

Leuphana University Lüneburg

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Department: Cultural studies

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GRANDHELP

An application for voluntary elderly care

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Introduction

As of 2020, Germany has seen a notable demographic shift, with approximately 18.3 million individuals, or about one in five, aged 65 or above (Statistisches Bundesamt, 2021). This significant increase in the elderly population highlights the urgent need for innovative solutions to enhance their quality of life. Loneliness among the elderly is a growing concern, with research by Huxhold & Tesch-Römer (2021) indicating that 14% of individuals aged 46-90 report feeling very lonely, a significant rise compared to previous years. The situation is even more dire in nursing homes, where one in three residents experiences strong feelings of loneliness. Furthermore, around six million older adults in Germany live alone, accounting for roughly one-third of people aged 65 and above (Statistisches Bundesamt, 2021).

In this context, the "GrandHelp" application was conceived to leverage technology to support elderly individuals in their daily lives. With 83% of those aged 60 and above having internet access and three-quarters of households in this demographic owning a computer or smartphone (Rathgeb et al., 2022), there is a solid foundation for the digital inclusion of senior citizens. The GrandHelp app aims to connect volunteers with elderly individuals seeking assistance with everyday tasks or companionship, addressing the critical issue of social isolation among the elderly.

To access the services offered by GrandHelp, both seniors and volunteers need to create profiles with essential information. An algorithm then matches seniors' requests with nearby volunteers, ensuring timely assistance. A points-based reward system incentivizes volunteers, allowing them to earn points redeemable for various rewards, such as coupons from local businesses. This system encourages community participation and support for the local economy.

Methodology

I approached my tech basics 2 project by reviewing my old report from tech basics 1 and the feedback I received from the pitch and the evaluation form in December.

The first thing I did was to review my code, simplified it, added more explanations and removed unnecessary parts. I especially simplified the procedure of deleting old widgets for the creation of a new page by using the function `clear_widgets()` in line 83 which is from the

code of the tech basics 2 lesson 12, line 18-24:

https://github.com/shaq31415926/python_tech_basics/blob/main/tech_basics_two/12Lecture/sarah-haq-tbii-exam-streamA/src/helpers.py . This enabled me to reduce the number of code line drastically.

After letting my app be tested by my own grandparents I made some further changes. With the aim to improve the user experience, especially regarding seniors, I added some information pages on what Grandhelp is and how to use as a senior and as a volunteer with an easy step-by-step guide, that can be accessed on the welcome page.

To ensure trust and security, I implemented the possibility of uploading profile pictures for helpers and seniors to identify each other when seeking help. Now, a photo can be uploaded already in the registration process and changed later on the profile page. With the purpose of better identification, the profile picture of a requesting senior will be shown to volunteers on their mission page, after they accepted to help. The profile picture of the helping volunteer will also be displayed to the senior while waiting for help. To code this feature needed the functions `select_image()` and `display_image()` from line 370 and 381 which are inspired by the lines 4-7 and 8-13 of the following source: <https://www.w3resource.com/python-exercises/tkinter/python-tkinter-dialogs-and-file-handling-exercise-8.php> .

For the feature that calculates the distance between a requesting senior with potential helpers nearby, I coded the helping function `address_in_coordinates()` to access a webpage that turns an address in coordinates in line 800 following. This was inspired by the procedure of accessing the horoscope website in the tech basics 1 lesson 7, line 5-15: https://github.com/shaq31415926/python_tech_basics/blob/main/tech_basics_one/07lecture/horoscope_generator_streamA.py .

Design

The app employs a simple and logical layout, with a minimal number of buttons and intuitive navigation to perform key actions. Clear instructions and prompts guide users through each process, reducing confusion and frustration.

In comparison the Tech Basics 1 GUI, I improved the design and aesthetic of my application by editing background pictures with canvas, making it brighter, friendlier and more inviting. I further changed texts and entry fields to bigger sizes as well as implemented the high-contrast

color schemes to enhance the readability for users with varying levels of vision. Important information is also displayed prominently, ensuring that users can easily find what they need. For example, error messages are written in red and users' selections are marked in green

Users can customize their profiles with essential information about themselves, their location and a profile picture of themselves. This personalization helps tailor the app experience to individual users, making it more useful, trust-worthy and secure.

