



MIMA

MULTIFUNCTIONAL IoT INTEGRATED MENSTRUAL AID

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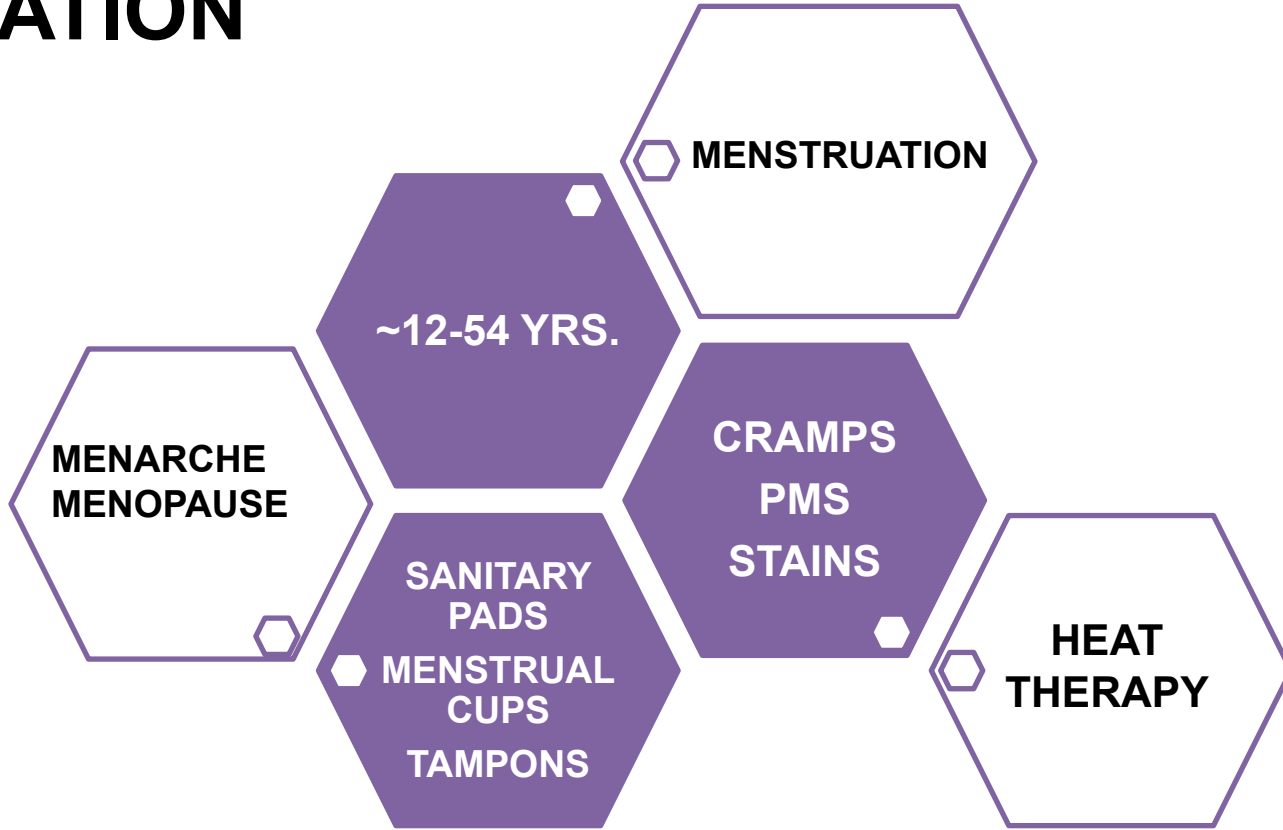
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MOTIVATION



REVIEW OF LITERATURE

DATE	TITLE OF THE PAPER	HIGHLIGHT
2012	Prevalence of menstrual pain in young women: what is dysmenorrhea?	Women experiencing Primary dysmenorrhea and its impact on their life.
2014	It's a girl thing: Menstruation, school attendance, spatial mobility and wider gender inequalities	Research about problems faced by girls during menstruation in school uniform
2016	Why are girls hitting early puberty?	Lifestyle factors influencing the early puberty in the girls
2018	Menstrual Hygiene, Management, and Waste Disposal: Practices and Challenges Faced by Girls/Women of Developing Countries	Overview about lack of sanitary awareness in young girls of the under developed and developing countries.
2018	Abdominal skeletal muscle activity precedes spontaneous menstrual cramping pain in primary dysmenorrhea	Causes behind Abdominal Cramps due to Primary Dysmenorrhea

