



First Step Mental Health Application Development

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Goal:

A tool that provides students at Minnesota State University, Mankato with mental health information through a freely available smartphone application (App).

Approach: software engineering design process

- Who are our customers?
- What resources are available?
- How can we best connect the two to improve student lives?
- What platforms are available to provide the connection?
- How we do create the app?
- How do we assess the app?

Actions:

- Identified the stakeholders involved.
- Worked with campus mental health professional to help shape our app.
- Focused on materials related to depression.
- Chose implementation platform.
- Performed user testing.

Implementation Platform Decision Matrix

	Android ✓	Apple
User Friendly	X	X
Open Source	X	
Versatile Software	X	
Nonrestrictive App Policies	X	
Entry Level Access	X	
Learning Resources	More	Fewer

App Design:

- Questionnaire to provide a snapshot of mental health status.
- Variable response:
 - Supportive feedback in the form of materials that describe coping skills, ways to contact campus counselors and other local community resources.
 - Mental strength builders for those individuals who are not at risk.
- Artificial intelligence approaches to provide the most appropriate materials given the student evaluation.
- Formal graphic design to make the App easy to use and visually appealing.

User Testing:

- Received IRB approval.
- Created usability survey consisting of seven Likert questions, three open-ended questions and color scheme preference.
- 13 student subjects and demo session with Counseling Center experts.

Results:

- Color scheme #1 was preferred.
- Typographical errors found.
- Programming error found that causes app to crash.
- Response from Likert and open-ended questions indicated positive feedback.

	Strongly Agree	Neutral	Strongly Disagree		
	1	2	3	4	5
The app is easy to use.	84.6%	7.7%	0%	0%	7.7%
The app has a calming feel to it.	53.9%	23.1%	15.4%	0%	7.7%
I feel tense or anxious using the app.	7.7%	7.7%	0%	23.1%	61.5%
The results of the questionnaire were helpful to me.	53.9%	0%	38.5%	0%	7.7%
The local resources listed were clear and concise.	53.9%	23.1%	15.4%	0%	7.7%
I don't think there were any useful resources provided.	7.7%	0%	30.8%	7.7%	53.9%
I would recommend this app to a friend who may have questions about mental health.	53.9%	38.5%	0%	0%	7.7%

User Survey

The app is easy to use.
 The app has a calming feel to it.
 I feel tense or anxious using the app.
 The results of the questionnaire were helpful to me.
 The local resources listed were clear and concise.
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 I would recommend this app to a friend who may have questions about mental health.

Opened-ended Questions:

- Did you find any bugs or problems in the app? What were they?
- What ideas do you have for improving the app?
- Any additional comments?

References

Android Application Development Tutorials:
<http://thenewboston.org/list.php?cat=6>
 The Goldberg Depression Questionnaire, developed by Dr. Ivan Goldberg, MD <http://www.psycom.net/depression.central.html>

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Logo Options



Device Sample



Outcome:

- Functional Android Application that is free for campus students, connects them to resources and can be improved upon by future developers.
- Positive user feedback.

Future Work:

- Fix typos!
- Fine tune scoring conditions to prevent app from crashing.
- Enhance available resources and individualized response.
- Evaluate with broader student population.