Flow- Digital Gestural Expression

Senjal Pandharpatte
sp1924@rit.edu

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Flow - Digital Gestural Expression

by

Senjal Pandharpatte

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Fine Arts in Visual Communication Design

School of Design
College of Art and Design

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Committee Approval

Mike Strobert
Committee Member/Senior Lecturer

Adam Smith
Committee Member/Department Chair/Associate Professor
Abstract

Overwhelming emotions affect the performance, productivity, and mental well-being of an individual. This has been a rising trend in highly sensitive young adults. To maintain well-being one can, work towards developing emotional intelligence. With a higher emotional intelligence (EQ) the capacity to be aware of, control and express one’s emotions is better [1]. We lack an engaging way to communicate self-expression that feels in sync with us. The main problem being addressed here is to help people recognize their own emotions, by themselves, and then effectively communicate them to other people. Flow is an interactive creative outlet that allows highly sensitive young adults to express and discover their emotions and communicate them with others. It uses Natural User Interface, a type of human-computer interface that the individual operates through intuitive actions related to natural, everyday human behavior [8]. Individuals interact with the tool using four primary gestures. These gestures are tracing, selecting, panning, swiping. Hand gestures further trigger colors and brushstrokes based on the user’s level of energy and amount of pleasantness [5] when portraying on a canvas. This tool thus facilitates the user to keep a track of their emotional journey as well as encourages them to share their journey of emotions with others to build relationships.

Keywords – Emotions, Emotional Intelligence, Natural User Interface, Hand Gestures, Self-Awareness
Critical Analysis and Summary

Problem Statement

Everyday hassles can overwhelm and affect our behaviors and emotions. Often emotions are feared and avoided because they cannot be comprehended. But if emotions are considered as data, they provide important information and tell you whether things are going your way. This practice refers to emotional intelligence – the ability to perceive, understand, and manage one’s feelings and emotions [1]. Further according to Daniel Goleman [2], there are five components of emotional intelligence– self-awareness, self-regulation, internal motivation, empathy, and social skills. Highly sensitive young adults aged 24-28 years tend to be more disturbed by feelings of being overwhelmed. Several studies have found that people high in extroversion tend to have higher emotional expressiveness, while people high in neuroticism tend to be less expressive [23].

After conducting a short survey consisting of 32 participants it was found that 22 participants found it hard to focus on something if they have unresolved emotions and about 21 found it difficult to share their emotions with family or friends openly. Problems were recognized based on three factors – firstly personal meaning lack of self-awareness, people have difficulty recognizing their own emotions. Secondly, social meaning emotional conversations, people find verbal conversations uncomfortable and need a way to express them without losing the personal touch. Thirdly, culture meaning the role of culture, cultural norms display people being more comfortable with positive emotions being expressed over negative emotions. How can we help highly sensitive young adults recognize their own emotions by themselves and effectively communicate them to other people?

Overview

Flow is an interactive creative outlet that allows highly sensitive young adults to express and discover their emotions and communicate them with others. This tool serves as a gesture-controlled interactive display also called a Natural User Interface. The individual’s hand movements are captured through a camera and content is triggered with direct manipulation [8].

According to Plutchik’s Wheel of Emotions [4] they are evaluated with two sets of parameters valence and control. Valency describes a situation as pleasant or unpleasant whereas control describes an individual’s high or low control over the situation. He further stated that emotions influence our actions in five ways – emotion, action tendency, appraisal, motor and, physiological components [4]. Using these principles, an individual interacts with flow app using four primary stages categorized as – 1. Emotion component, 2. Action tendency component, 3. Motor and Physiological component, and 4. Appraisal component. According to the research [4], the Emotion component is where an individual simply experiences the feelings. Action tendency component is where the emotion is identified, and the body moves into action – here plotting emotion on emotion quadrant. The Motor component is the communicative function of how we express what we are experiencing – here hand gestures triggering
brushstroke interactions on-screen and the Physiological component drives the chemical reaction that our bodies experience – here reflecting and investigating where the emotion is experienced and how it makes you feel. Lastly, the Appraisal component is the tracking and analysis of the emotion spread over a time period as well as communicating the state of emotions with others.

