

iMoD (*Inventory of Moral Distress*)

-For School of Nursing

User Evaluation Report

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The Introduction

The document is the complete report of the user testing procedure and results of the iMoD Application. Our application focuses completely on the nurse community, who are constantly dealing with critical patients. These nurses undergo stressful conditions during their daily work. One of the issues that they face is with regards to Moral Distress. The experience of conducting these tests has helped us learn varied facts about our application and helped us reshape it into a more usable application. Jameton (1984) offered the first **definition** of **moral distress** in the nursing literature. He stated that **moral distress** is the stress that occurs “when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action” (p. 6). Our app is a one stop solution to their problem of Moral Distress at work. To test our solution, we conducted think aloud session with a few nurses. The following sections explains the procedure and results of this session.

The Participants

We interviewed six participants in total. Each of the participants were nurses and nurse coordinators working in University Hospital and Riley Hospital respectively.

Participant Demographics

Gender

- Males: 3
- Females: 3

Designations

- Associate Partner, Emergency Department, Riley Hospital
- Research Nurse, Transplant ICU, University Hospital
- Associate Partner Critical Care Shift Coordinator, Transplant ICU, University Hospital
- Research Nurse, Transplant Unit, University Hospital
- Clinical Nurse Specialist, Pediatric Intensive Care Unit & Burn Unit, Riley Hospital
- Charge Nurse, University Hospital

Experience Level:

- 15-20+ years: 2
- 4 – 5: 3
- 1 or less than 1: 1

Age Group:

- 50+: 2
- 20 - 40: 4

Technology Usage:

All the participants use smartphones, desktop, laptop, iPad every day.

The Procedure

Each of the six sessions lasted for 40-50 minutes each. We used 'Think Aloud' method for our user testing. Think Aloud session is conducted by giving the users a set of tasks and listening to them while they verbalize their thoughts. We audio recorded each of the sessions along with taking notes. Following are the series of tasks that we gave to our participants. Each of the tasks are preceded by specific scenarios. While performing each of the tasks, we gave them instructions to 'Think Aloud' about each of the tasks as they are performing it.

Scenarios and Tasks

1. Scenario 1

You are a nurse working in the CCU unit. You are experiencing a tough day at the hospital. During your shift, you have witnessed a patient death which has stressed you even more. You have identified the stress as Moral Distress and wish to record it along with the factors that have contributed to it.

Task

Record a Moral Distress and the factors contributing towards the same

2. Scenario 2

Imagine you are not able to concentrate on your work due to Moral Distress and require a relaxation therapy to be able to revive and concentrate on your work. Using the iMoD app take up a mindfulness breathing meditation exercise.

Task

Identify and perform the activities that would help lower moral distress level

3. Scenario 3

Your MD levels are aggravating day by day and it's taking a toll on your personal and professional life. You have performed the initial measures of identifying your level and the recommended activities. Now you need to vent out about the same to your peers, leaders, or nurse ethicist.

Task

Talk to someone (peer/nurse leader/ nurse ethicist) about your factor contributing to MD

4. Scenario 4

Imagine you had taken up an activity in the past and had felt better in your MD levels after performing the activity. You would like to track when had you performed the activity and take it up again.

Task

Update your information and track the activities performed towards managing your Moral Distress

The Results

We decided to conduct a pilot test with one of our participants who has been consistently involved in the project with us either during interviews or demos. Her feedback has always added value to the design decisions.

The pilot test was also a think aloud session.

Participant's Comments/Suggestions

#1

User said the next button after selecting on the Moral Distress level emoticon was not quite intuitive. She was expecting a swipe interaction to select the level. We intended to give the same interaction on the prototype. However, we found a limitation on the prototyping tool side and had to mimic the interaction.