REVIEW OF LITERATURE

DATE	TITLE OF THE PAPER	HIGHLIGHT
2018	Heat therapy for primary dysmenorrhea: A systematic review and meta-analysis of its effects on pain relief and quality of life.	Impact of superficial heat on menstrual cramp
2018	Exploring menstrual practices and the potential acceptability of reusable menstrual underwear among a Middle Eastern population living in a refugee setting.	The problems faced and ways they dealt with sanitary issues
2020	Micro biota and Malodor-Etiology and Management. International journal of molecular sciences	The role of bacteria in vaginal odour
2020	The Acceptance and Usage Intention of Menstrual Underwear	The factors leading to acceptance of Period pants.
2021	Period Panties Market: Forecast 2020-2030	Analysis of future market potential of Period pants

PROBLEM IDENTIFICATION

1

**MENSTRUAL
CRAMPS**

2

**MENSTRUAL
ODOR**

3

RASHES

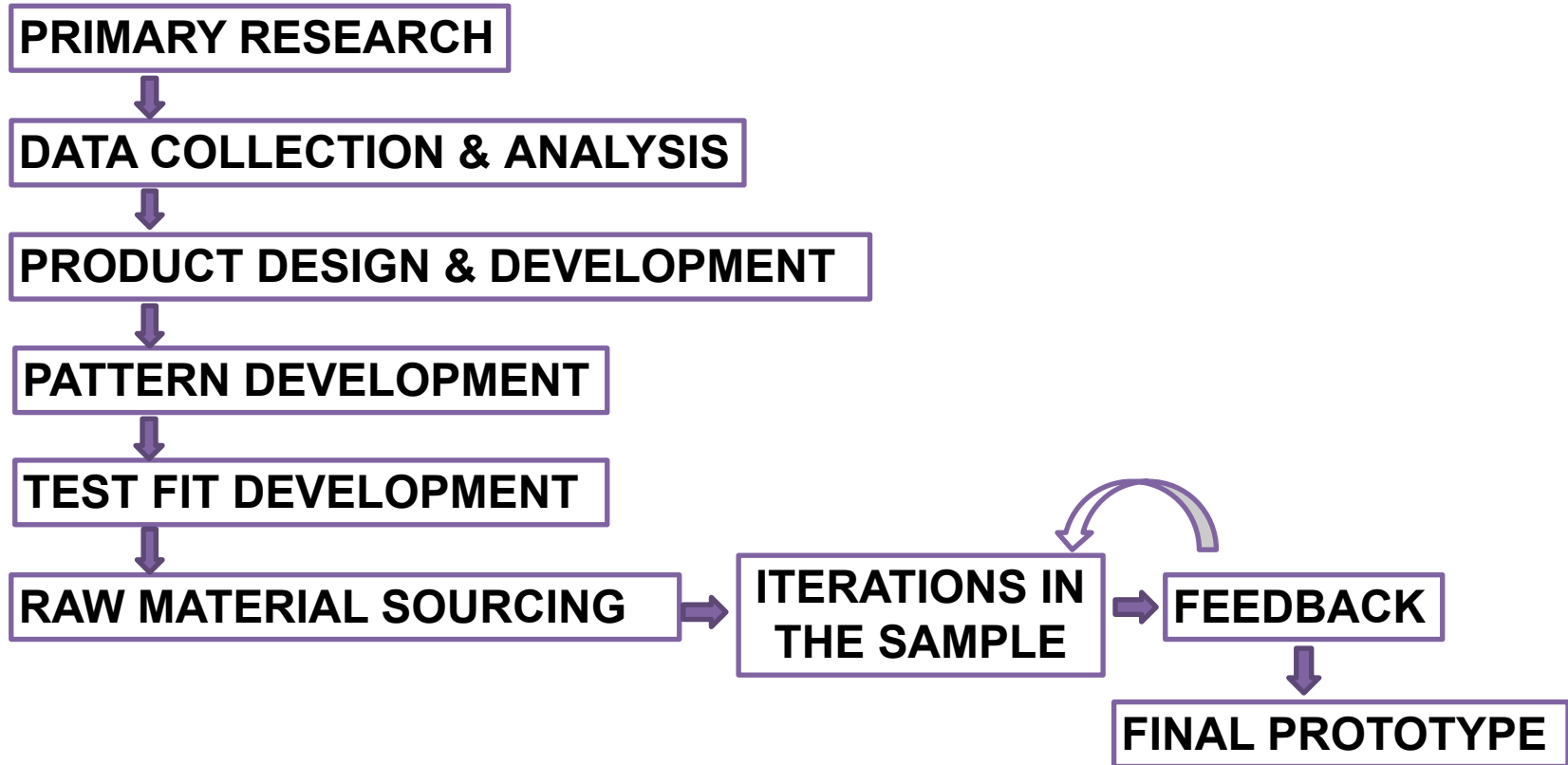
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STAINS