The individual’s hand gesture is visualized on the screen using gesture vocabulary. There are two approaches used to achieve the set of gestures, the technical approach, and the human-based approach [9]. The Technical approach is a way to choose the gestures which are simple and easy to recognize and are logically mapped. On the other hand, the Human-based approach is a way to choose intuitive and easy to remember gestures and are not physically stressful when used often. The gesture vocabulary includes four main gestures – first is Pointer to trace, this is the default feedback of real-time interaction. Second is Select to long press, to implement select interactions with the content by long pressing and holding the initial touchpoints for about 2-3 seconds. Third is Pan to trace and hold, to track the movement of the hand on the screen and update appearance with brush strokes and hold state holds the brush stroke and allows the user to start with a different location. Fourth is Swipe to hold and pull, to navigate through content by pulling across the screen. In an attempt to build a well-rounded experience, gesture and speech work better together.

**Conclusion**

*Flow* is a reflection of one’s feelings and emotions that are taking place inside their mind and body. Emotions are messy and getting them onto a canvas work therapeutically. One does not need to be talented or poses an artistic ability to do this. *Flow* helps you escape reality, calms you down, and reduces stress. Developing a gesture interface is well suited for this particular tool since it helps convey the actual state of the individual without heavily relying on accuracy or nonessential details. Providing a cursor or mousepad does not give you the freedom to go above and beyond. *Flow* simplifies emotions and outlines the personal emotional journey. By examining the primary emotions, one can observe what sparks the stimuli, how they experience the emotion physically and mentally, and the actions it drives on to take. An individual can become more aware of their emotions and behavior with the help of this tool. Sharing emotions results in creating a warm relationship of trust and openness. By sharing, the individual opens up an opportunity for change and self-improvement. The overall experience thus empowers individuals by learning how to express, share, and constructively understand their emotions.
References


flow

an interface that feels in sync with you
let's dive into your emotions

what is green zone?

The green zone describes calm state of presence.
You're feeling calm, focused, happy or elated. This is the ideal zone to be in.
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INTRODUCTION
PROBLEMS

1. Personal
   Lack of self-awareness
   People have difficulty recognizing their own emotions by themselves.

2. Social
   Emotional conversations
   People find verbal conversations uncomfortable and need a way to express themselves without losing the personal touch.

3. Cultural
   Role of Culture
   Cultural norms display people being more comfortable with positive emotions being expressed over negative emotions.
BRIEF

Problem Statement
How can we help highly sensitive young adults recognize their own emotions by themselves and effectively communicate them to other people?

Solution
Build an interactive creative outlet that allows highly sensitive young adults to express and discover their emotions and communicate them with others.

COVID-19 Plot Twist
The COVID-19 pandemic brings with it additional complications as it disrupts organic one on one conversations. Hence sending an electronic postcard with your emotions painted is a warm way to show a loved one or friend what you've been experiencing from a far away.
OBJECTIVES

1. Simple & Low-precision
   Air gesturing requires less precision and attention from the user and are just quick shortcuts to frequent actions.

2. Useful & Playful
   Interpret colors and brushstrokes based on the user’s level of energy and amount of pleasantness and categorize the result into four zones.

3. Tangible & Accessible
   Push the technology to persist beyond mobile phones and allow a wider population to interact.
STATISTICS

15–20% of the population is found to have a highly sensitive trait.

- Foundation for the Study of Highly Sensitive Persons

77% of people regularly experience physical symptoms caused by stress.

- American Institute of Stress
AUDIENCE

Young Adults

Highly sensitive young adults tend to be more disturbed by feelings of being overwhelmed.

Several studies have found that people high in extroversion tend to have higher emotional expressiveness, while people high in neuroticism tend to be less expressive.
Empathy Map Canvas

1. WHO are we empathizing with?
   - Young adults, sensitive emotional individuals.
   - Overwhelmed, lack self-awareness about emotions.
   - Being self-aware and self-regulative of their emotional states.

2. What do they need to DO?
   - Portray their emotions once awhile using "flow".
   - Overcome emotional blocks and focus on solving them instead of avoiding them.
   - Decide if they want to communicate their emotions with others or be self-aware.
   - Success can be evaluated by the liberating experience of facing problems and leveraging personal communication.

3. What do they SEE?
   - Lot of meditation apps that deal with mental well-being but are not downright interpreting emotions.
   - Others expressing majority positive emotions over negative emotions therefore creating a stigma.
   - Reading and watching a lot of social media manipulated portrayal of life.