Before

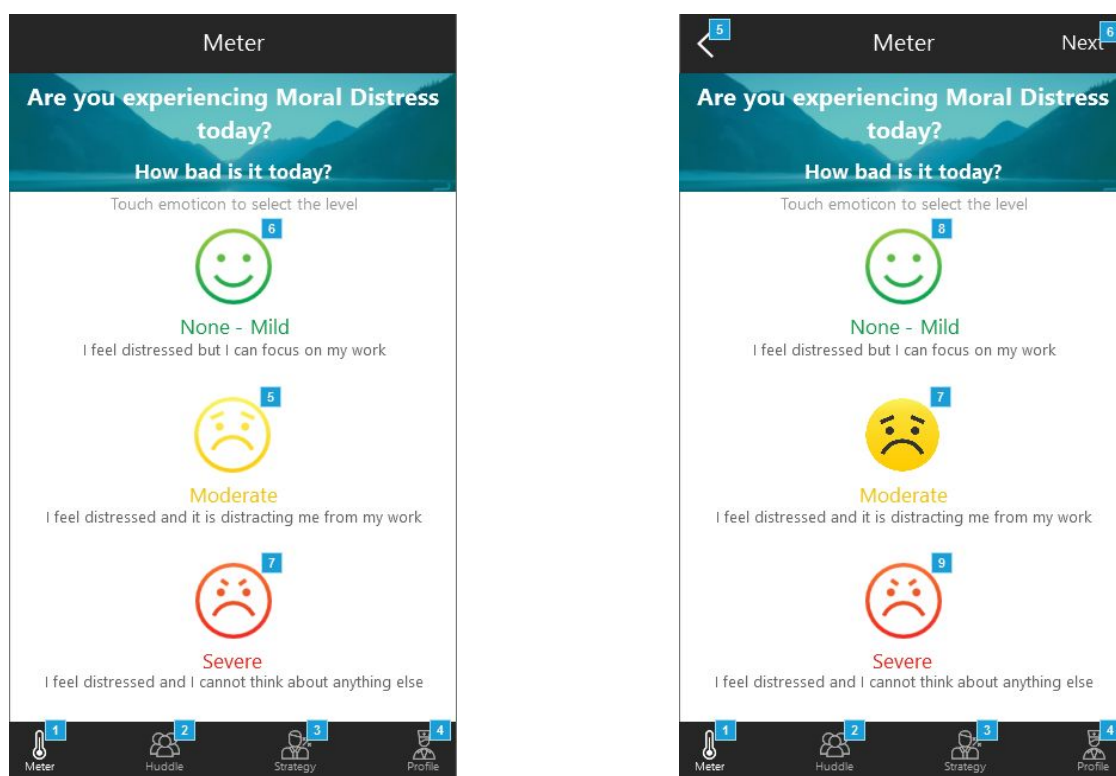


Figure 1: New page opens on clicking the "Moderate" Moral Distress level

After

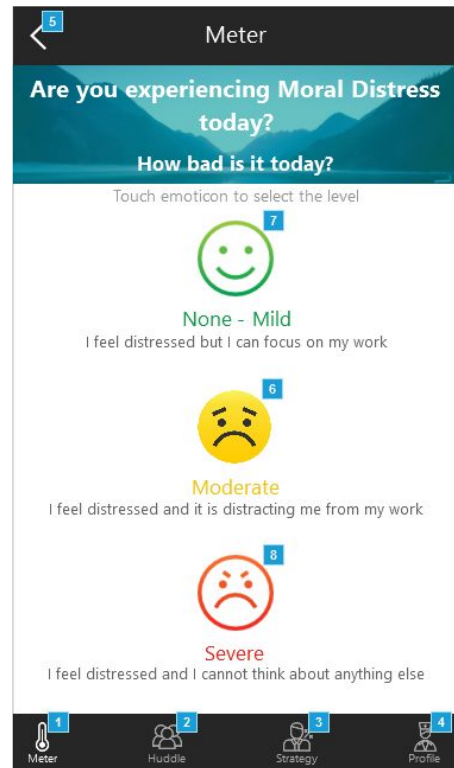
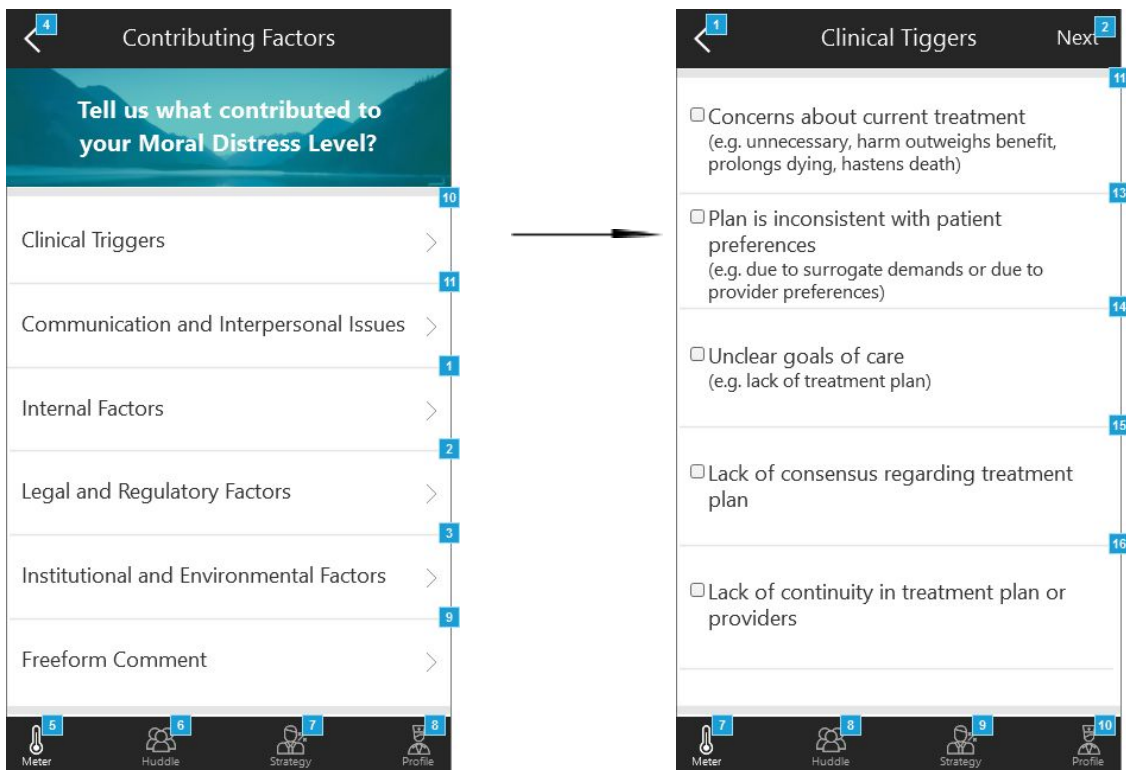


