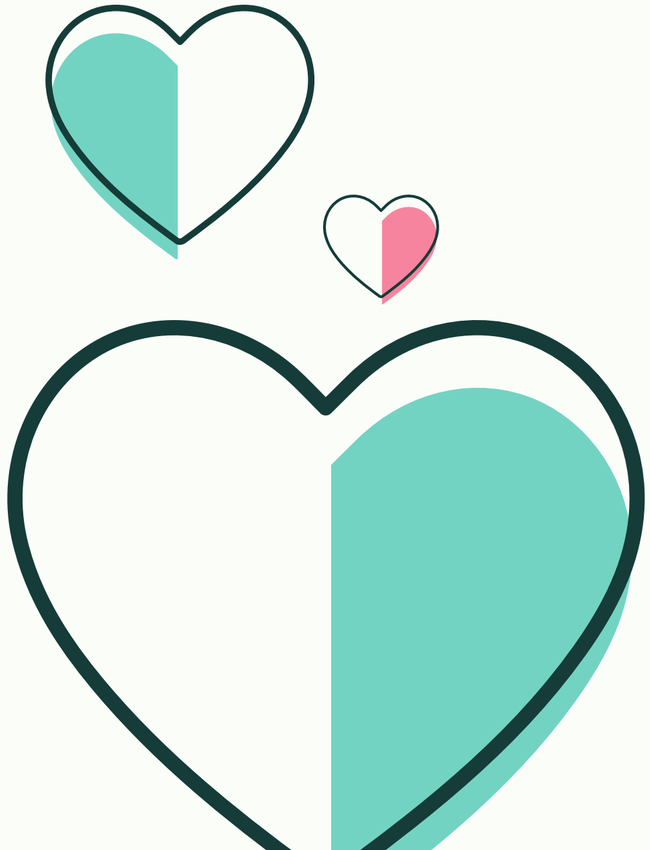
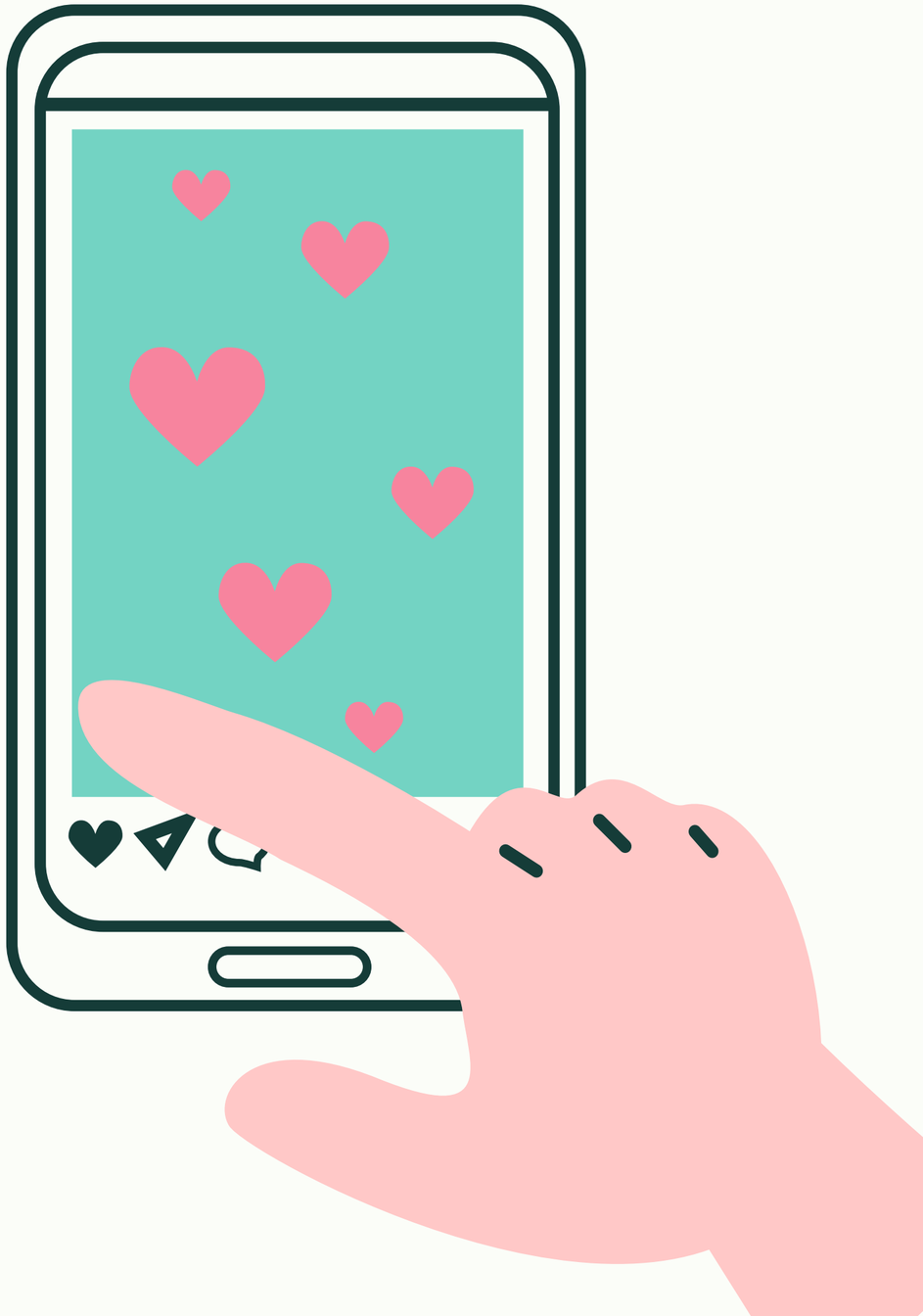
EnlightenedCircles project





