bar which serves as a pane for a user to navigate to different pages of the website. From the notification bar, the user could navigate to the Landing

Page, User Profile, Creation of Focus group page, Notifications Page by clicking on the

following elements respectively, the 'on-focus' text, his or her username, the plus icon, and the

bell icon.

Figure 3 displays the landing page of the On-Focus website. The landing page contains a

list of focus groups that have been created. The landing page also provides the options for a user

to filter what they see on the screen. The user could filter by upcoming, recently posted or by a

specific date by clicking on the appropriate text. Additionally, the user could also decide to

navigate to the focus group detail page by clicking on a focus group listed on the landing page.

Finally, if the user decides to sign out, the user could click on the sign out text located at the top

right corner of the screen.
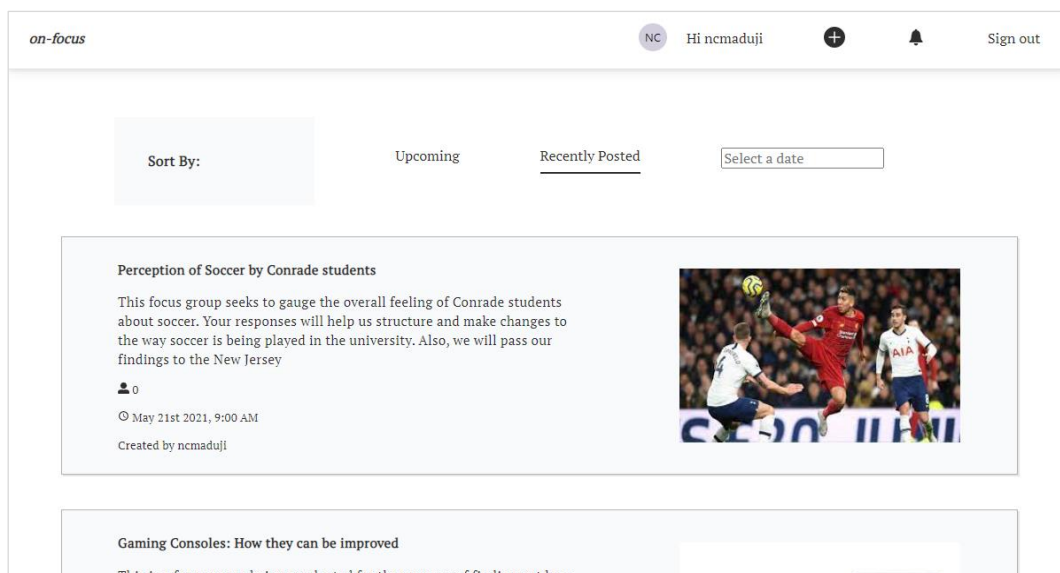
Figure 3. Landing Page
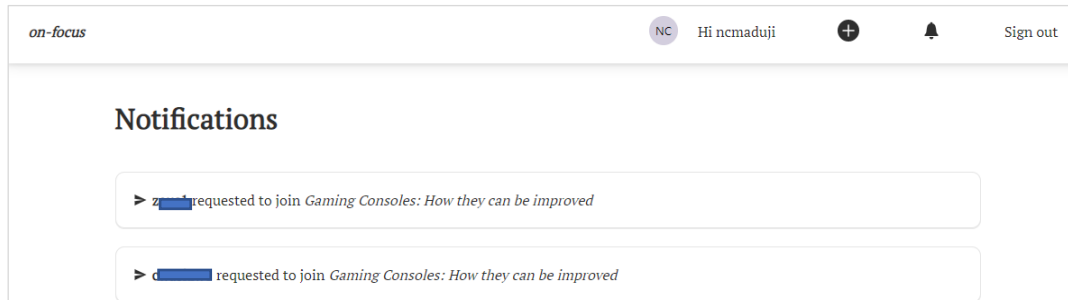
Figure 4. Notification Page

Figure 4 shows a list of notifications a user receives when an event occurs. A notification that has not been read, has a background colour of light blue grey. While a notification that has been read, has a background colour of white.