Figure 1: Momentary we show the selection of level on clicking the "Moderate" Moral Distress level to mimic the swipe interaction, removed the next button

#2

User found it difficult to read the concatenated strings on the title, also wanted to select the high level contributing factors at the same time. She said it would be better if I am able to see the secondary level of factors in the same page instead of a new page.

Before



After

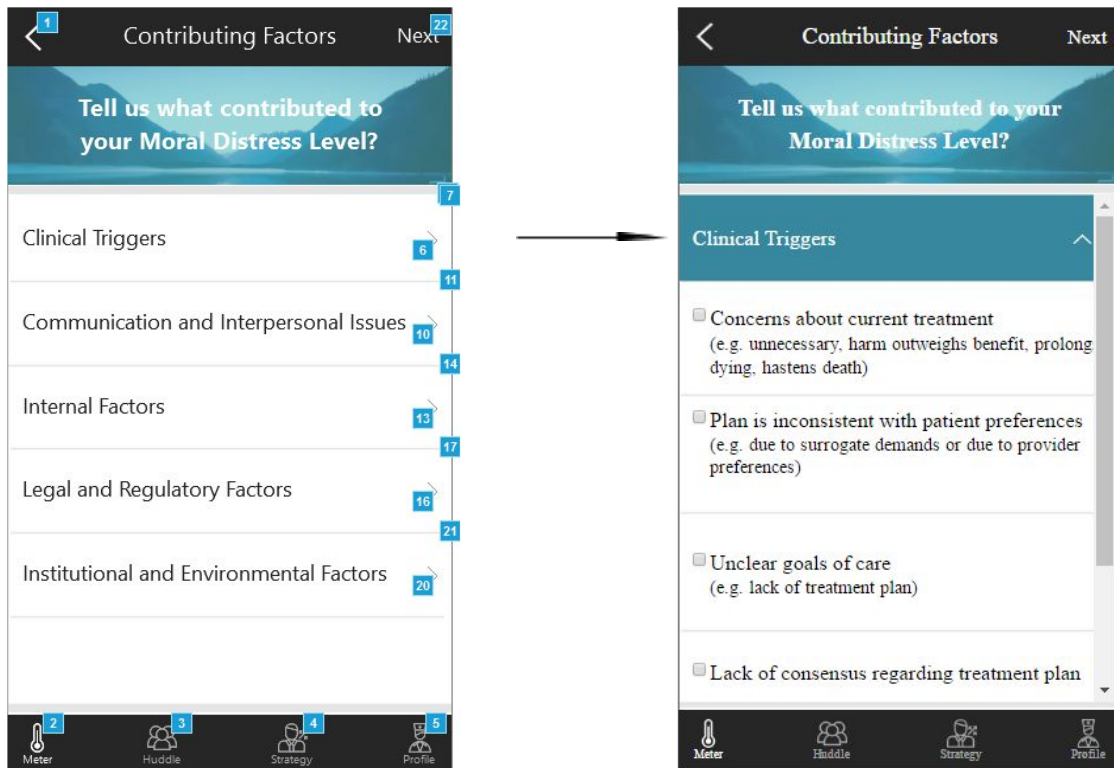
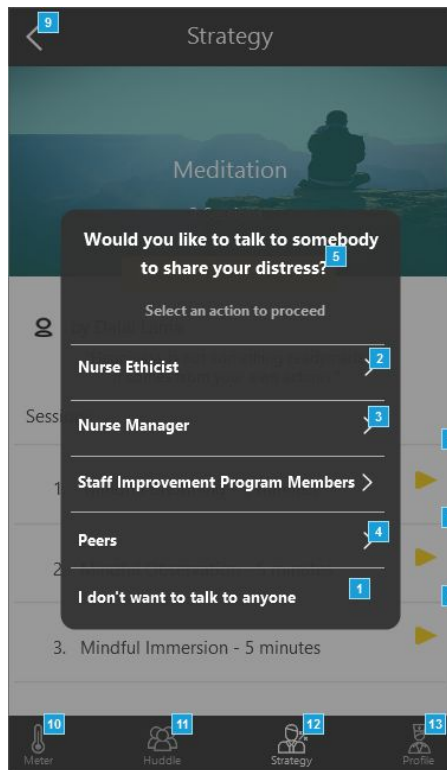