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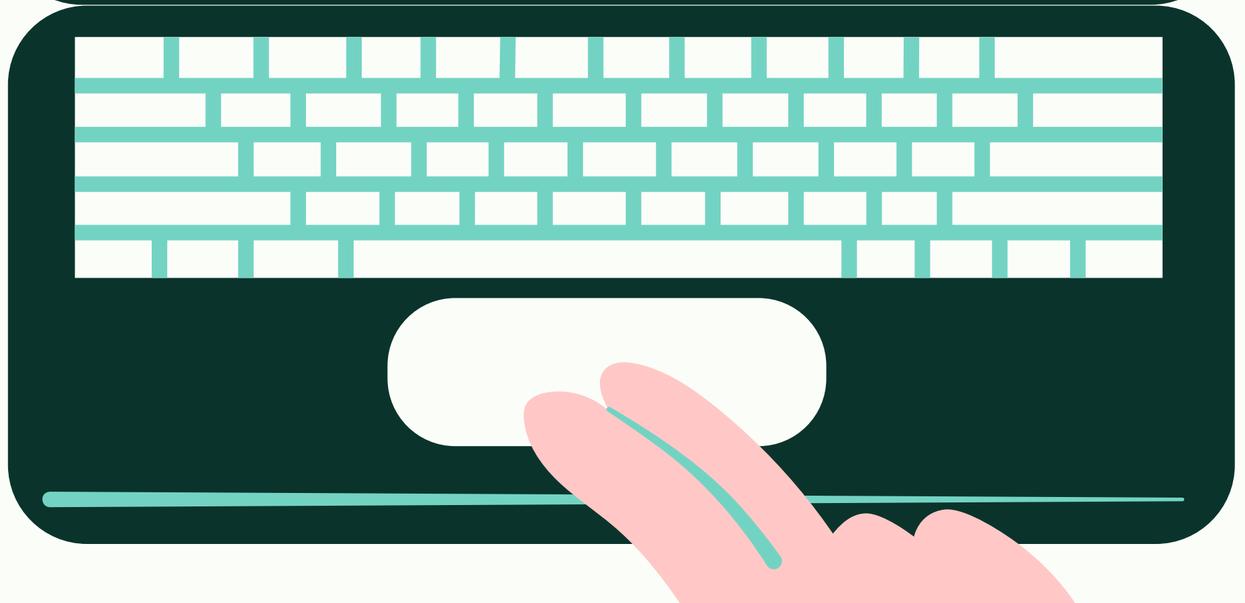
24-1-D-22