Figure 5 displays the details about a registered user. The user profile page contains the user's full name, username, profile image and a short bio. The user could change his profile image, bio data by clicking the camera icon and edit button respectively.
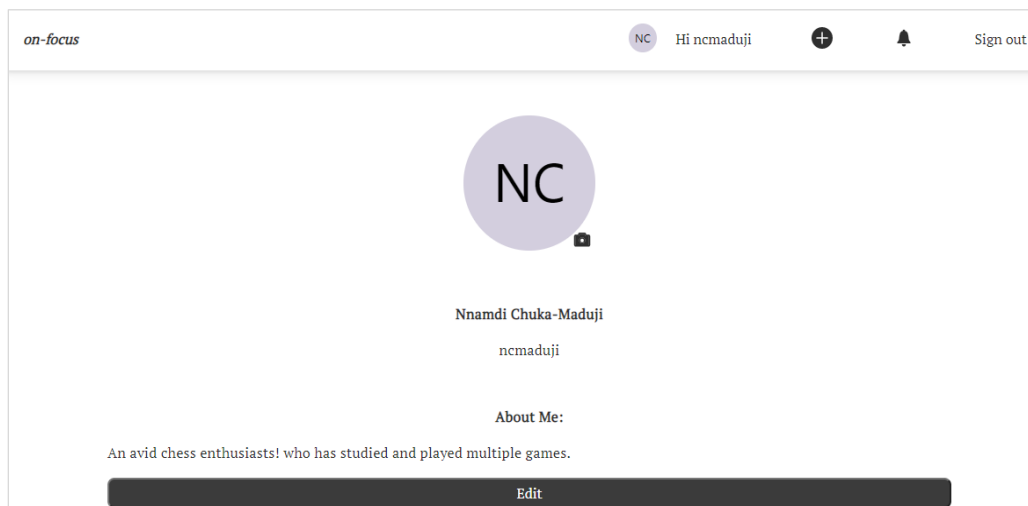
Figure 5. User Profile Page.

Figure 6 displays a form that is presented to a user when he or she wants to create a focus group.

The form has the following fields:

- name,

- date,

- time,

- time zone,

- meeting duration,

- pre-meeting questions,

- descriptions,

- maximum number of allowed participants.

- and background image.

All the aforementioned fields are required except for the pre-meeting survey questions. The user creates a pre-meeting survey question and an agenda by clicking on the 'add' buttons displayed below the following texts, 'Enter Questions that might give you more information' and 'Agenda' respectively. Afterwards, a textbox is displayed for the user to enter the appropriate text. This user should repeat this process if he or she intend to insert further questions or agendas. On the other hand, other form fields can be filled by interacting with the elements directly.

NC   Hi ncmaduji   ➕   🔔   Sign out

Create a Focus Group

Name:

required

Date:

05/16/2021

Time:

12:18 PM

Time zone

(GMT-5:00) Eastern Time ⌄

Meeting Duration:

1 hr ⌄

Enter Questions that might give you more information (Max of 5)

Add

Description:

Agenda (Max of 7)

Add

Limit on Number of Participants

20 ⌄

Background Image

Choose file No file chosen

required

Create

Figure 6. Creation Page of a focus group.

Figure 7 outlines the detailed view of a focus group without user sign in. This includes the name, agenda, description, author, date of meeting, number of participants, and a list of participants that have been accepted to participate in the meeting. A logged in user can interact with the detailed view page either as a moderator (shown in Figure 8 – Figure 9) or as a participant as described below:

- Moderator: As shown in figure 8, before a focus group commences the moderator can download responses, start a meeting, or manage requests sent by users. These activities can be done by clicking the following icons respectively, the download icon, play icon and the person on suit icon. After a focus group has been concluded – Figure 9, the moderator can download all the chat texts typed by the participants of the focus group by clicking on the chats text element. Additionally, before and after a focus group is concluded, the moderator could decide to edit the details of a meeting by clicking on the 'Edit Meeting' button and delete a meeting by clicking on the 'Delete Meeting' button.

- Participant: A prospective participant (PP) of a focus group begins sending a request to participate in a focus by clicking on the 'Request to join' button shown in Figure 10. Afterwards, if the focus group has pre-meeting questions, the PP will be prompted to answer them, and his request will be sent to the moderator.