Figure 2: Before clicking on "Clinical Trigger" a new page will open to select the sub factors of Clinical Triggers, After we changed the interaction to open the clinical triggers in the same window and collapsing it will show the Main factors again

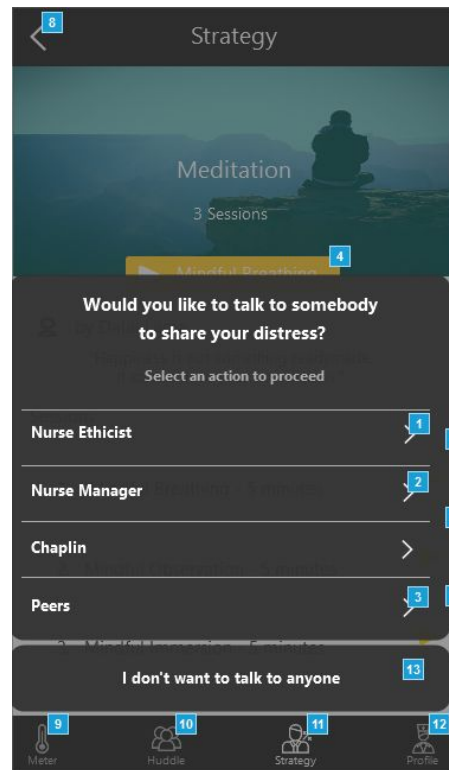
#3

It would help if you can add Chaplin to the list of people to contact after the strategies completion and giving the feedback