abstract

The awareness of individuals with special needs, particularly children with special needs, has been steadily increasing over the years.
Children with special needs, for several reasons and degrees of difficulty, often face numerous challenges throughout their lives. The children with disabilities are not the only one who are dealing with the challenges above. Also, their parents have their own challenges, raising a kid with disabilities.



Project agenda

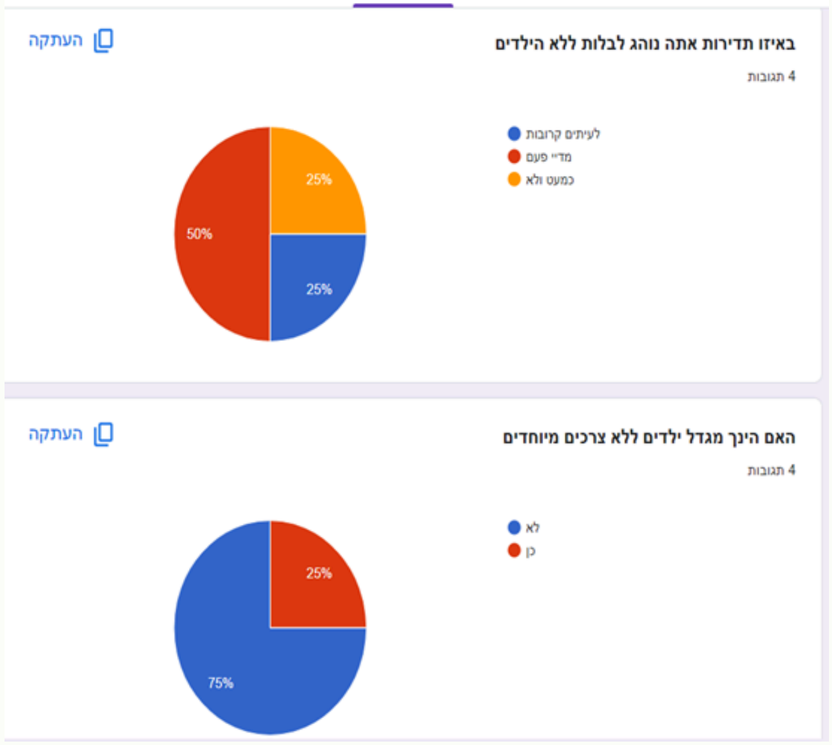
The problem:
Today, there are families across the country coping with one or more children constant attention to the child, necessary physical presence.
these parents often struggle to find leisure or personal time for themselves due to the demands and needs of their child.

So, what are the existing solutions today?
Social Media Groups: There are groups on different social media platforms like Facebook and WhatsApp.
Support Associations: There are support associations specifically for families with children with special needs, such as “Wings of Krembo” and “Aleh.”

Our solution
A platform that will help and supports this families. The network will include location-based and other features groups where users can share their needs and receive relevant responses. Our solution aims to provide a more focused and personalized approach to support families with children with special needs, allowing them to connect with others who truly understand their situation and receive timely assistance

Research

Initially, we wanted to understand the challenges faced by the parents/siblings of those children so that we could address some of their needs in our project.
Information was gathered through articles, questionnaire, conversations with individuals, and in-depth discussions. As part of the research and to get more information, we made a questionnaire to which several families answered to understand what they are suitable for and the needs of those families.