OBJECTIVE OF PROJECT

To develop a period pant to comfort women prior to and during menstruation

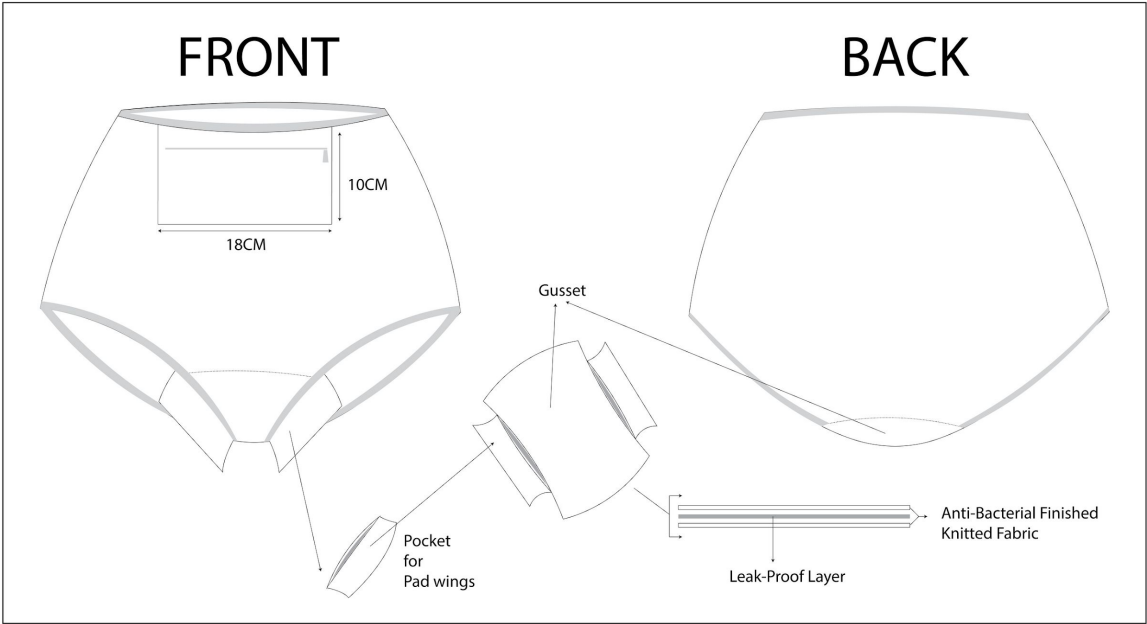
RESEARCH METHODOLOGY



DATA COLLECTION & ANALYSIS

Question Criteria	Responses		
Demography	48.2% of our respondents are single women of age group 17-21 years		
Buying Preference	74.7% consider fabric	85.3% prefer comfort	64.1% prefer dark shade menstrual intimate wear
Menarche	70% attained at 12-14yrs.	15.9% attained at <12 yrs.	58.8% aware of someone attaining at <12yrs.
Menstrual Aids	95.3% use sanitary pads	56.5% of them aware of period pants	
Menstrual Irregularities	44.1% go through painful abdominal cramps	34.1% go through multiple cramps during menstruation	
Cramp Remedy	58.8% use heat therapy out of which 69.4% prefer medium range of heat		
Preferred Intimate wear	Hipster followed by Bikini style		
New Product	75% seek a new product catering to menstrual needs		