Limitations

The app's success relies heavily on the availability and willingness of volunteers. Ensuring a consistent and sufficient number of volunteers to meet the demands of elderly users could be challenging, particularly in less populated or rural areas. While the app encourages intergenerational connections, fostering genuine and sustained engagement between younger volunteers and elderly users can be challenging. Differences in communication styles and expectations may impact the effectiveness of these interactions. Some elderly individuals might also be hesitant to seek help due to pride, fear of being a burden, or mistrust in technology and strangers. This reluctance can affect the number of users actively utilizing the app. While GrandHelp aims to offer a wide range of services, there may also be limitations in addressing all the diverse needs of elderly individuals. Specialized assistance or healthcare-related tasks might still require professional intervention beyond the app's current capabilities.

Conclusion

The app's primary objective is to create a digital platform that facilitates meaningful connections between volunteers and seniors, offering help with errands, installation of household items, or simply providing company. Unlike existing applications like ElderTech and Nebenan.de, which primarily connect users with relatives or neighbors, GrandHelp prioritizes the urgency of help requests and the proximity of volunteers, ensuring the fastest possible assistance. With this app I not only aim to mitigate social isolation but also to ease the daily lives of seniors by organizing aid in various domains, including social services, companionship, and personal shopping. By fostering intergenerational connections,

GrandHelp encourages empathy and respect for the elderly while promoting community engagement.

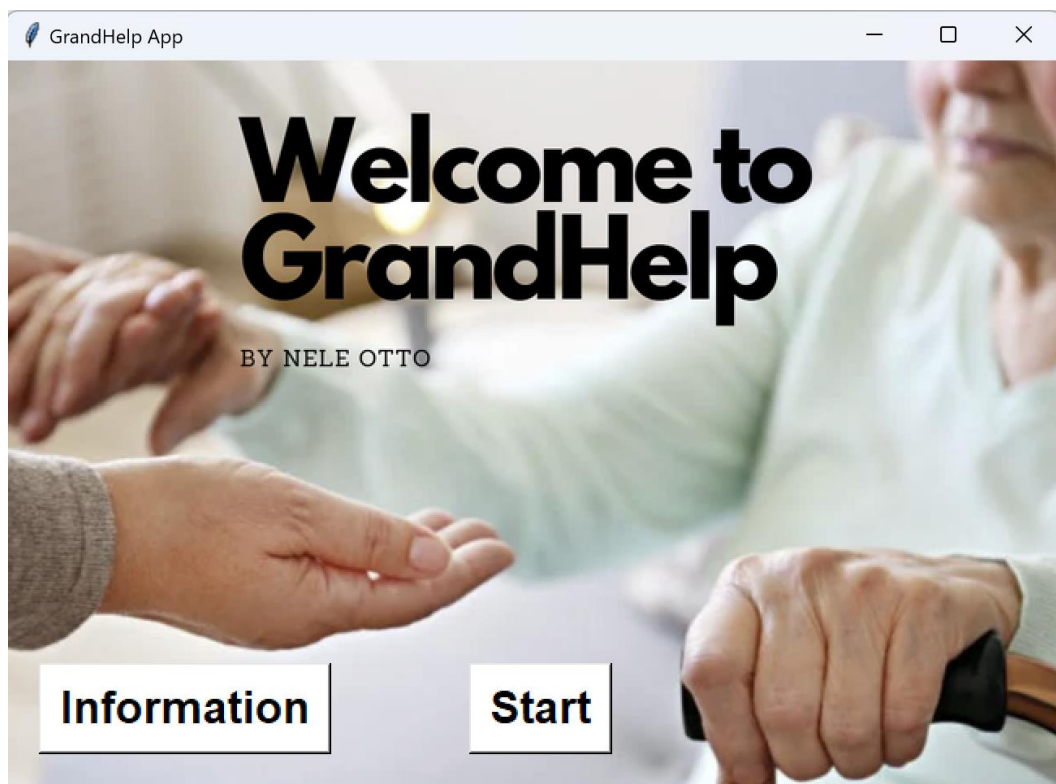
Bibliography

Huxhold, Oliver, and Clemens Tesch-Römer. 2021. "Einsamkeit steigt in der Corona-Pandemie bei Menschen im mittleren und hohen Erwachsenenalter gleichermaßen deutlich." Deutscher Alterssurvey, Heft 04. Deutsches Zentrum für Altersfragen.

Rathgeb, Thomas, Michael Doh, Florian Tremmel, and Mario R. Jokisch. 2022. "SIM-Studie 2021: Senior*innen, Information, Medien: Basisuntersuchung zum Medienumgang älterer Personen ab 60 Jahren." Stuttgart: Medienpädagogischer Forschungsverbund Südwest.

Statistisches Bundesamt. 2021. "Fast 6 Millionen ältere Menschen leben allein." Destatis. 9. September 2021.
https://www.destatis.de/DE/Presse/Pressemitteilungen/2021/09/PD21_N057_12411.html.