Agenda

| Introduction (5 mins) |
| Background Knowledge (10 mins) |
| Dissatisfaction (10mins) |
| Satisfaction (10 mins) |
| Specifics (10 mins) |

Meeting Duration has elapsed

Gaming Consoles: How they can be improved

🕓 May 11th 2021, 6:30 PM

Created by ncmaduji

Number of Participants allowed **20**

Show 9 Participants

This is a focus group being conducted for the purpose of finding out how company X can improve the overall experience of console owners. Your responses will be submitted to the top producers of consoles so they can get meaningful feedback.

Figure 7. Detailed view Page of a focus group without sign in.

Agenda

| Introduction (5 mins) |
| Background Knowledge (10 mins) |
| Information on Rival Sports (15 mins) |
| Negatives (15 mins) |
| Positives (15 mins) |
| Follow Up Questions (15 mins) |
| Conclusion |

Edit Meeting   Delete Meeting

⤓ Responses   ▷ Meeting   🔐 Request

Perception of Soccer by Conrade students

🕓 May 21st 2021, 9:00 AM

Created by **ncmaduji**

Number of Participants allowed **20**

No Participants yet

This focus group seeks to gauge the overall feeling of Conrade students about soccer. Your responses will help us structure and make changes to the way soccer is being played in the university. Also, we will pass our findings to the New Jersey

Figure 8. Moderator's view of Detail View of a focus group before meeting has started.
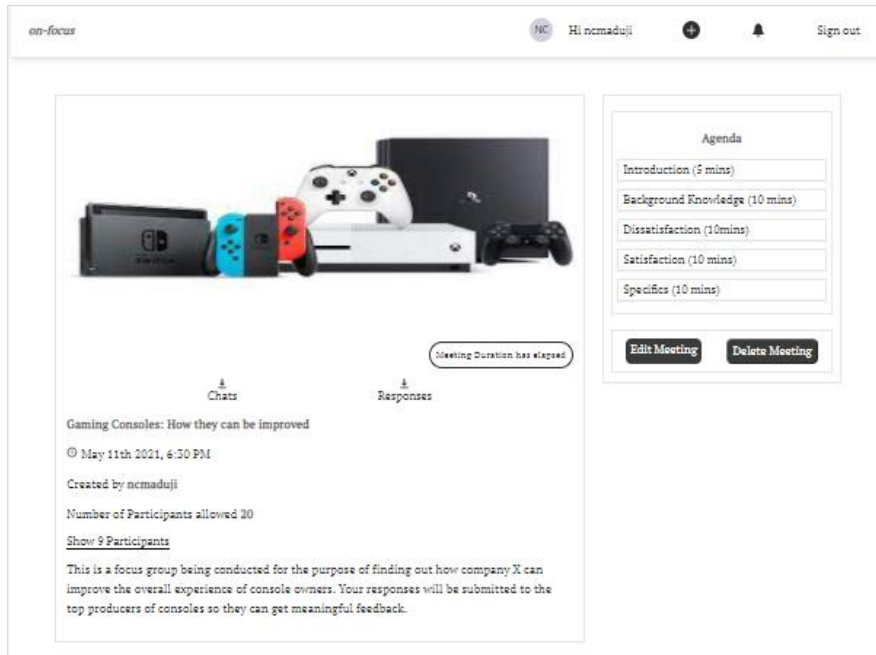
Figure 9. Moderator's view of Detailed view of a focus group after meeting has concluded.
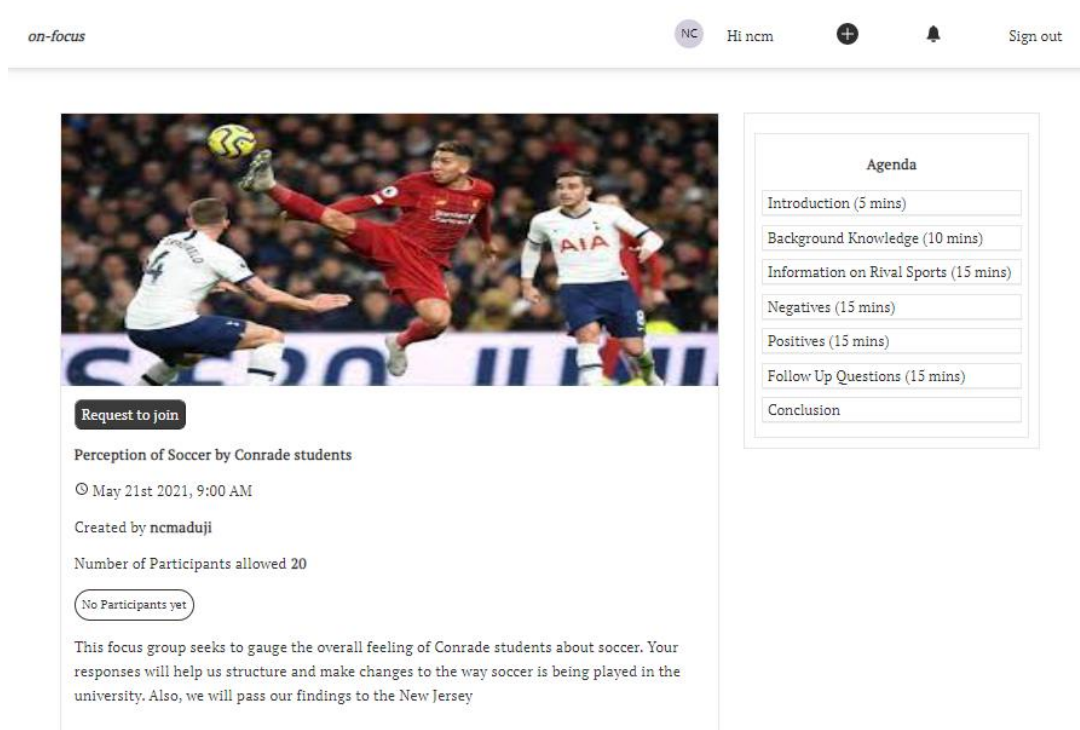
Figure 10. PP's view of Detailed view of a focus group before a focus group starts.