מה היית רוצה שיהיה באפליקציה שהיום אתה לא מקבל מענה עליו הן בפרט החברתי והן במקצועי

4 תגובות

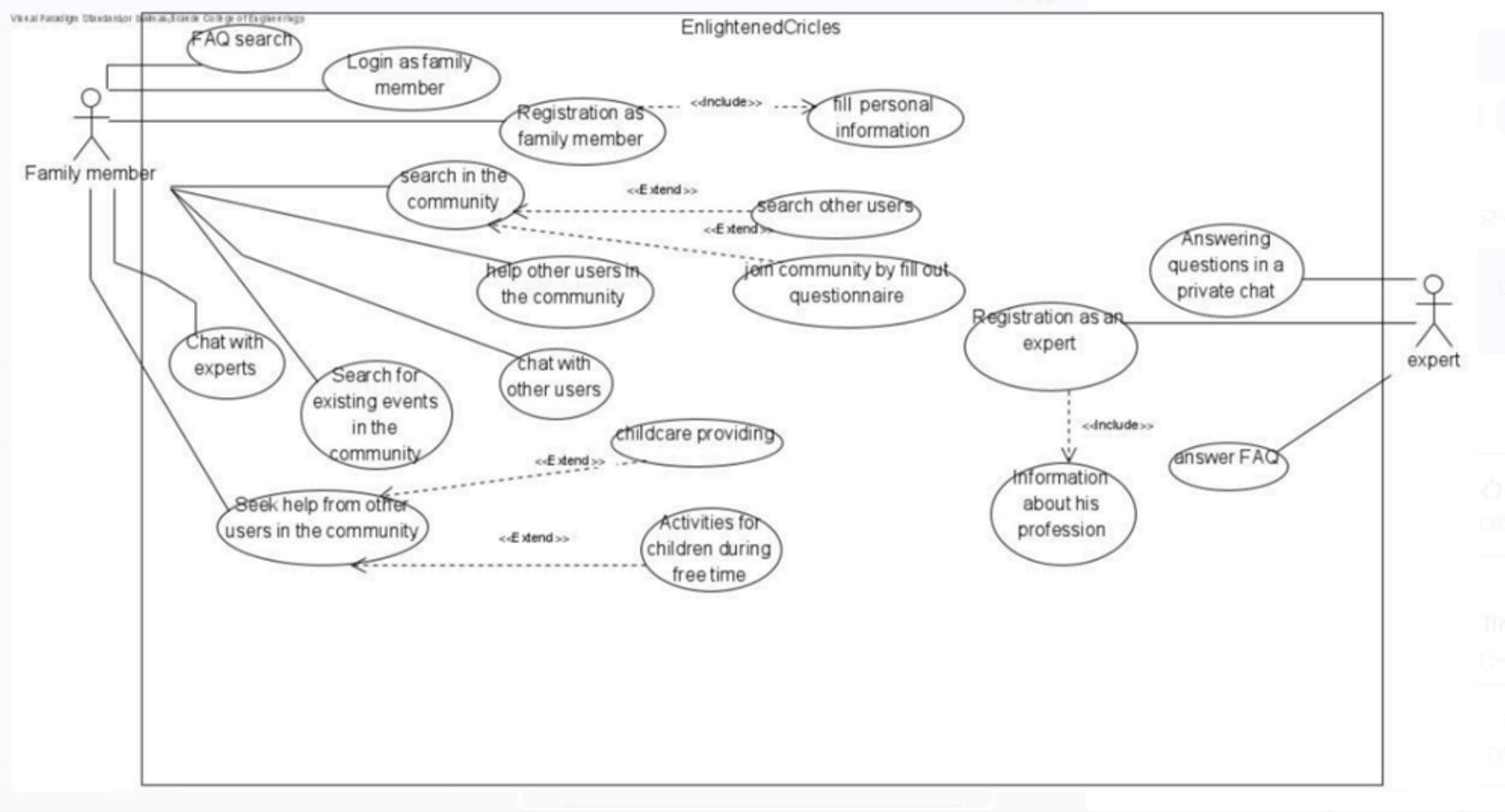
- ניסיון עם חינוך מיוחד
- תכנים הקשורים לזכויות לילדים עם מוגבלות
- תמיכה , הכלה, הכוונה
- כן