4. What do they SAY?
   - Verbalize false emotions particularly in situations when they are feeling the opposite.
   - We can imagine them being truthful about their emotions and be at ease with sharing.

5. What do they DO?
   - Avoid dealing with their emotions which eventually bottles up.
   - We observe them being less tolerance to stress, impulsive behavior which adversely affects their productivity.

6. What do they THINK and FEEL?
   - PAINS
     - What are their fears, frustrations, and anxieties?
     - They have to maintain a positive image of themselves.
     - They are not allowed to be vulnerable very often.
     - Thinking that negative emotions are bad or unwelcome.
     - Worry about what they feel.
   - GAINS
     - What are their wants, needs, hopes and dreams?
     - They want to be able to better understand how these stimuli impact their well-being.
     - They need to regain control over their actions triggered by the emotions.
     - They hope to have an easier time getting help from others and build meaningful relationships.

7. What do they HEAR?
   - People being more comfortable with positive emotions being expressed than negative emotions.
   - Generally hear about only the good things in their friend’s and colleagues lives.
   - They need to hear about things good and bad and not make negative emotions a stigma.
CURRENT SOLUTIONS

Mood Meter
Mood meter lacks a natural non-verbal way of representing emotions. Is a very tabular way of recording emotions. Sharing and communicating emotions with loved ones is same old and lacks a personal touch.

Universe of Emotions
Universe of emotions is a very word based emotion discovery application. It ties the concept with universe and planetary system making it hard to understand and use. Too many emotions to go through or understand and can be in fact overwhelming.
CURRENT SOLUTIONS

**Slumberkins**
Slumberkins features a story-based approach in teaching little ones social and emotional skills. It has a product based teaching providing plush and storybooks to help kids learn and understand situations and emotions.

**Zones of Regulation**
Zones of regulation follows a question based approach involving “real-life scenarios” but lacks facing and understanding the present emotions of the individual. It is a curriculum based learning for kids.
SURVEY RESULTS

Pattern 1
Hard to focus on work with unresolved emotions.

Pattern 2
Difficult to share emotions with friend or family.

Fig4: Pattern 1: Hard to focus on work with unresolved emotions
Fig5: Pattern 2: Difficult to share emotions with friend or family
Overview

Flow interactions are divided into four primary stages.

- Emotion Component
- Action Tendency Component
- Motor & Physiological Component
- Appraisal Component
What makes it happen?

- Discover uncertain thoughts feelings and emotions – open application
- Open up new canvas and record how you feel
- Finish painting and move on to self-awareness
- Find someone to share these emotions with to help start a conversation
- Observe a bigger picture of your emotions over a period of time

Stages

- Plot your emotions
- Interact with blank canvas
- Reflect on your emotions
- Share with friends or family
- View personal records

What can be controlled?

- Level of energy
- Move hands around to apply paint strokes
- Select where do you experience it physically
- Enter their phone number or email
- View emotion postcards sent over week/month/year
- Amount of Pleasantness
- Change plotted energy and pleasantness
- Select what is the possible cause for that emotion
- Go back to the canvas and edit
- Data visualization of emotions observed over time
- Undo/ redo strokes with hand swipes
- Refresh to start over and finish to end canvas
- Communicate your emotions to friends

Fig-7: Userflow
RESEARCH
1. DECODING EMOTIONS

What is Emotional Intelligence?

“EQ refers to someone’s ability to perceive, understand and manage their own feelings and emotions” (Chignell, 2018).

Further, there are five distinct components:

- Self-awareness
- Self-regulation
- Internal motivation
- Empathy
- Social skills


1. DECODING EMOTIONS

Emotions are evaluated with two sets of polar parameters:

- **Valence**
  Describing a situation as pleasant or unpleasant

- **Control**
  Looking at whether or not the individual has high or low control over the situation, and it’s outcomes

Emotions influence our actions in following ways:

- **Step 1: Emotion Component**
- **Step 2: Action Tendency Component**
- **Step 3: Motor & Physiological Component**
- **Step 4: Appraisal Component**
1.1 DECODING EMOTIONS

- **Emotion Component**

  This is where an individual simply experiences the feelings.