Some Screenshots of the GUI design:



What is GrandHelp?

GrandHelp is a community-driven app designed to connect volunteers like you with elderly individuals who need assistance with daily tasks or companionship.

Whether it's running errands, helping with household chores, or simply providing a friendly chat, your support can make a significant difference in someone's life.

By joining GrandHelp, you have the opportunity to give back to your community, build meaningful connections, and earn rewards for your time and effort.

Become a helper and start making a positive impact!

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How it works

4. Provide Help:

Follow the provided location details to reach the senior. Complete the task as requested.

5. Confirm and Rate:

After helping, confirm the task completion in the app. Rate your experience to help improve the service.

6. Earn Points:

Earn points for each task you complete. Redeem points for rewards from local businesses.

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GrandHelp App

Register an account

I am a helper

I am an elderly person

Username:

Password:

Full Name:

Age:

Location:

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GrandHelp App

GrandHelp

Hello Nele Otto!

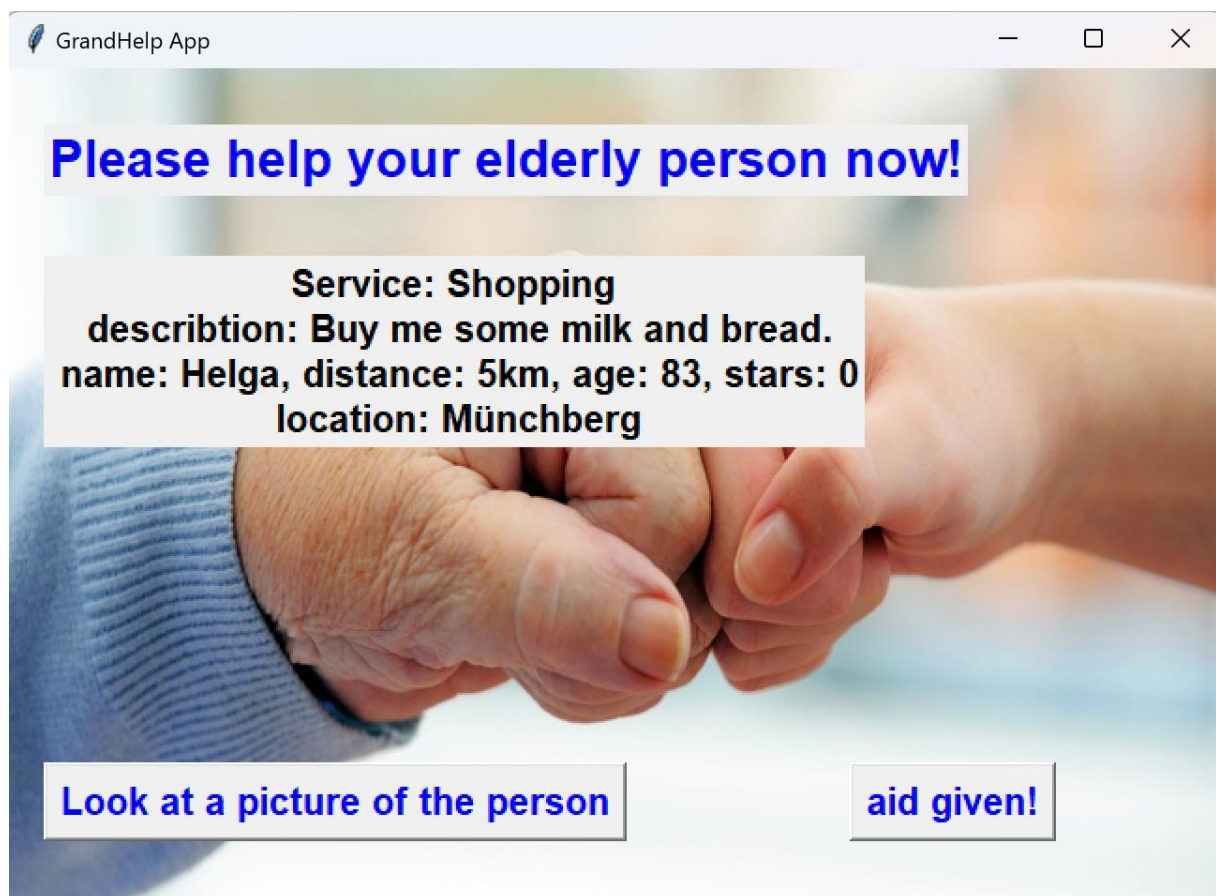
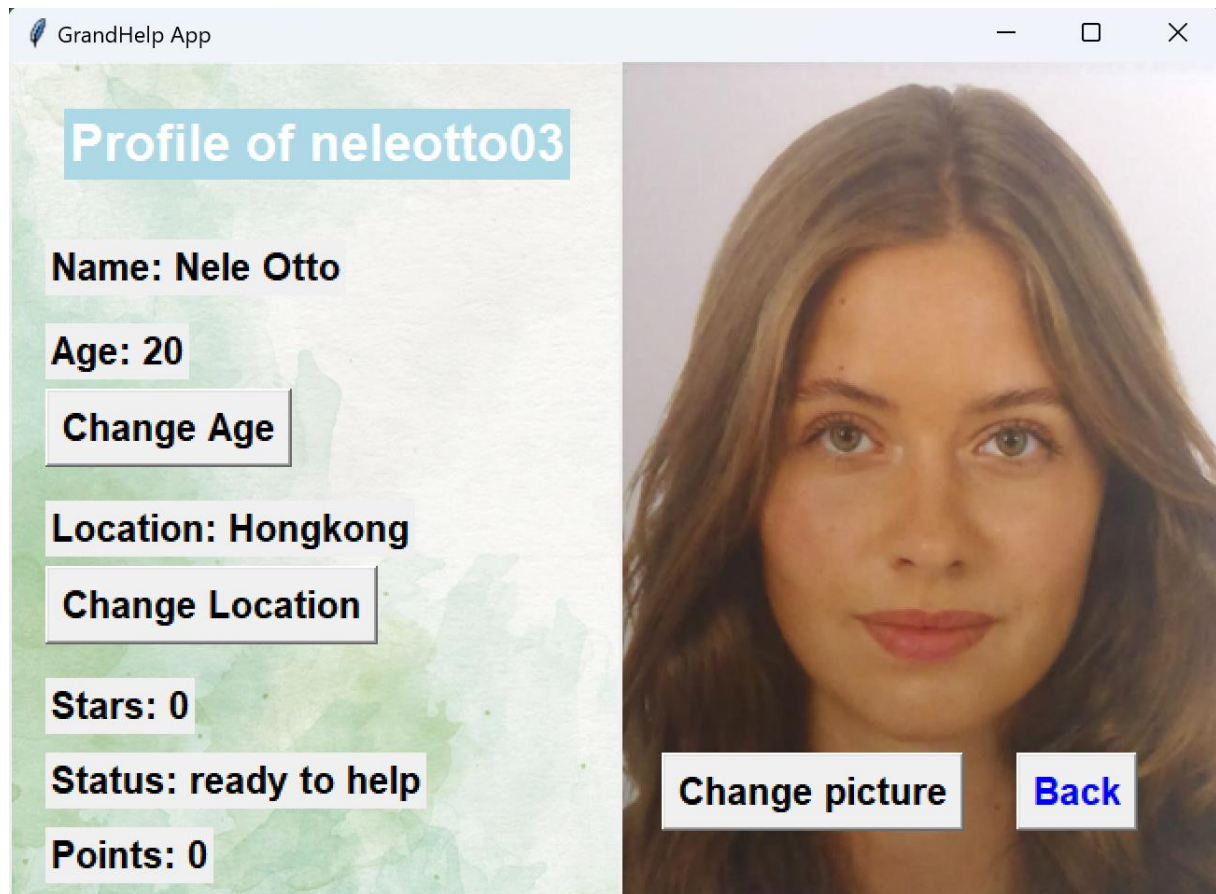
Show profile!

