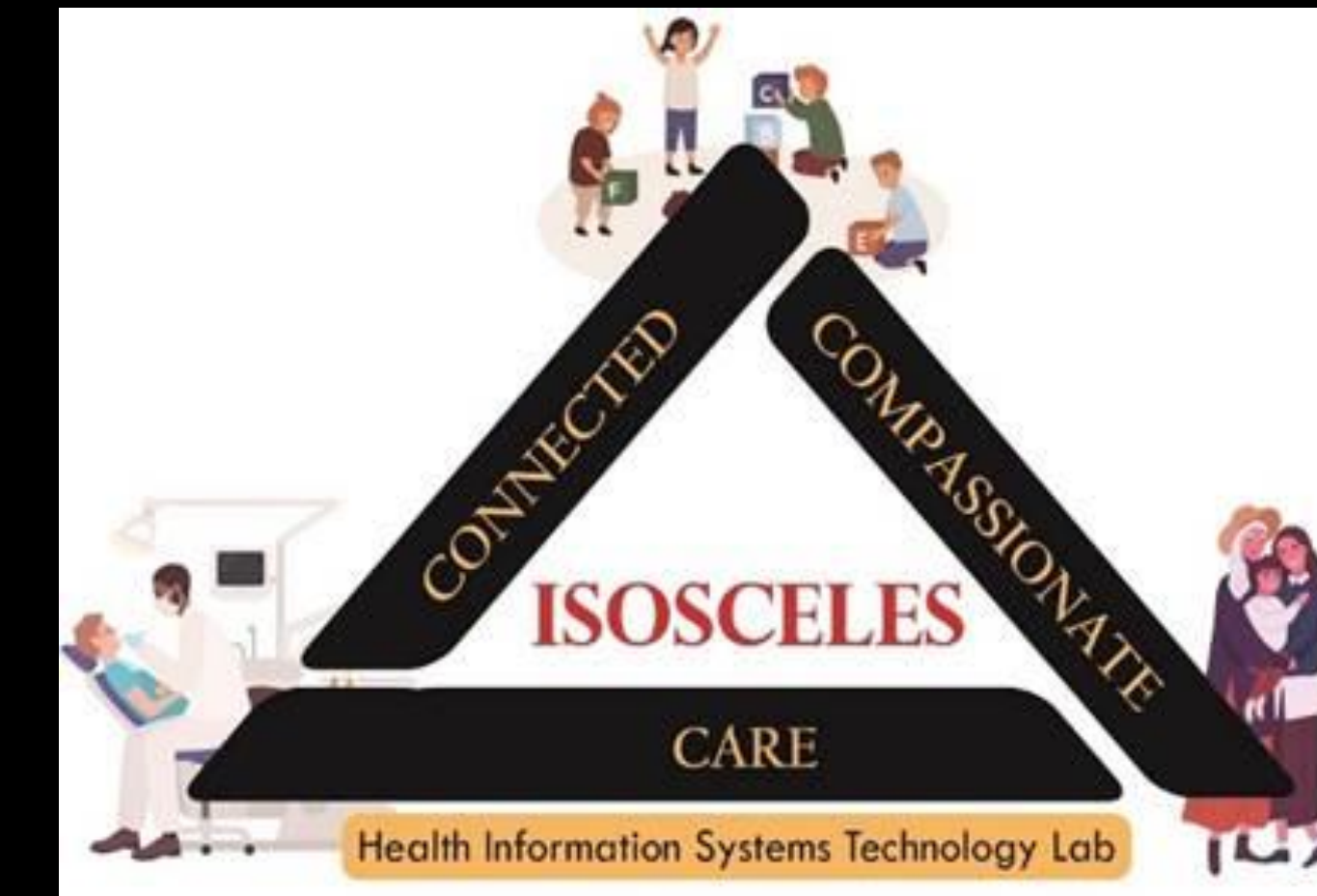




Development and Usability Testing of a PHR for Down's Syndrome (DS) Care Coordination

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Abstract

321Connect was first drafted by Dr. Bethany Cosgrove as a way to help caregivers of children with Down's Syndrome coordinate their care better. Children with Down's Syndrome have to meet with many health professionals throughout the course of their life. Having a PHR(personal health record) for the child would help in keeping track of this information. There currently isn't anything in the market that seeks to help this problem, so 321Connect was created for that purpose.

Introduction

321Connect aims to alleviate the difficulties of managing the information that comes with caring for a child with Down's Syndrome. Seeing as this app is something that caregivers would use frequently, usability is of uppermost importance. The study focuses on testing the usability of 321Connect in order to determine the current levels of usability and make improvements if necessary.