---

**Yellow Zone**
- High energy
- Pleasant

**Red Zone**
- High energy
- Unpleasant

**Green Zone**
- Low energy
- Pleasant

**Blue Zone**
- Low energy
- Unpleasant
1.2 DECODING EMOTIONS

**Action Tendency Component**

Once the emotion is identified, the body moves into action.
1.3 DECODING EMOTIONS

- **Motor Component**

  Motor is the communicative function of how we express what we are experiencing such as: facial expressions, hand gestures, body movements, etc.

- **Physiological Component**

  Physiological component supports all others and is the chemical reaction that our body experiences such as: the rush of blood flow to the hands occurs when one experiences the emotion of anger.

---

**fig-11:** Get ready to move your hands around to paint on screen

**fig-12:** Brushstrokes appear according to speed, proximity and time
1.3 DECODING EMOTIONS

Motor Component

- physically
- mentally
- both

Physiological Component

- sad
- bored
- tired
- sick

fig-13: Step 1: investigate where you experience the emotion

fig-14: Step 2: investigate what it feels like

fig-16: Step 3: start recording audio

fig-17: Step 4: confirm recording

fig-15: Step 3: start recording audio

let's reflect

what does it feel?

play recording

listening...
1.4 DECODING EMOTIONS

**Appraisal Component**

By cognitively analyzing the emotion, the individual is able to pick up on the situations, actions, environments, or individuals that are causing the emotion.

This aids the individual in tracking how these stimuli impact their well-being. It is invaluable to communicate the state of our internal world with others.

---

**Fig-18**: Prepping a postcard to share with your circle

**Fig-19**: Upon reflection - content is added to the postcard
1.4 DECODING EMOTIONS

Appraisal Component: On the receiving end

Once the postcard is sent to your friend or loved one, they would receive an email. Essentially this is a digital postcard. One can also print these out and send them a tangible copy by mail.

Flow is beneficial for the receiver of the postcard as well since it fosters emotional empathy towards their relationship with the person sending it.
2. DECODING ZONES

Red Zone
The red zone describes an extremely heightened state of intense emotions. You’re feeling anger, rage, terror, or complete devastation and feel out of control.

Yellow Zone
The yellow zone describes heightened sense of alertness and you typically still have some control. You’re feeling frustrated, anxious or nervous. But, it could also mean you’re feeling excited, silly, or hyper which is okay in the right situations.

Green Zone
The green zone describes calm state of alertness. You’re feeling calm, focused, happy, or pleasant. This is the ideal zone to be in.

Blue Zone
The blue zone describes low states of alertness or arousal. You’re feeling down, sad, sick, tired, or bored. You’re still in control, as you are in the yellow zone, but with low energy emotions.
2.1 RED ZONE

**let's dive into your emotions**

**plot your emotions**

**get ready to paint**

**let's reflect**

- physically
- mentally
- both

**let's reflect**

- angry
- tense
- stressed
- nervous

**let's reflect**

- start recording...

**let's reflect**

- listening...

**preppin' your postcard**

**preppin' your postcard**

**what is red zone?**

**explore your red emotions**

---

Fig 21: Red Zone Userflow
2.2 YELLOW ZONE

Let's dive into your emotions

Plot your emotions

Get ready to paint

Let's reflect

Where do you experience the emotion?
- Physically
- Mentally
- Both

Describe your emotions using one word
- Alert
- Excited
- Elated
- Happy

Start recording...

Listening...

Prepare your postcard

What is yellow zone?

Explore your yellow emotions

Fig 22: Yellow Zone Userflow
2.3 GREEN ZONE

let's dive into your emotions

plot your emotions

got ready to paint

let's reflect

where do you experience the emotion?
physically
mentally
both

let's reflect

how do you experience the emotion?
calm
relaxed
content
focused

let's reflect

what are you feeling?

let's reflect

what does this feel like?

let's reflect

what does this feel like?

preppin' your postcard

feelin' calm

what is green zone?

explore your green emotions

calm
relaxed
content
focused

The green zone description is made of simple and playful phrases, making it pleasant. This is the final area in the flow.
2.4 BLUE ZONE

let's dive into your emotions

plot your emotions

got ready to paint

let's reflect

where do you experience the emotion?