Figure 11 lists all the requests that have been sent by PPs to participate in a focus group with an option for a moderator to accept a request, also with an option for a moderator to decline an accepted request. The moderator accepts a request sent by a PP by clicking on the 'Accept' button. While a moderator can decline a request that has been accepted by clicking on the 'Decline Request' button. Additionally, a moderator can decide to filter requests by the ones that have either been 'approved' or 'not approved' or choose to list all requests by clicking on the appropriate texts.

Figure 11. Manage Requests Page.

Chats

Create a Poll

[ ]

Create

Polls

a█████: virtual reality

█████ NEXT ITEM: DISSATISFACTION

█████: What issues or concerns do you have about game consoles?

S█████ I do not like that consoles have set frame rates and controllers are not comfortable for me.

█████1: Price

c█████ If my headset is compatible with my game console.

p█████: The limitations on framerate capping at 60fps for most games

j█████: No issues with it, just personally not comfortable gaming on consoles anymore

t█████ Remakes and Remasters are being released at full price when it is just rehashed content that people had already paid full price for.

a█████: just about how addictive they can be my bro is on it all day lol

g█████: I think price and how much the consoles are changing

W█████: not much customization

█████ What do you think is the cause of the problem you have identified?

t█████People will pay for whatever they see come out because it's new

f█████ Personal preference. I'd rather have more frames when playing games
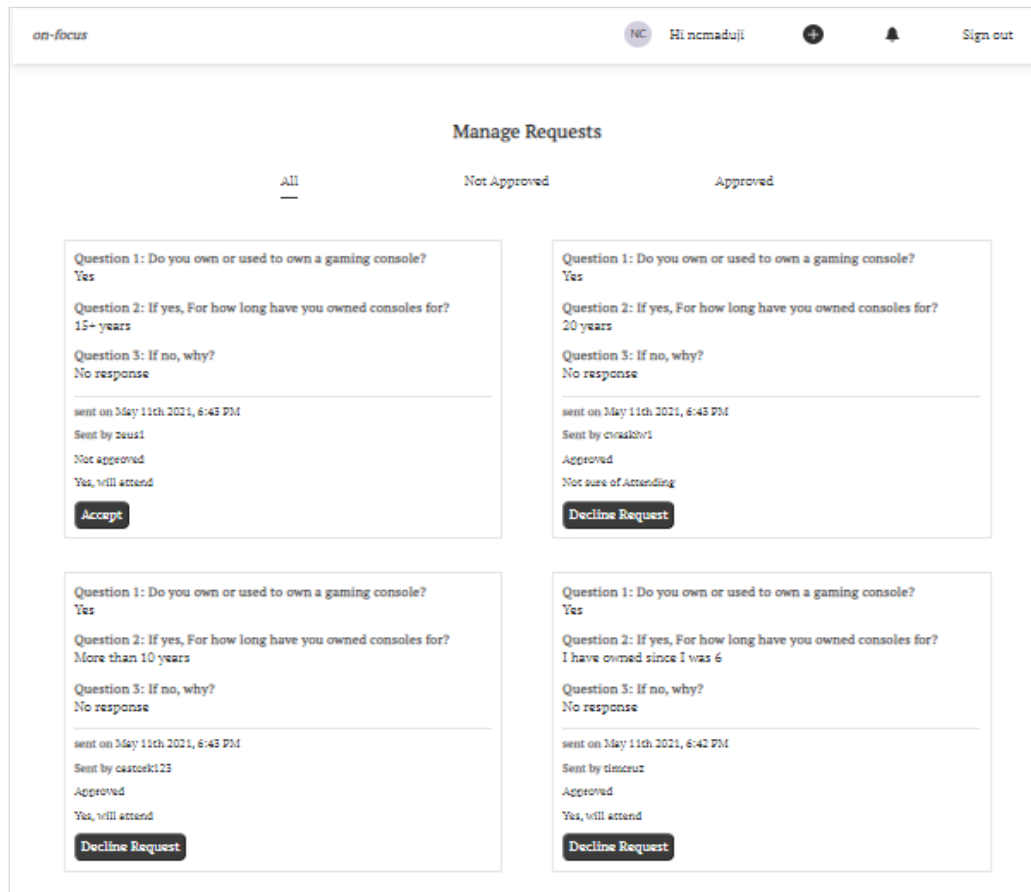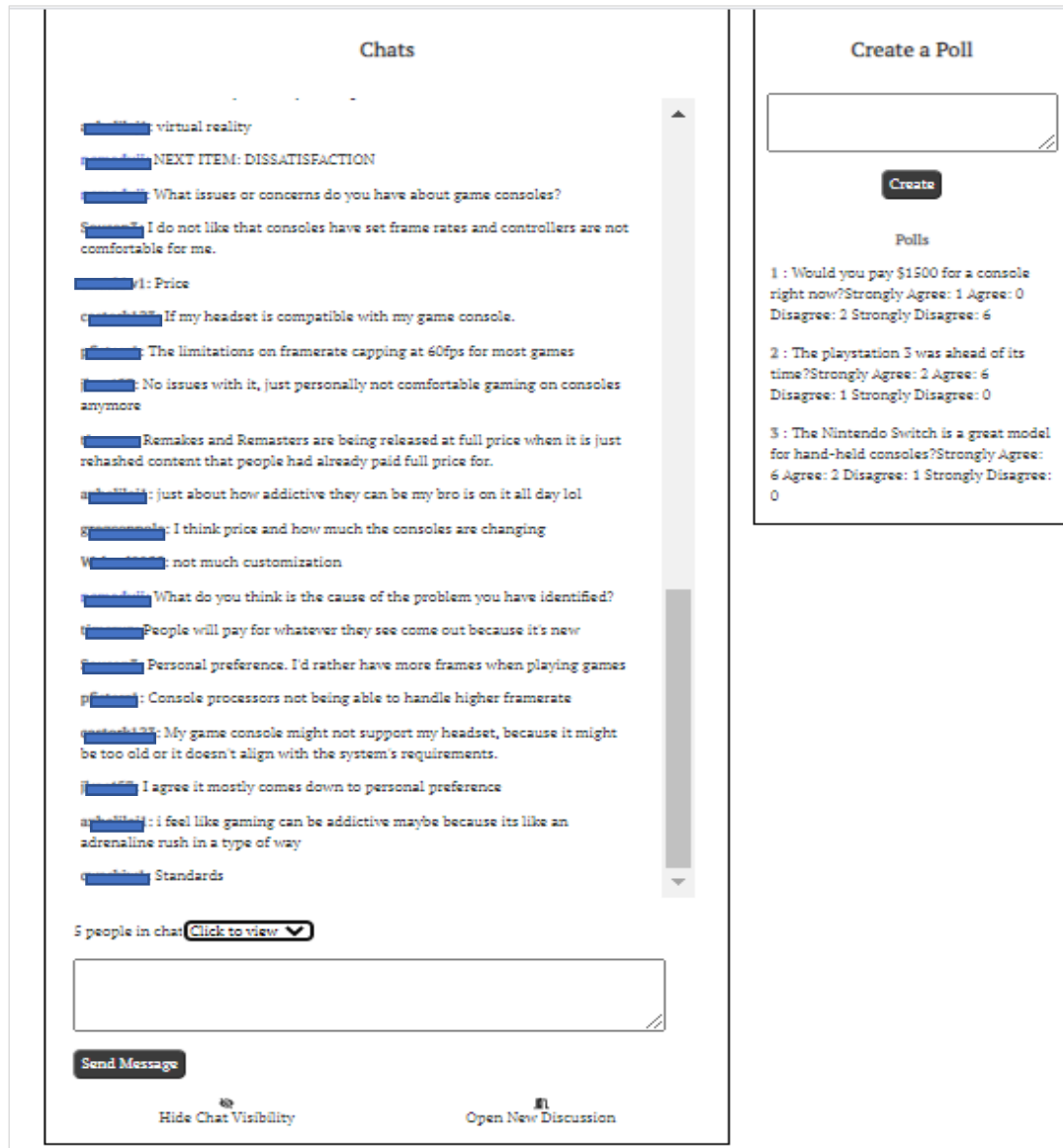
p█████: Console processors not being able to handle higher framerate

