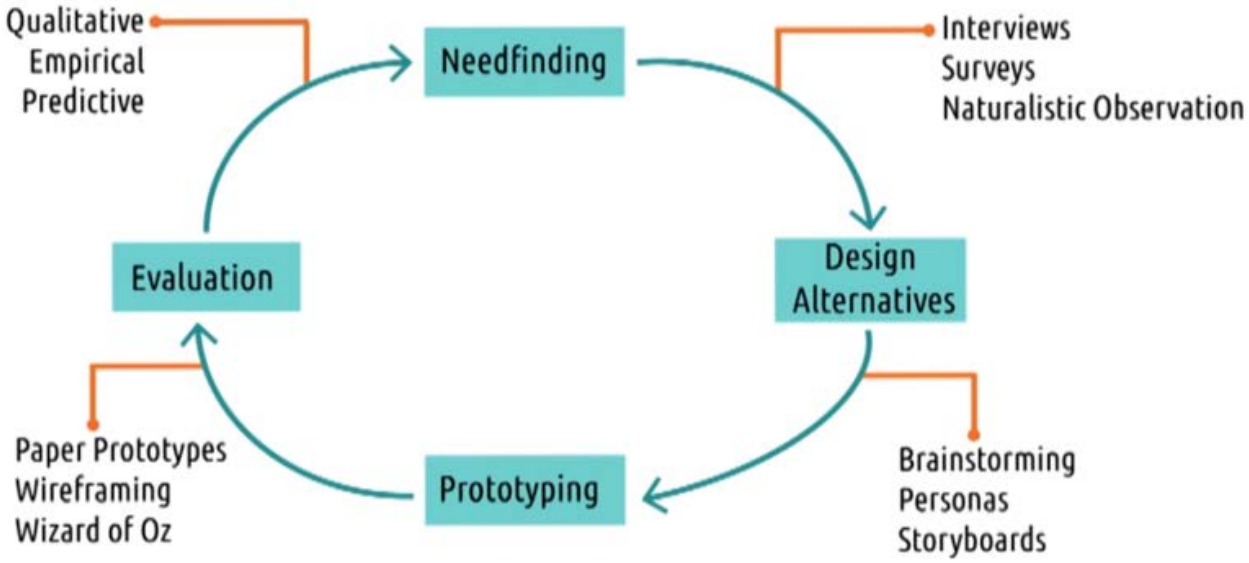
Nutrient Health Analysis Application (NHAA) by Team H2O

Research

Abstract: This document will capture the needfinding Team H2O conducted to determine the user-base demographics, functional and nonfunctional requirements, and healthcare industry gap that the software would fill.

Design Process:

For the needfinding and research piece, Team H2O followed the design process laid out in other Georgia Tech classes. Because of time constraints, we compared and contrasted existing apps and used reviews to determine their shortfalls. We brainstormed several design alternatives (mostly at the implementation level), and used predictive evaluation and testing to determine the usability of our application.



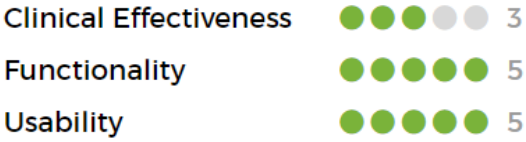
Needfinding:

Initially, we looked at dieting apps and speculated on whether a similar app could be produced for other healthcare purposes. After all, from the lectures we know that much of the healthcare costs in the U.S. stem from treating chronic illnesses, many of which are caused by obesity and diet problems. To determine this need, we looked at existing applications that help diabetics lower their glucose level by logging food.

- Existing Apps:
  - mySugr
  - GlucoseBuddy
  - DiabetesInCheck

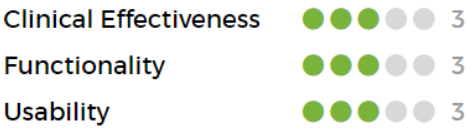
The app, mySugr, is especially popular with over 1M users and was even bought for over $100M by Roche. [1] Next, we needed to expand on current application features and determine

additional user needs and use cases. To determine that, we used user and professional/editorial reviews for existing apps.



mySugr review (RankedHealth)

The result seemed to say that while the UI was decent, it didn't tie in well with the healthcare industry. Integration with HL7 FHIR could increase this "clinical effectiveness" and allow users to have glucose levels and other electronic health record information pulled in automatically without having to re-enter and re-log glucose test data.



Glucose Buddy review (RankedHealth)

User-base:

To determine our user's demographics, we used google trends to find searches by region for diabetes apps, nutrient health app, and related searches.

Based on the type of application, we could also make some assumptions about our user base, such as propensity for type 2 diabetes. Google trends data would suggest that most users would be from the U.S. and English speaking.

References

Need for Nutritional Health Apps:

[FDA Stance on medical apps] (https://www.fda.gov/MedicalDevices/DigitalHealth/MobileMedicalApplications/default.htm)

[Diabetes and its drivers] (https://clindiabetesendo.biomedcentral.com/track/pdf/10.1186/s40842-016-0039-3?site=clindiabetesendo.biomedcentral.com)

Healthcare Apps for Diabetics:

[mySugr] (https://mysugr.com/)

[Glucose Buddy] (http://www.glucosebuddy.com/)

[Diabetes in Check] (http://www.diabetesincontrol.com/diabetes-in-check/)

Healthcare App Reviews:

[TechCrunch - mySugr acquisition] (https://techcrunch.com/2017/07/07/diabetes-platform-mysugr-exits-to-roche-for-as-much-as-100m)

[RankedHealth - mySugr review] (http://www.rankedhealth.com/review/mysugr/)

[RankedHealth - Glucose Buddy review] (http://www.rankedhealth.com/review/glucose-buddy/)

[iMedicalApps - Glucose Buddy review] (https://www.imedicalapps.com/2012/07/glucose-buddy-app-diabetes-patients-clinicians/)

[Steady Health - Diabetes in Check review] (https://www.steadyhealth.com/review/diabetes-in-check-app-blood-sugar-carbs-and-medication-tracker-with-tons-of-healthy-recipes)