PRODUCT DEVELOPMENT



THE GARMENT SKETCH

- 1 ANTI-BACTERIAL FINISHED FABRIC
- 2 LEAK-PROOF GUSSET
- 3 HEATING PAD WITH TEMPERATURE OPTIONS
- 4 DETACHABLE CIRCUIT
- 5 POCKETS FOR PAD WINGS
- 6 BLUETOOTH CONTROL OF TEMPERATURE IN HEATING PAD



HIGH -WAISTED HIPSTER SIZE OF THE SAMPLE			
SIZE	DRESS	WAIST(INCHES)	HIP(INCHES)
L	12-14	30-31	40-41



FRONT



SIDE



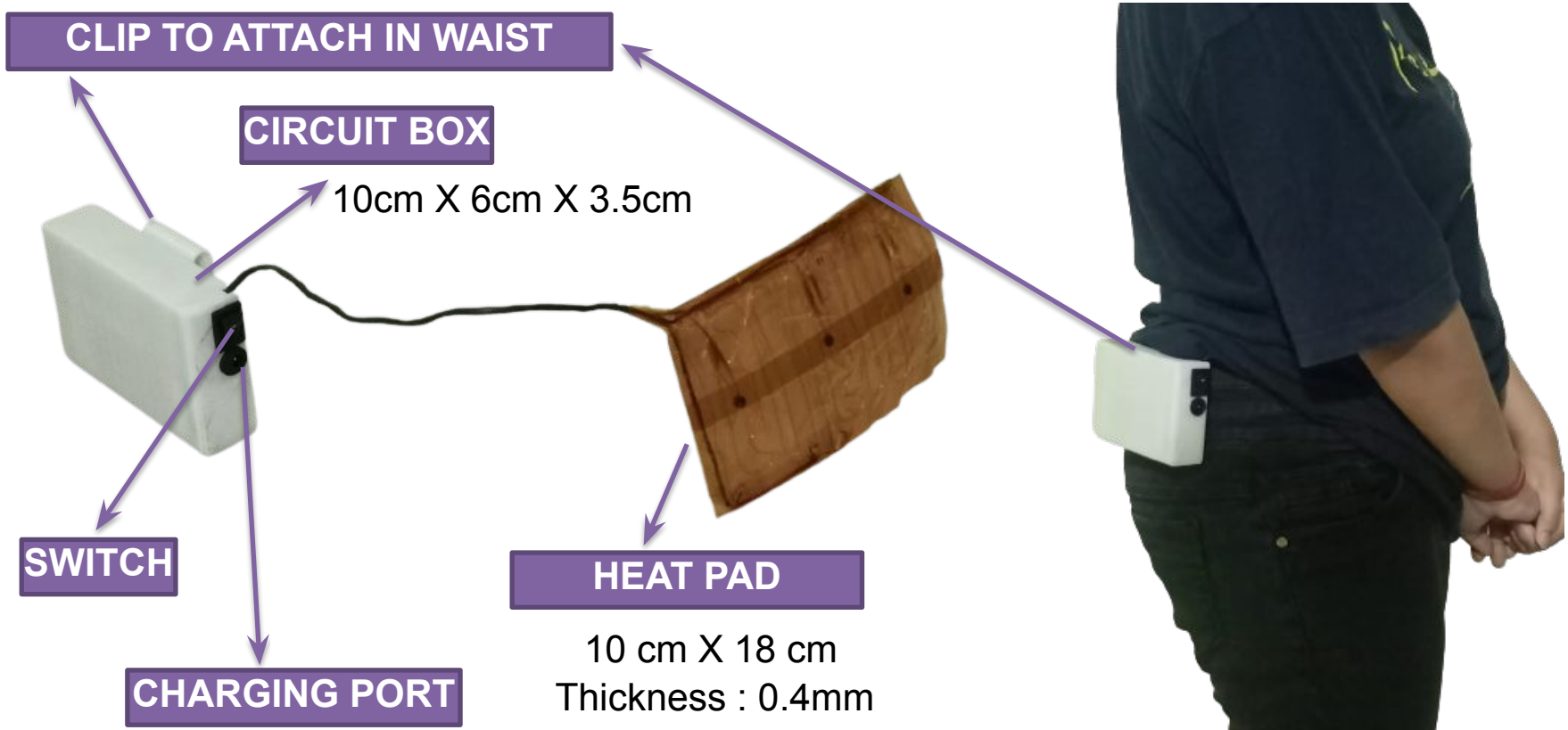
BACK

GARMENT COMPONENTS

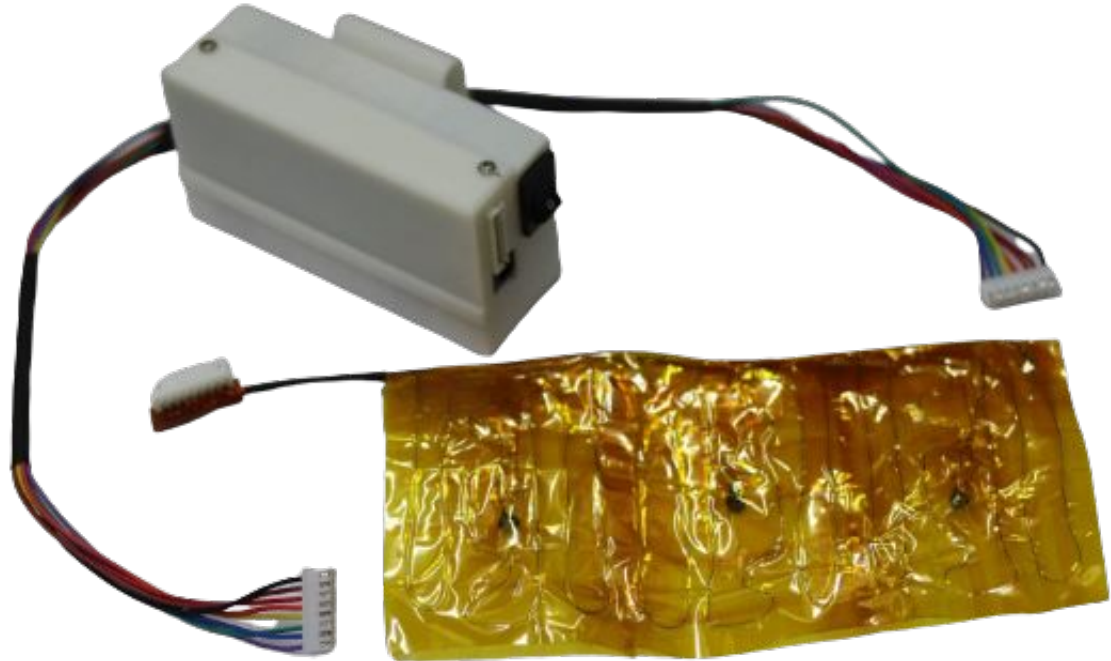
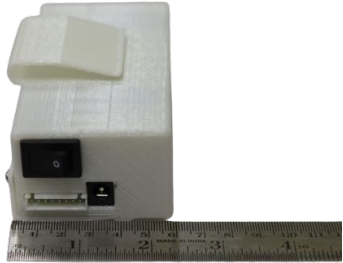
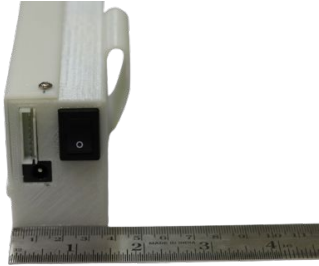
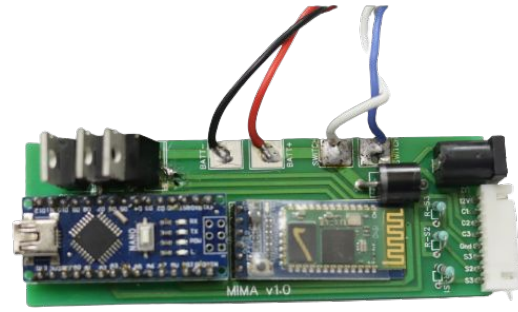
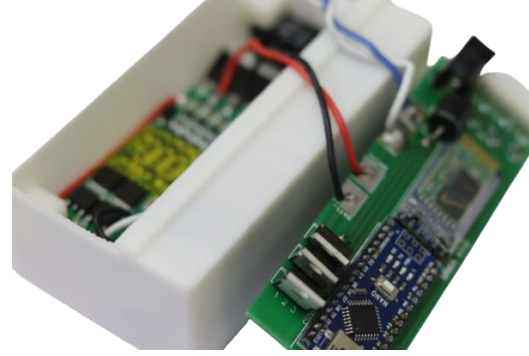