- physically
- mentally
- both

let's reflect

describe your emotions using one word:

- sad
- bored
- tried
- sick

let's reflect

how about that?

let's reflect

what does this mean?

let's reflect

start recording...

listening...

preppin' your postcard

what is blue zone?

explore your blue emotions

The blue zone describes the states of

- happy
- calm
- content
- peaceful
- creative

To enter the blue zone, you need to

- find a quiet place
- take a deep breath
- listen to music
- practice meditation
- journal your thoughts
3. DECODING INTERFACE

What is a Natural User Interface?

*Interaction is direct and consistent with our ‘natural’ behaviour.*

A natural user interface (NUI) is a system for human-computer interaction that the user operates through intuitive actions related to natural, everyday human behavior.
3. DECODING INTERFACE

Direct Manipulation

Direct manipulation or free form is the primary gesture model used for this application. It is easier to learn and retain, more intuitive and less likely to cause confusion cross cultures.

Speech Inclusion

In an attempt to build a well rounded experience, I proposed that gesture and speech work better together. In real life, people do it all the time.

Recording audio is a genuine way to capture an individual’s essence of what they are feeling, as described in the Reflect phase of the application.
3.2 DECODING INTERFACE

Voice Input

- A wide-field, iconic audio capture to enable voice commands.
- A smartphone microphone, would likely capture only sounds close to it whereas technology like kinect differentiates sounds and captures ambient speech throughout the room. It “recognizes” different voices from one another.

Fig-28: Audio input, visual feedback
4. DECODING GESTURES

What is a Gesture?

The motion of hands or body to emphasize or help to express a thought or feeling

Set of gestures in an interface forms a Gesture Vocabulary.
Two considerations to choosing gestures:

- Technical-based Considerations
- Human-based Considerations
4. DECODING GESTURES

Technical-based Considerations

- A method that can recognize certain gestures.
- Make sure gestures are easy and possible to perform by wide range of people.
- Functionality and gestures should be logically mapped.

Human-based Considerations

- Instant expertise with intuitive and easy to remember gestures.
- Metamorphically and iconically logical towards functionality.
- Ergonomic: Not physically stressing when used often.
4.1 DECODING GESTURES

POINT - trace

- Use pointer gesture as default trackpad or mouse to trace through content.

- Pointer gesture acts as feedback of your real-time interaction.
4.2 DECODING GESTURES

SELECT - long press

- Use brief long-press gesture to implement select interactions with the content.
- Select gesture detects the open palm in hold position briefly.
- This gesture must not move significantly from the initial touchpoints for about 2-3 seconds.

fig-31: long press
(>2 secs)
4.3 DECODING GESTURES

PAN - trace & hold

- Use pan gesture to track the movement of the hand on the screen and update their appearance with brush strokes.

- Hold state holds the brush stroke and allows the user to start painting from a different position.

fig-32: move & hold
4.4 DECODING GESTURES

SWIPE - hold & pull

- Use swipe gesture to navigate through the content.
- Hold and pull across the screen in a specific horizontal or vertical direction triggers a change of screen.

fig-33: hold & pull
VISUAL DIRECTION
1. BRANDING

1

Brand Color
The single brand color that users will immediately associate with flow is green. Green is associated with calm and contentment.

green-1 #b9e13c

2

Neutral Colors
The neutral brand colors are White #ffffff and Almost Black #141414. Since the application is a dark mode based major typography is White and Grey.

<table>
<thead>
<tr>
<th>Color</th>
<th>Hex Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>white</td>
<td>#ffffff</td>
</tr>
<tr>
<td>grey</td>
<td>#c4c4c4</td>
</tr>
<tr>
<td>almost black</td>
<td>#141414</td>
</tr>
</tbody>
</table>

3

Zone Colors
Emotions are categorized into 4 zones. These 4 colors are carried forward throughout the content choices.

<table>
<thead>
<tr>
<th>Color</th>
<th>Hex Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>#ff542c</td>
</tr>
<tr>
<td>yellow</td>
<td>#ffcf4e</td>
</tr>
<tr>
<td>green</td>
<td>#b9e13c</td>
</tr>
<tr>
<td>blue</td>
<td>#4e8cfc</td>
</tr>
</tbody>
</table>
1.1 BRANDING

Monochrome Sequential Swatch (10 Value Scale)

Brush strokes are illustrated over the intensity of the color (intensity refers to the brightness of a color).