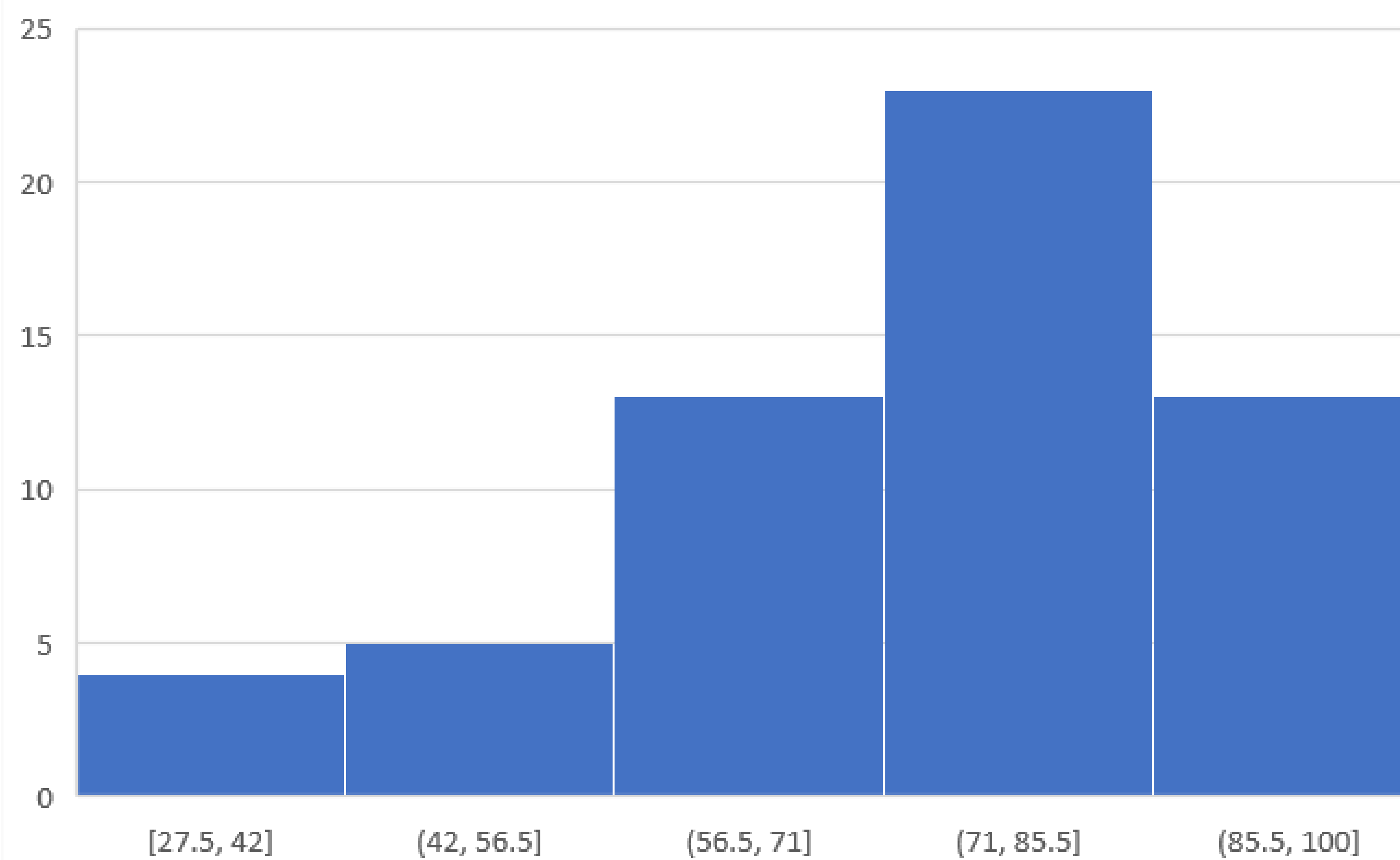
Methodology

The Android version of 321Connect began in February 2021. It was built in Android Studio using XML for the user interface, Java for the functionality, and a SQLite database for storing information. Testing was done with general mobile users through a survey. Participants were asked to follow a script, which would lead them through various tasks in the app and fill out a 10-question survey about how usable and useful the app was. The survey was housed on QuestionPro which some participants taking a paper version.

Results/Discussion

Testing was done with 58 total participants. This resulted in a usability score of 73. This score was achieved using the System Usability Scale(SUS). Users generally found the app to be easy to understand and use. They also found the systems to be well integrated and the performance of the app to be adequate.

Histogram of Adjusted SUS Totals



Conclusion

The results showed that 321Connect was user friendly with people not finding it difficult to learn how to use and navigate through the app. This supports the claim that the app is suitable for everyday use which how caregivers would be interacting with the app. Testing was done by Dr. Cosgrove with actual caregivers of children with Down Syndrome. Caregivers found that the app was filling a void and felt it would be very beneficial to the Down Syndrome community. Users were generally positive about the usability of the app. A common complaint about the testing was having to use an Android phone as most users were used to Apple products. This may have impacted the results as well. Development of the IOS version of 321Connect is underway and may prove to be more usable for native Apple users. The information gained from this study will be used to improve that version as well.

Works Cited

Cosgrove B. Development and Initial Testing of a Care Coordination Mobile Application for Parents of Children with Down's Syndrome. Oct. 22, 2021

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