**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 do we 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**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Android</th>
<th>Apple</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Friendly</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Open Source</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Versatile Software</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Nonrestrictive App</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policies</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Entry Level Access</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Learning Resources</td>
<td>More</td>
<td>Fewer</td>
</tr>
</tbody>
</table>

**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.

**User Survey**

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Agree</th>
<th>Neutral</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The app is easy to use.</td>
<td>84.6%</td>
<td>7.7%</td>
<td>7.7%</td>
</tr>
<tr>
<td>The app has a calming feel to it.</td>
<td>53.9%</td>
<td>23.1%</td>
<td>15.4%</td>
</tr>
<tr>
<td>I feel tense or anxious using the app.</td>
<td>7.7%</td>
<td>7.7%</td>
<td>0%</td>
</tr>
<tr>
<td>The results of the questionnaire were helpful to me.</td>
<td>53.9%</td>
<td>0%</td>
<td>38.5%</td>
</tr>
<tr>
<td>The local resources listed were clear and concise.</td>
<td>53.9%</td>
<td>23.1%</td>
<td>15.4%</td>
</tr>
<tr>
<td>I don’t think there were any useful resources provided.</td>
<td>7.7%</td>
<td>0%</td>
<td>30.8%</td>
</tr>
<tr>
<td>I would recommend this app to a friend who may have questions about mental health.</td>
<td>53.9%</td>
<td>38.5%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**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**
The Goldberg Depression Questionnaire, developed by Dr. Ivan Goldberg, MD http://www.pyscom.net/depression_central.html

**Acknowledgements**
We would like to thank the following individuals who contributed to the research, development and decision making during the creation of this application:
Dr. Eric Sprankle, Department of Psychology
Dr. Kari Much, Director of the MNSU Counseling Center.

**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.