Criterias for the success of the project

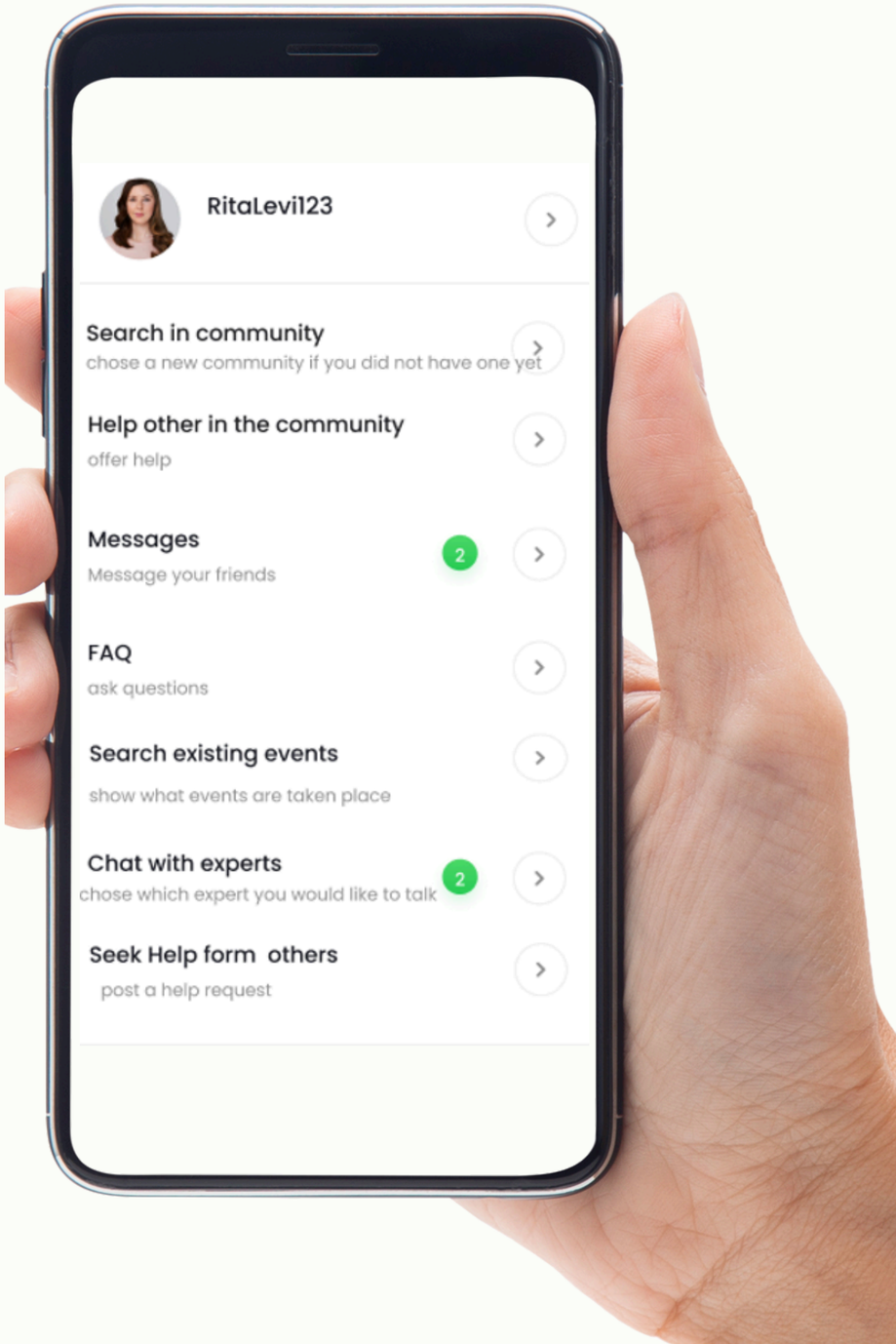
1. The application should have a user-friendly interface and design, with illustrative images and clear understandable text for all types of users
2. The application store and handle user data and personal information
3. Structured layout with clear headings to organize content sections
4. Families with children with special needs are registered for the application and utilize its services
5. The content and services are specifically tailored to the unique challenges that these families face in raising children with special needs
6. The application likely aims to provide helpful resources, information, and support such as expert guidance tailored for families raising children with special needs
7. The app should be compatible and function properly across different devices (smartphones, tablets) and hardware configurations
8. Should run smoothly without lags or crashes on both high-end and low-end devices within the targeted range
9. Efficient data management techniques