Set your status here

Incoming inquiries

Redeem points

Log out



This is Senior1

Okay!

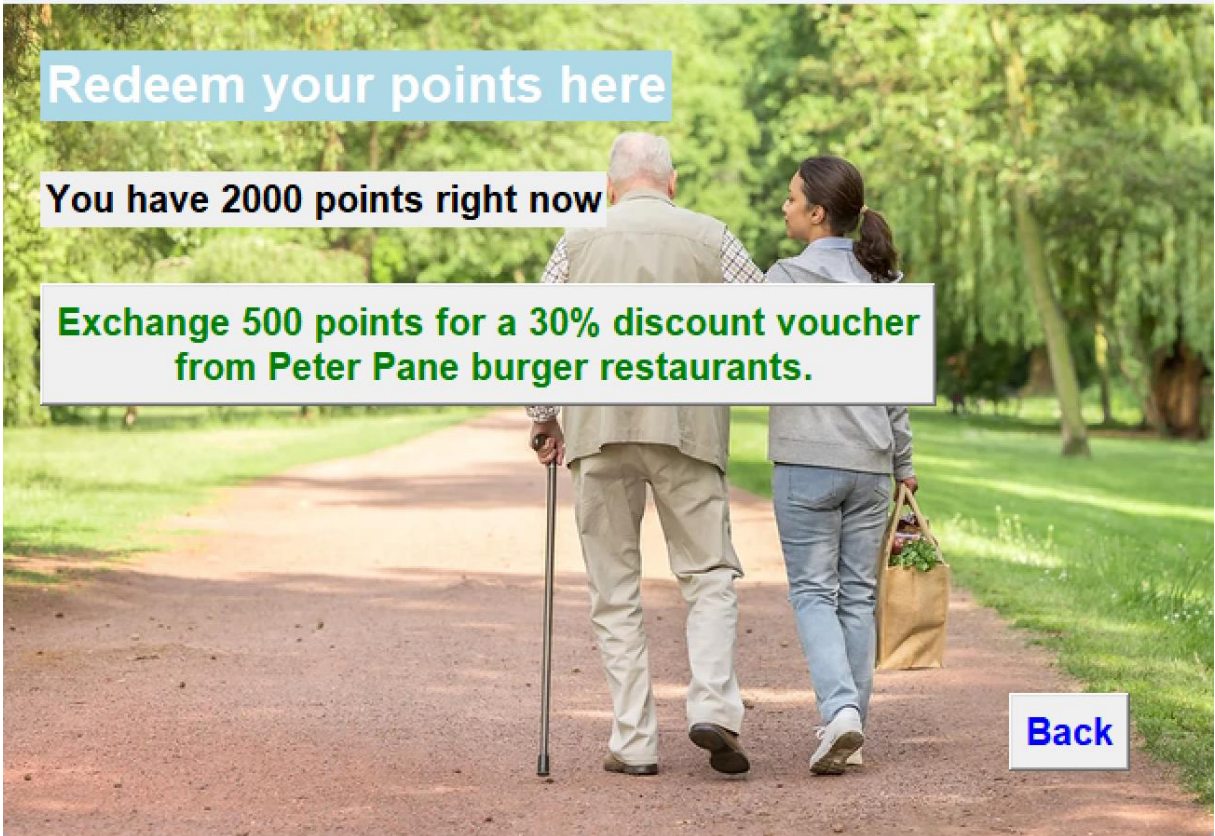


Redeem your points here

You have 2000 points right now

**Exchange 500 points for a 30% discount voucher
from Peter Pane burger restaurants.**

Back



GrandHelp App

Profile of Senior1

Name: Helga

Age: 83

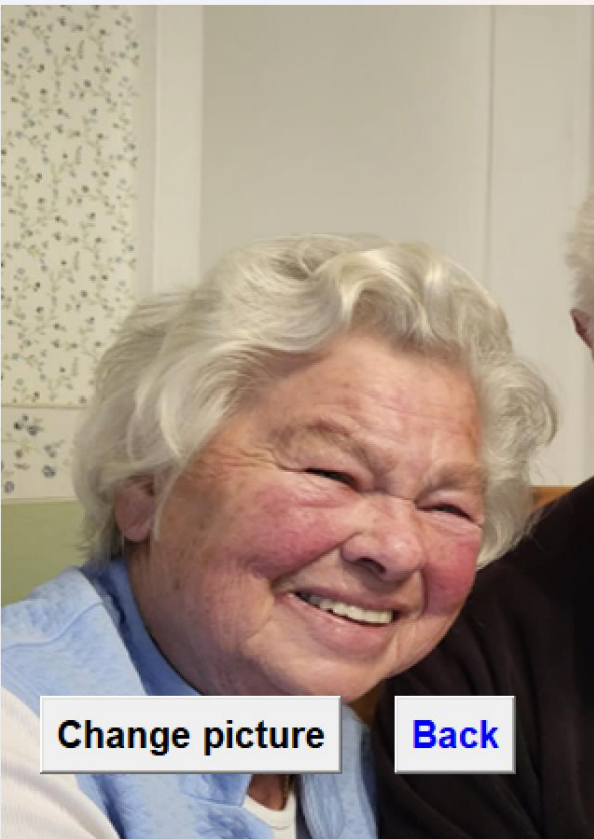
[Change Age](#)

Location: Münchberg

[Change Location](#)

Stars: 0

[Change picture](#) [Back](#)



GrandHelp App

Please select what type of help you need!

[Accompaniment](#)


[Crafts](#)

[Company](#)

[Shopping](#)

Description of the task:

[Search](#)



Please wait for your helper to arrive!

Service: Shopping

Description: Buy me some milk and bread.

Name: Nele Otto, distance: 5km, age: 20, stars: 0

Look at a picture of the person

click this box when you received help!

click this box when you did not receive help!