█████ My game console might not support my headset, because it might be too old or it doesn't align with the system's requirements.

j█████ I agree it mostly comes down to personal preference

a█████: i feel like gaming can be addictive maybe because its like an adrenaline rush in a type of way

q█████ Standards

5 people in chat [Click to view ▼]

[ ]

Send Message

Hide Chat Visibility   Open New Discussion

1 : Would you pay $1500 for a console right now?Strongly Agree: 1 Agree: 0 Disagree: 2 Strongly Disagree: 6

2 : The playstation 3 was ahead of its time?Strongly Agree: 2 Agree: 6 Disagree: 1 Strongly Disagree: 0

3 : The Nintendo Switch is a great model for hand-held consoles?Strongly Agree: 6 Agree: 2 Disagree: 1 Strongly Disagree: 0

Figure 12. Chatroom of a focus group.

Polls

1 : Soccer is a game that brings people from different races together?

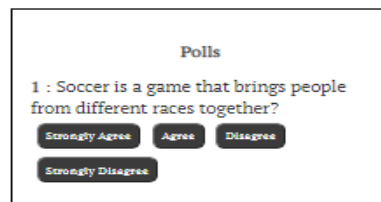Strongly Agree   Agree   Disagree

Strongly Disagree

Figure 13. Chatroom of a focus group with ability for a participant to react to a poll.

Figure 12 shows the chatroom of a focus group. The chatroom has the following functionalities:

- The Chat functionality: This allows both moderators and participants enter texts into the text box right above the 'Send Message' button. Furthermore, the moderator can toggle the visibility of chats typed by participants by either clicking 'Make Chat Visible' or 'Hide Chat Visibility' texts. In addition, the moderator can prevent users from typing in the chat box by clicking the text 'Close Current Discussion' text or allow a participant to type to clicking the 'Open New Discussion' text.