Before



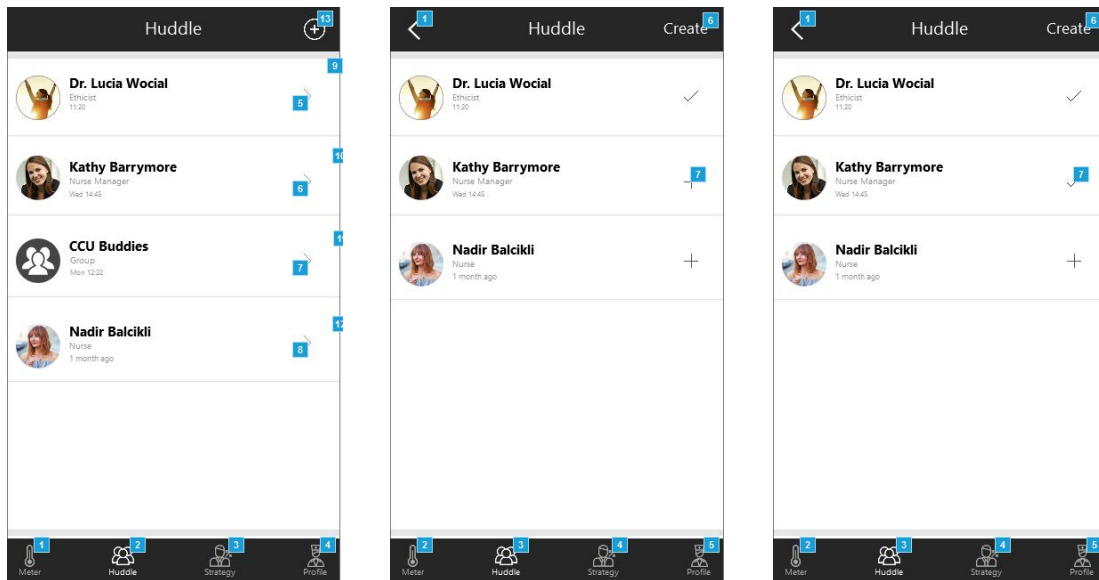
After



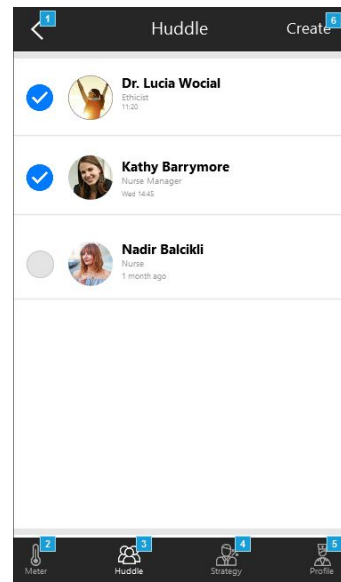
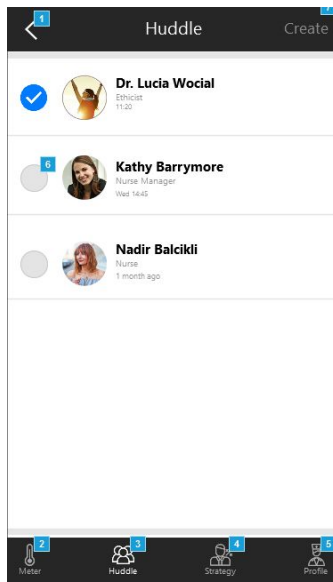
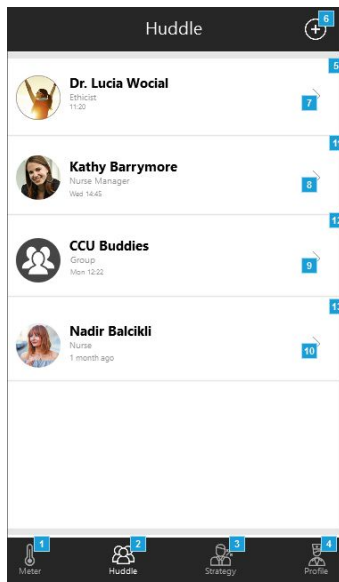
#4

User could not recognize the interaction to create a new group huddle with “+” icon and Participant multiple selection was not too intuitive too