Application development - overview

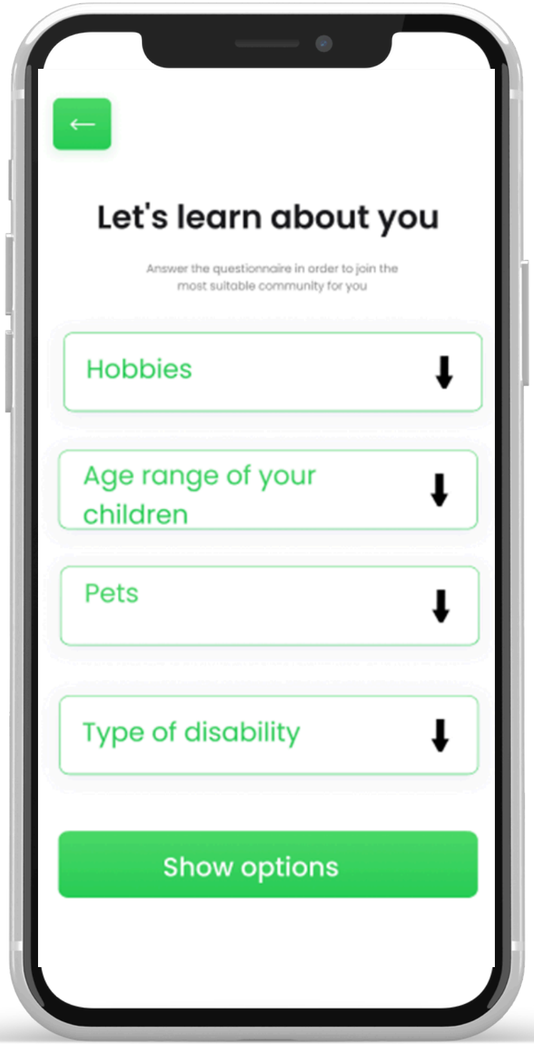
In this product we will use the Android studio for the application. Also, we will use the Flutter App and the Firebase.
In this Use Case diagram, appear all the actions that can be performed by the different types of users of the application.