<table>
<thead>
<tr>
<th>red zone</th>
<th>yellow zone</th>
<th>green zone</th>
<th>blue zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>red-1</td>
<td>yellow-1</td>
<td>green-1</td>
<td>blue-1</td>
</tr>
<tr>
<td>red-2</td>
<td>yellow-2</td>
<td>green-2</td>
<td>blue-2</td>
</tr>
<tr>
<td>red-3</td>
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<tr>
<td>red-10</td>
<td>yellow-10</td>
<td>green-10</td>
<td>blue-10</td>
</tr>
</tbody>
</table>
1.1 BRANDING

Logo

*flow* | *flo*: proceed or be produced smoothly, continuously, and effortlessly.

- The logo has an effortless brush stroke in it denoting a mindless hand gesture.
- Explorations for the logo were closely tied with the flowy nature of paint and hand gestures.
2. BRUSHSTROKES

Oil Paint

- Advantages of oil painting is the **flexibility** and **depth** of color.

- They can be applied in many ways, from **thin glazes** diluted with turpentine to dense **thick impasto**.

- Oil painting pieces are **expressive** artworks carrying the identity of the **artist’s soul** inspiring spontaneity, freedom, and magic to create.

https://www.widewalls.ch/magazine/impasto-painting-technique

---

Fig. 35: oil paint digital expressions
2.1 BRUSHSTROKES

Impasto

*the process or technique of laying on paint or pigment thickly so that it stands out from a surface.*

- Impasto allows play of light thereby making the brush strokes appear 3-dimensional.
- Impasto creates intriguing textures and carry a strong physical statement.
- Impasto is the default brushstroke for flow.
2.2 BRUSHSTROKES

Glaze

*a thin topcoat of transparent paint used to modify the tone of an underlying color.*

- Glazes provides a way to show intensity of the color, in flow it refers to the brightness of a color.
- Proximity controls glaze value
  - Far from screen: Min. brightness + Fuzzy texture
  - Close to screen: Max. brightness + Sharp texture

fig-37: glaze brushstrokes
2.3 BRUSHSTROKES

Splatters

Splatter painting celebrates spontaneity, improvisation, and a highly physical approach to making art.

- Splatters can be used to squash paint on the canvas to make an impression.
- Splatters appear when user performs a long press gesture - color intensifies with longer duration.

fig-38: splatter brushstrokes
3.1 STORYBOARD

Storyboard for the promotional video is as follows.

- **PERSONA:** Young Adult
- **USER STORY/SCENARIO:** Promotional Video

**INTRODUCTORY SEQUENCE**
- Start with problem + opening lines
- Logo + introduction

**Camera View**
- Camera on indicator (important)
- Interaction device with prototype open

**Close up view from laptop’s point of view**
- Move back to position

**Move back and adjust & wave to begin**
- Swap people to make it fun

**PAGE #1 PROTOCOL/TEAM: Flow**

**DATE:**

**STORYBOARDING:** Storyboarding 1

---

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3.2 STORYBOARD

Storyboard for the promotional video is as follows.

- Swap between person screen and device
- Next stages of postcard & share with friend
- Wrapping up section
  - Why use this / importance of flow

- Receive notification about the postcard from flow
- Concluding words + logo animation
- Ending words & logo presentation
- Ending credits + music
  - Credits + other requirements

The end

Page # 2  Project/Team: flow  Date:

Fig-40: storyboarding-2

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3.3 PROMOTIONAL VIDEO
EXPLORATIONS
& ITERATIONS
1. EXPLORATIONS

**Early ideas and mind mapping**

1. Purpose of this tool is to entertain and educate people about their emotions.
2. The experience would be ideal on a large display screen.
3. Engaging individuals in meaningful way, giving them a purpose to use the tool.
4. Logging individuals' data for analysis and visualizations.
5. While interacting with the tool, be conscious of proximity and other factors.
2. INSPIRATION

Inspiration came from a lot of sources and countless days of research on hand gesture technology and canvas & painting interfaces.

Two important and excellent sources of inspiration were Soli technology and the Google experiments platform.
3. ITERATION-1

1. What does not seem to work here is choosing how to feel based on set of emoticons. Emoticons do not truly justify how one is feeling.