Before



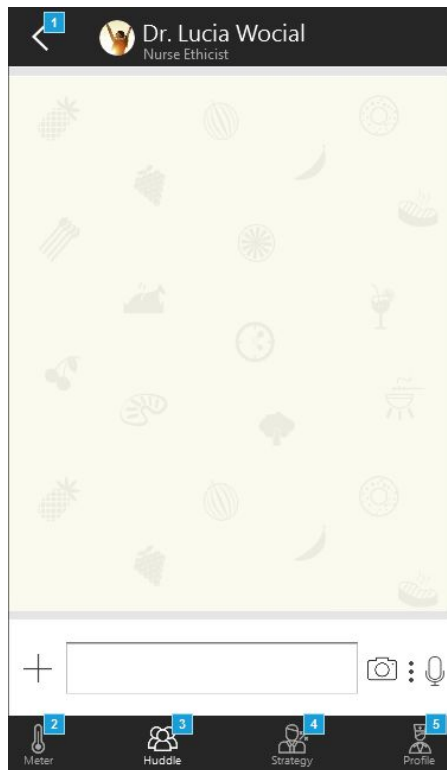
After



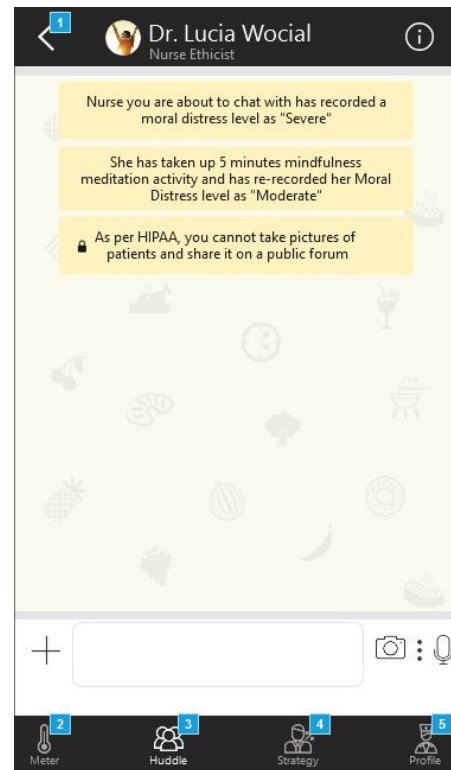
#5

Since you give camera option inside of chat window, can you add HIPAA violation note so that no one shares the patient photos or any other sensitive information

Before



After



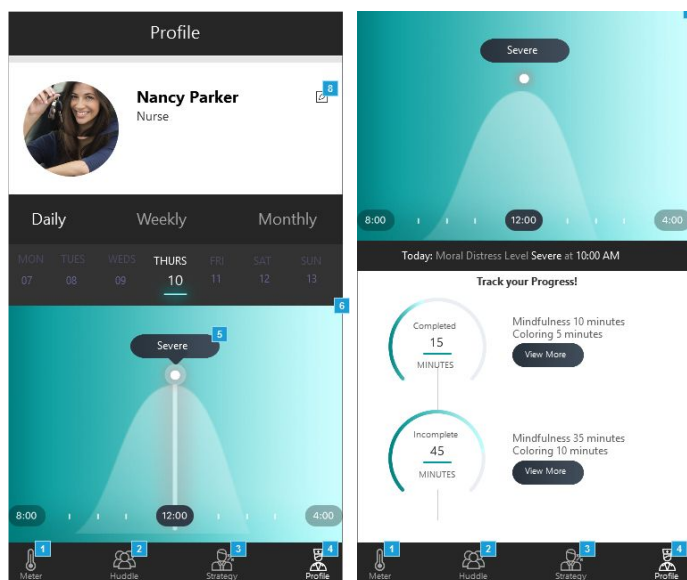
#6

User had good suggestions and feedback for Profile page

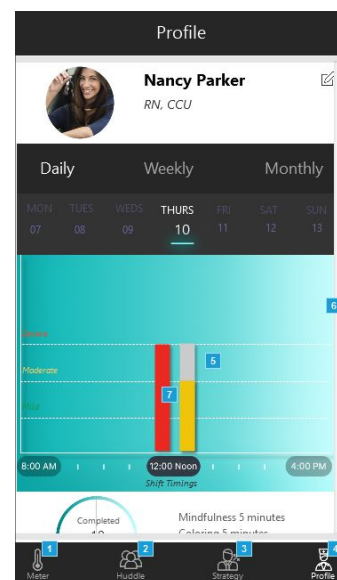
1. If you display level then it should show me in the same color
2. Either give the bar same colors as the recorded Moral Distress level or use thickness as indicator to show different levels
3. Bell curve used so user interpreted it to be the rise and fall of Moral Distress level throughout the day. This was never our intention of displaying Moral Distress level on the chart. We added the curve (Which user read as bell curve) just as a visual element around the Bar to show Moral Distress level
4. Can you show the activities on the same page and make it more intuitive?

We made some major changes to the profile page to accommodate almost all the suggestions user had for us

Before



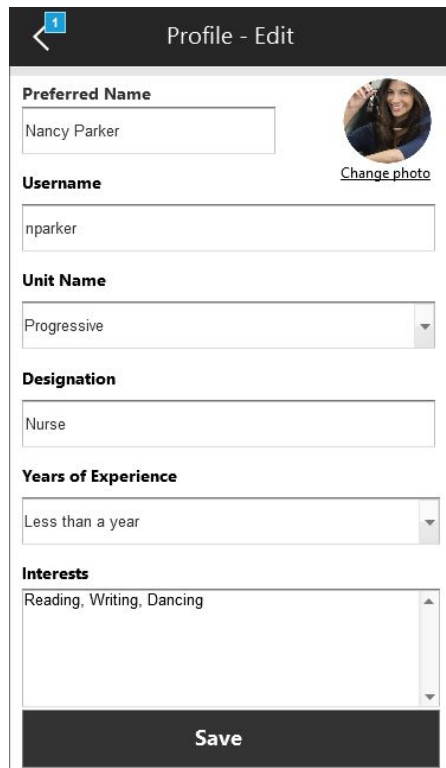
After



#7

User wanted to have the shifts mentioned on the profile page, so we added that. She provided us the options for IU Hospitals