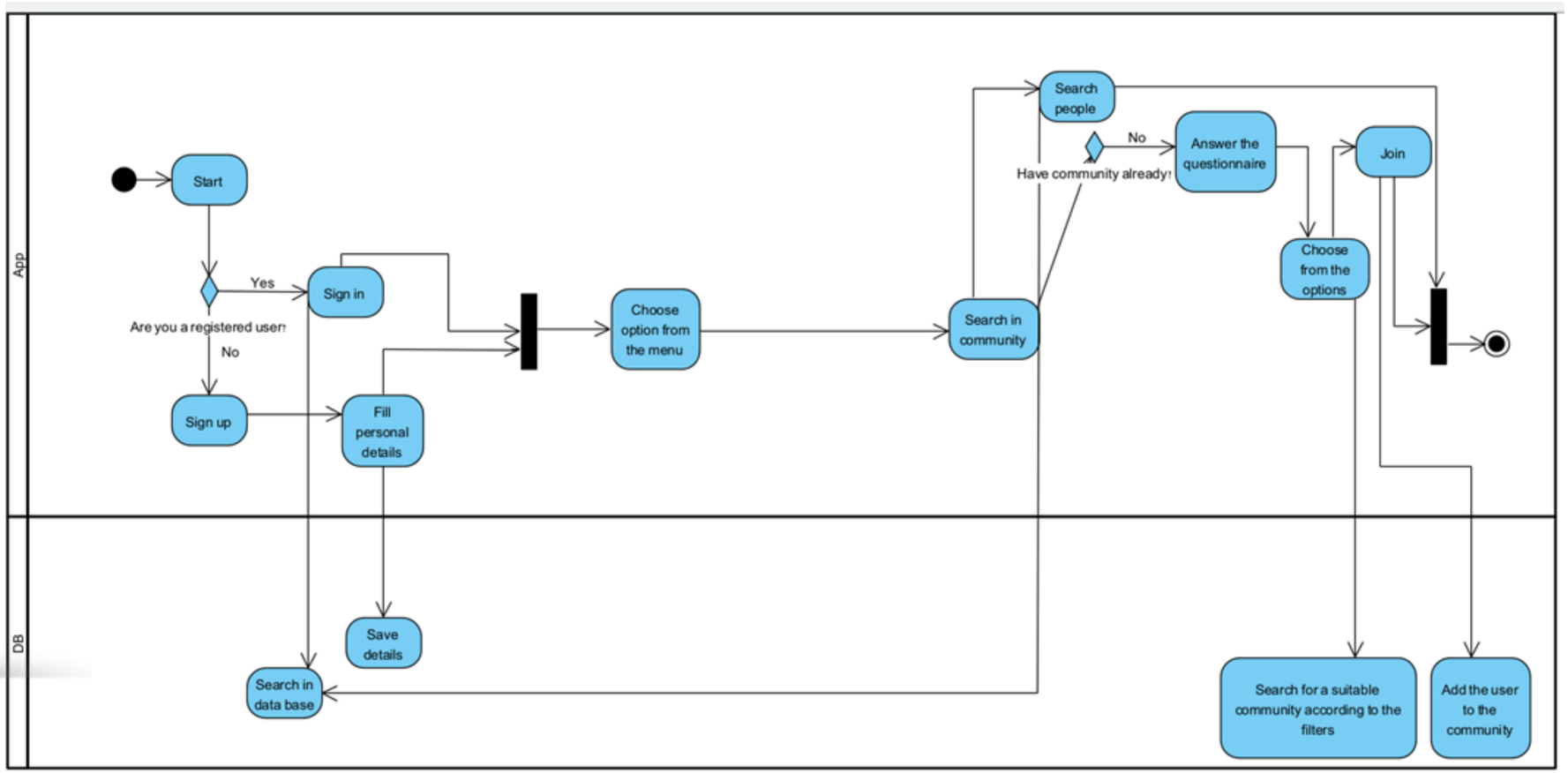

Enlightened Circles
Let's connect with each other


RitaLevi123
Search in community
chose a new community if you did not have one yet
Help other in the community
offer help
Messages
2
Message your friends
FAQ
ask questions
Search existing events
show what events are taken place
Chat with experts
2
chose which expert you would like to talk
Seek Help form others
post a help request

Application development - overview



This Activity diagram shows the flow of the actions when the user selects the community search option in the menu. The actions in the application and in the data base

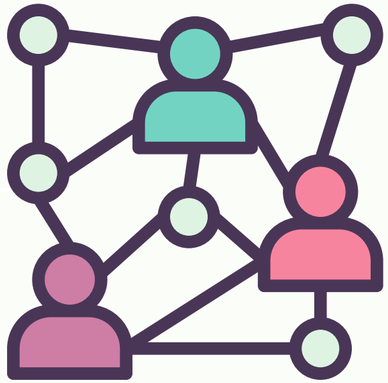


Dynamic community detection

In our development process we will use Dynamic community detection in evolving networks using locality modularity optimization to create communities based on features like location and features like age/pet/etc.