- Body + Gusset fabric composition: 93% Cotton + 7% Elastane
- Leakproof Gusset Interlining: Polyester fleece

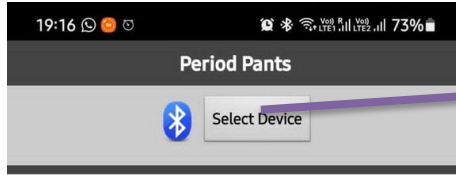
CIRCUIT COMPONENTS



CONTROL MODULE



APP INTERFACE

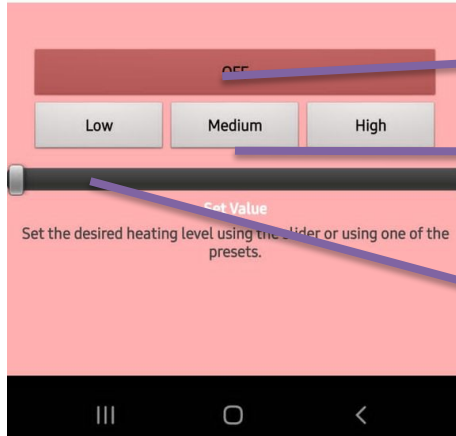


**OPTION TO SELECT THE BLUETOOTH
DEVICE OF MIMA**

The current heating value is:



**CURRENT TEMP
READINGS**



**ON/OFF
SWITCH**

**OPTIONS TO SELECT
TEMP RANGE**

**SCALE TO MANUALLY SELECT
TEMPERATURE**

FEEDBACK

Feedback Criteria	Response	Representative Statement
Demography	MIMA was tried by participants from the age group of 17- 42 years and has helped us with their responses.	
Comfort of MIMA	60% of the participants were overwhelmed	"It feels very pleasant and cozy!"
Design & Shade	MIMA 's design(80%) & shade(100%) was very much appreciated and preferred.	"The shade makes it very easy & confident for me to carry."
Comfortability of wings.	Around 80% of participants found the wings very helpful and comfortable.	"I am glad that someone finally thought about this."
Heat-pad comfortability	Around 60% of the participants appreciate the comfort of the heat -pad and most of them prefer medium range of heat	"Now that I can carry the heat-pad so easily, I don't have to skip a day at workplace"
Ease of clipping	Though 70% of the participants find the clipping very easy, 20% still took a little bit of time to get it done.	It's pretty easy"
Over all feel of the Intimate wear	Around 60% of the women find the over all feel, very comfortable	"MIMA is different yet feels beautiful"
App UI/UX	All the users find the app very user-friendly	"I can find whatever I need, it's a cakewalk"
Placing of heat-pad in the pocket	60% of the participants feel that the placing is very easy	"Its for the first time, I doing it and I get it, I'm quick at it."

COST & DURABILITY OF MIMA

Costing		
One Time Cost	Control Module	₹ 2,000.00
Multiple Purchase	Individual Garment	₹ 650.00
Total Cost Of Combined Components Of MIMA		₹ 2,650.00

Laundering Durability of Garment finish	
No. of Laundry Cycles	Effectiveness of Antibacterial finish
1 st 30 cycles	99.4% to 93.8%
Next 30 cycles	95% to 88%
It can work very effectively up to about 60 cycles.	

LIMITATIONS

- External nature of the control module is undesirable.
- Use of Polyester fleece layer in the gusset instead of leak proof finish to the body fabric.
- Due to limited availability and access to resources, the sample for kids' wear couldn't be developed.

FUTURE SCOPE

- To incorporate the control module as a miniaturized patch on the undergarment itself.
- Product development with the similar features for kids' wear.
- A better feature rich and user-friendly app interface.

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