Before



Profile - Edit

1

Preferred Name

Nancy Parker

Username

nparker

Unit Name

Progressive

Designation

Nurse

Years of Experience

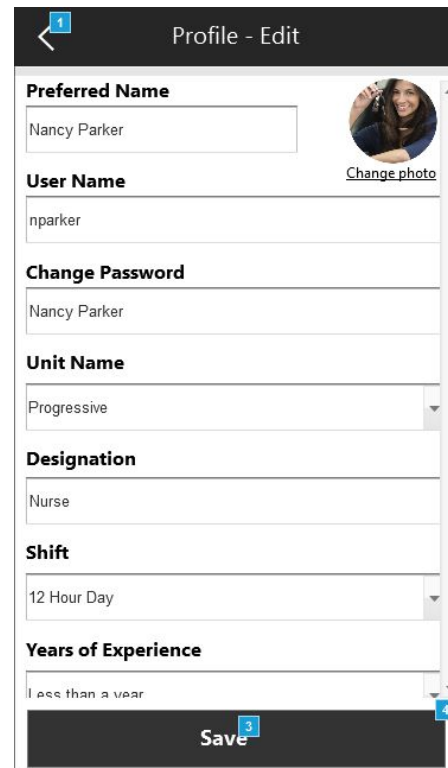
Less than a year

Interests

Reading, Writing, Dancing

Save

After



Profile - Edit

1

Preferred Name

Nancy Parker

User Name

nparker

Change Password

Nancy Parker

Unit Name

Progressive

Designation

Nurse

Shift

12 Hour Day

Years of Experience

Less than a year

Save 3 4

After completing the first iteration of the prototype redesign, we conducted the User Evaluations with our other participants. Surprisingly after implementing the suggestions from the design critique with our field expert gave us the results we wanted. Our participants were had very few comments or suggestions on the current version. Most of their suggestions could be accommodated for future iteration of the design.

The whole intention of user evaluation was to understand

1. If nurses would like to use the app when they experience Moral Distress
2. If they understand the workflow
3. If the workflow makes any sense in that moment of time
4. If the pictures, colors used in the app calm them down or aggravate their Moral Distress Level
5. Did they like the interventions we suggest them or they have any other suggestions

Except for one, rest all five participants agreed with our workflow. They highly appreciate the app and aesthetics. They found it very calming for that moment. Everyone was said they would certainly use the app may be if not immediately but after work, during break time or when they reach home. Except for one participant each participant mention that the app was quite easy to use. Workflow was quite simple and prudent. In fact, many of them had never thought that an app would let them take up such easy crisis management and calming or meditational activities. They were extremely delighted to see that they can chat with their peers, managers and ethicist nurse. However, they did have some questions or concerns around it. One motivating feedback to us is that they all are eager to see the app live and available for them to use. When questioned, if you want to use this app, all of them said “May be after a couple of times use all the nurses would like to use the app and would want more from it”