- The poll functionality: This lists all the polls created by a moderator and allows a participant to respond to each poll. A moderator creates a poll for participants to respond to by clicking on the 'Create' button. While a participant responds to a poll by clicking on one of the buttons 'Strongly Agree', 'Agree', 'Disagree' or 'Strongly Disagree' – see figure 13.

6. EVALUATING THE USEFULNESS OF THE ON-FOCUS PLATFORM

This section describes the evaluation of On-Focus that was carried out with 11 students who participated in an informal focus group exercise conducted using the On-Focus platform. The participants were Computer Science and Information Technology students at Montclair State University. The evaluation was conducted by creating a focus group called 'Gaming Consoles: How they can be improved.' The group consisted of 11 participants. After the meeting was conducted, they provided feedback about what they thought about the On-Focus website. The feedback was both quantitative and qualitative.

Figure 14 depicts the distribution of responders that indicated whether they would need technical support when using the On-Focus website. 72.8% of responders indicated that they would not need technical support, 9.1% indicated they would, and 18.2% were neutral.

Figure 15 shows the distribution of responders that indicated that the chatroom feature was easy to use. The most significant response is 72.7% which responded that they felt confident using the chatroom feature.
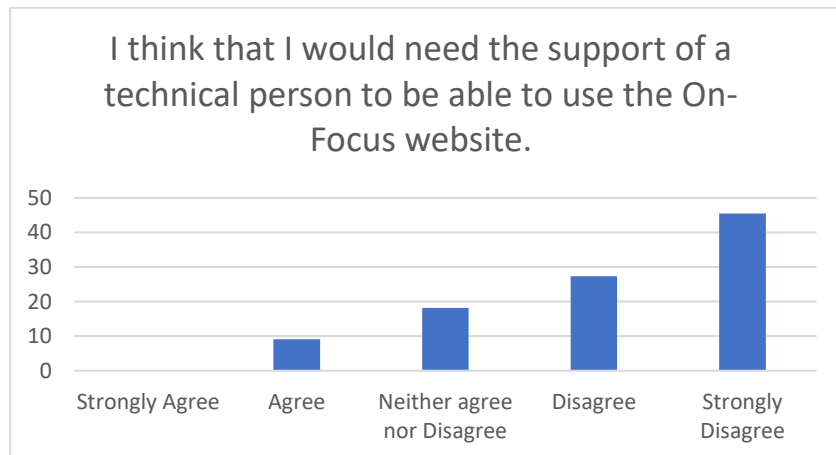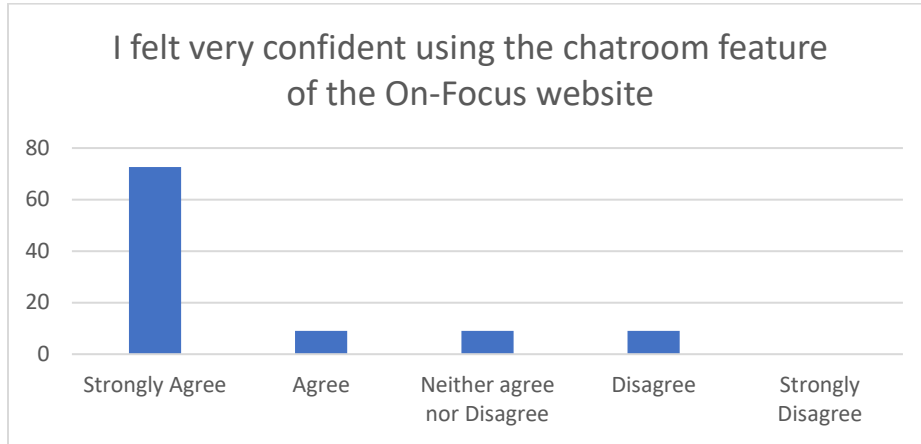

Figure 14. Need Technical Support.

Figure 15. Felt Confident Using Chatroom.

Table 1 below describes the rest of the quantitative data that were obtained from the participants' feedback.

The most revealing responses that were gotten from the participants are listed in order:

- 72.7 % of respondents said they felt very confident using the chatroom feature of the On-Focus website.

- 72.7% signified that they thought the On-Focus website was easy to use.