2. Further categorizing emotions does not cover wide range of emotions.

3. Allowing users to choose from tools is to distract them from the real purpose.
3. ITERATION-1

3. Having the front camera provides an added distraction. It also fails to give full justice to the painting or 'letting out' process.

4. This particular visual feedback was the clearest and logical pointer design for detecting hand gestures. Additions were made later on.

---

Explore how you feel today

Tell us how you feel today?

Wave your arms around to start painting

Wave your arms around to start painting

Wave your arms around to start painting

Wave your arms around to start painting
4. COLOR TOOL

After iterations over iterations, I realized a color tool is not required. Allowing individuals to pick from colors can intimidate them.

Moreover, this is not aimed to be a painting application, it serves a genuine problem where an impression is important over hue.
My initial approach was to design a brushstrokes library. A complete guide of the brushstrokes design system— it would define how the brushstroke texture changes as per users’ interactions.

**How can (factor) influence this?**
Where, factor being:
1. speed of hand gestures
2. proximity from the screen
3. amount of time the paint is left on the canvas

![Brushstroke explorations in 3D](image)
5. BRUSHSTROKES

Brushes in 3D felt rigid to me, they lacked the fluidity I was looking for. I turned towards existing applications like Procreate and Adobe Fresco to better understand the brushstroke properties.

I tested out the brush’s agility and textures it leaves behind. Procreate Oil brushes were the best ones so far.
6. PLOTTING EMOTION

Explorations of plotting emotions on a quadrant.
It was clear I wanted to go with the 4 color zone approach as per research.

Initial idea was to allow individuals to plot their energy and a particular color would be allotted to them.
Then I realized it would be difficult to keep track of their emotion patterns from a data visualization point of view.
Issuing color intensities on the quadrant was confusing for the user. Decided to stick with one color.
Further iteration towards more of a standard quadrant interpretation.
Perhaps a cone feeling and the feeling fading away as we go to the outer circle? But no.

Perhaps a gradient. Intense side of the gradient denoting strong feelings, but again why make it so complicated to plot emotions?
A full screen is even better, thought, but the labels (x and y axis) get hard to read.
Tried improving contrast but something seemed off about it.
This was by far the design that seemed to work for me.
A good energy zone and a bad energy zone. But then again a quadrant seemed to resonate better.

Fig-52: plot your emotions explorations

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7. MORE EXPLORATIONS

Some more miscellaneous explorations.
7. MORE EXPLORATIONS

Some more miscellaneous explorations.
8. FINAL ITERATIONS

A userflow of an individual exploring the application.
8.1 FINAL ITERATIONS

Fig 56: Stage 1 - Plot your emotions
8.1 FINAL ITERATIONS

Fig-57: Stage 2 - Interact with blank canvas
8.1 FINAL ITERATIONS

Fig 58: Stage 3 - Reflect on your emotions
8.1 FINAL ITERATIONS

fig 59: Stage 4 - Share with friends or loved ones
CONCLUSION

& REFERENCES
1. CONCLUSION

Flow – Digital Gestural Interface

Flow simplifies emotions and outlines the personal emotional journey. By examining the primary emotions, one can observe what sparks the stimuli, how they experience the emotion physically and mentally, and the actions it drives on to take. Sharing emotions results in creating a warm relationship of trust and openness.
2. CHALLENGES

**Complexity of Emotions**
Categorizing or interpreting emotions are complicated, considering the range of emotions a human being experiences. It is easier to divide body language into zones.

**Uncertainty in Gestures**
The real frustration of air gestures comes from that there can be no feedback when they’re not recognized. Building a seamless and natural interface requires technical support.

**Simplifying Experience**
Visual interfaces are engaging, but when the need for voice and touch interfaces has to be explored, the technology gets more complex, yet needs to present a simplistic solution.
3. FUTURE SCOPE

**EQ at Workplaces**
Explore the merits of introducing this technology at workplaces to help increase employees’ emotional intelligence.

**Data Visualization**
Visualize patterns and trends in an individual’s emotional journey and help them understand and keep track of their emotions better.

**Push Technology**
Have hand gestures trigger brushstrokes like splashing, dribbling, smearing effects on canvas depending on the individual’s energy levels.
2.1 REFERENCES


2.3 REFERENCES


THANK YOU