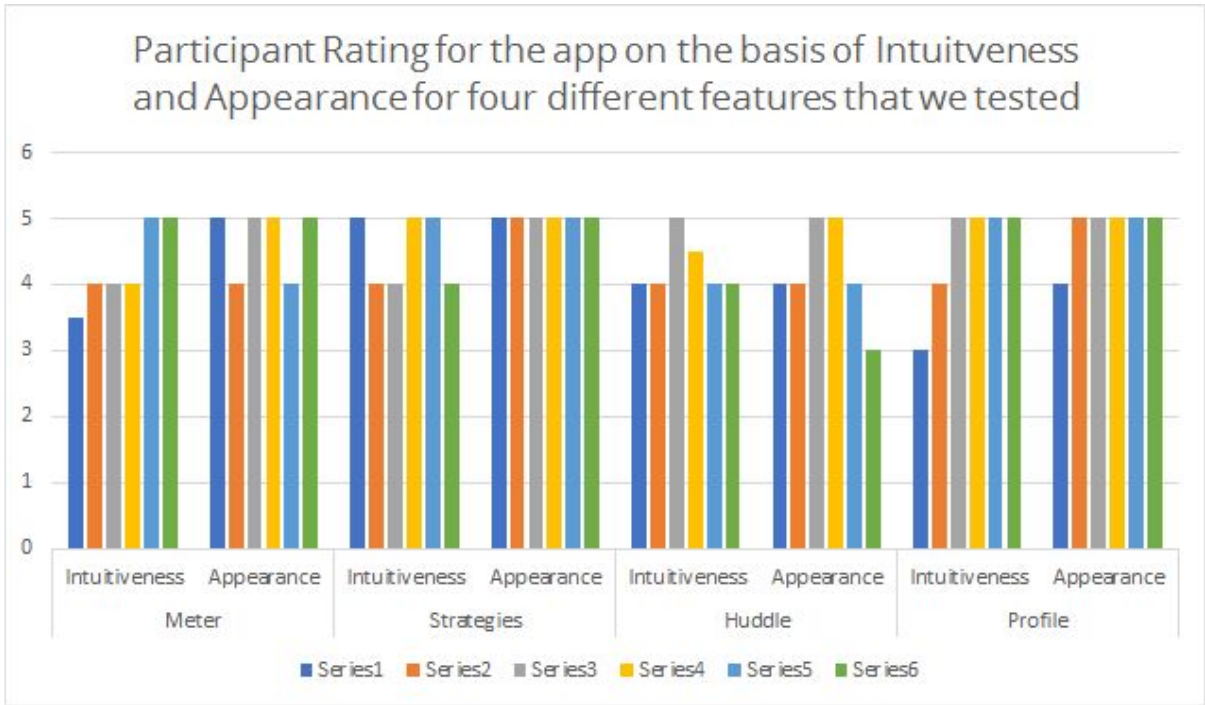
Lessons Learnt

One of our participant was inexperienced with Moral Distress. He was a male nurse with less than one year of experience. He had never worked for any Critical Care unit before and when we conducted our study he had recently joined the transplant unit. He was avid android smartphone user. He mentioned when stressed he would like to do weight exercises rather than meditating or coloring. Overall, his approach to the app was not thought through. We should have been careful while recruiting our participants. Nevertheless, we still got some inputs from this user worth considering.

Ratings

We asked our participants to rate the app on the basis of Intuitiveness and Appearance. These are the results:

Participant	Meter		Strategies		Huddle		Profile	
	Intuitiveness	Appearance	Intuitiveness	Appearance	Intuitiveness	Appearance	Intuitiveness	Appearance
1	3.5	5	5	5	4	4	3	4
2	4	4	4	5	4	4	4	5
3	4	5	4	5	5	5	5	5
4	4	5	5	5	4.5	5	5	5
5	5	4	5	5	4	4	5	5
6	5	5	4	5	4	3	5	5



The Implications

The feedback of our real participants was worth noting and thinking over. They certainly had a few valid suggestions. Here is a consolidated list of it along with their comments which are worth considering for future iterations of the design

- Signing up - he felt a touch id would be sufficient. *"That's how even my banking apps work on my mobile which has more sensitive information"*. How will I use this app when I am home?
- He asked what if I exhaust the list of sessions? *"Do I get to download more? paid /unpaid?"*
- *"Can I see who has what kind of day today? Can you use the same emoticons here on the contact picture? "*
- He wanted to see what contributed to the level on the chart
- *"Can I talk to people only from first shift?"*
- *"I would like if I was able to do coloring"*
- *"I would like to see journal activity"*
"Sometimes I reflect on the situations that caused Moral Distress. So, I like to add notes on how I might have acted to change the situation, or something that if I had known before that could have changed the experience. Maybe I want to read the note back some day."
- *"I would suggest changing the text on the crisis Management text, because I won't be able to smile when I have witnessed a child patient's death"*
 - *"Release the tension you might be feeling in your jaw"*
 - *"Take a nice gentle stretch and let go off any stress or tension that you have"*
- Huddle – *"I did not like the background (wallpaper) of chat window"* – we can give user a choice of wallpapers or keep it blank
- *"It would be good to see which activity I took, how often, what helped me"*

A few of the quick wins are already included in the design. While others need serious brainstorm before including in the design.