- 72.7% also said that sending request to join a focus group on the On-Focus website was easy and straight forward.

- 63.6% said that they felt very confident when using the poll feature of the On-Focus website.

Table 1. Results of User Feedback Survey

Questions	Percentage Response				
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Signing up for a user account on the On-Focus website was easy and straight forward.	36.4	45.5		18.2	
Sending a request to join a focus group on the On-Focus website was easy and straight forward.	72.7	27.3			
I thought the On-Focus website was easy to use.	72.7	9.1	18.2		
The user interface (UI) design for the On-Focus website was clear and consistent.	45.5	45.5	9.1		
I would imagine that most people would learn to use the various features of the On-Focus website very quickly.	54.5	45.5			
I felt very confident when using the poll feature of the On-Focus website.	63.6	27.3		9.1	
I believe that the various functions in the On-Focus website are well integrated.11 responses.	45.5	36.4	18.2		

The information below lists the responses that were gotten from the qualitative question that was asked to the respondents.

Question: How can the On-Focus website be improved? Please provide your ideas and suggestions about the User Interface Design and any additional features that you think we can add to the website.

- **Response 1**: The home page was a bit confusing at first when trying to find the group. The demonstrated is very helpful, but I think if people were to not have a demonstration. It would be confusing. Other than that, the chatroom and poll functions were clear and precise.

- **Response 2**: Add different 'roles' where you can assign them to different users.

- **Response 3**: Polls should show that you answered them without having to click multiple times.

- **Response 4**: The only thing that I would recommend is to allow users to hit enter in the chatroom to send a message. Having to hit send message every time can become annoying.

- **Response 5**: Allow the user to press the Enter key on their keyboard to send a chat. Another suggestion would be to make the poll buttons turn a different color once the user selects an answer to show they successfully accepted it.

- **Response 6**:
  - The system does not send a link to my inbox that is clickable.
  - Selection button on the upcoming/recently posted focus groups do not seem like an actual link cause when you hover over it, it looks like it's going to copy.
  - When the overlay for closing the discussion comes up you are not able to scroll down which can make one focus group member miss out on information that the host is typing in.

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- o Maybe an immediate reaction from the website that lets you know you responded to the poll like it changes the one you clicked on to a different color or something?
- o More intractability between the other focus group members
- **Response 7:** The user interface should be more attention grabbing, it is a lot of white space as of right now. But I can see it growing and getting more user friendly.

7. FUTURE WORK AND CONCLUSION

This section outlines the various ways On-Focus could be improved in the future based on the data that was gotten and based on the thoughts of the developer of On-Focus.

First, the Graphical User Interface (GUI) of the On-Focus website should be improved by adding more colors to the theme of the website, and also the website should have more interactive elements to it so that a user could easily interact with it. For example, if a user responded to a poll, the poll should have some kind of indication that shows that the participant had previously interacted with the poll.

Second, a video conferencing feature should be added to On-Focus so that when a focus group is in progress, the moderator could decide to use both video conferencing and chat to interact with participants.

Third, On-Focus should have a category section. This would enable a user to easily filter out focus groups according to his or her preferences and it would bring more credibility to the website.

Fourth, a bug in On-Focus that does not allow a participant to scroll the chat window when the moderator prevents participants from typing in the chat box should be fixed.

Finally, a functionality that would allow the moderator to assign roles to participants in a focus group should be added. For example, the moderator could make a participant in the group be the note taker or be someone that observes the mood of the participants or the direction that the chat is steering towards to.

In conclusion, focus groups are a means for researchers and organizations to get more insight into a group's opinions about a topic or a product. If researchers follow the appropriate

techniques and procedures to conduct a focus group, it can become a very fruitful research methodology for all stakeholders involved in the focus groups.

The web application developed in this project – On-Focus can serve as an online platform for researchers to conduct a focus group that meet the required proceed steps for designing a focus group.

This paper has presented the result of the evaluation of On-Focus that was conducted by conducting a focus group that consisted of 11 students from Montclair State University and got their feedback about On-Focus. In addition, recommendations were made on how On-Focus could be further improved to foster the smooth usage of the system.

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