We will create a graph where each participant will be represented as a node. Edges will be defined between participants if the similarity between their features is above a threshold TH. We will look for communities in the resulting graph.

we will make use of two main components:
1. The Louvain Algorithm - An iterative method that attempts to optimize the modularity of network partitions into communities in two steps - forming small communities first, then aggregating them into larger ones.
2. Procedures to handle addition/removal of edges and nodes dynamically - This involves identifying affected communities, disbanding them into individual nodes, updating community structures accordingly, and synchronizing changes.



Expected challenges

1

Accessibility and Usability:
We want our application to be accessible and usable for all users.

2

relevant information: It is important that the information presented in the application is clear and understandable to users - accessibility of information

3

Privacy:
Collecting only essential information for defined purposes agreed upon in advance with the user.

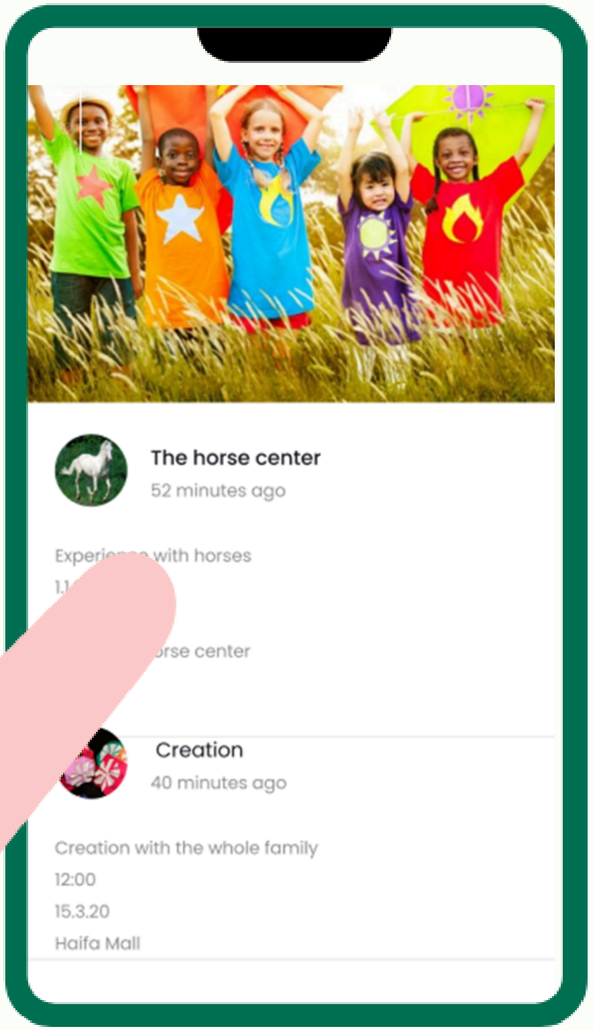
4

Algorithm: Our application uses an algorithm based on geographic location and other features that allows each user to join a community. The challenge is to find the best community for them. Also provide them with relevant information regarding the various activities available on the application based on that location.

5

Experts: Another challenge for us is the option available in the application for consultation with an expert, and therefore we would want to ensure that experts agree to register on our application and assist those families.

Verification and Evaluation



Evaluation – Usability testing; We want to evaluate our final product in several stages throughout the development process. At each stage, different users can use the partial product, after adjustments and drawing conclusions from all the feedback received, they can use the final product. We will only release the final product version after receiving feedback on a quality and efficient product.
We will also use at the final Evaluation stage the SUS questionnaire.

Verification: We want to perform tests for our algorithm and also tests that will verify that the requirements we defined for our project are indeed implemented correctly.

THANK YOU

for Listening!