



SMART TOY

Group-4

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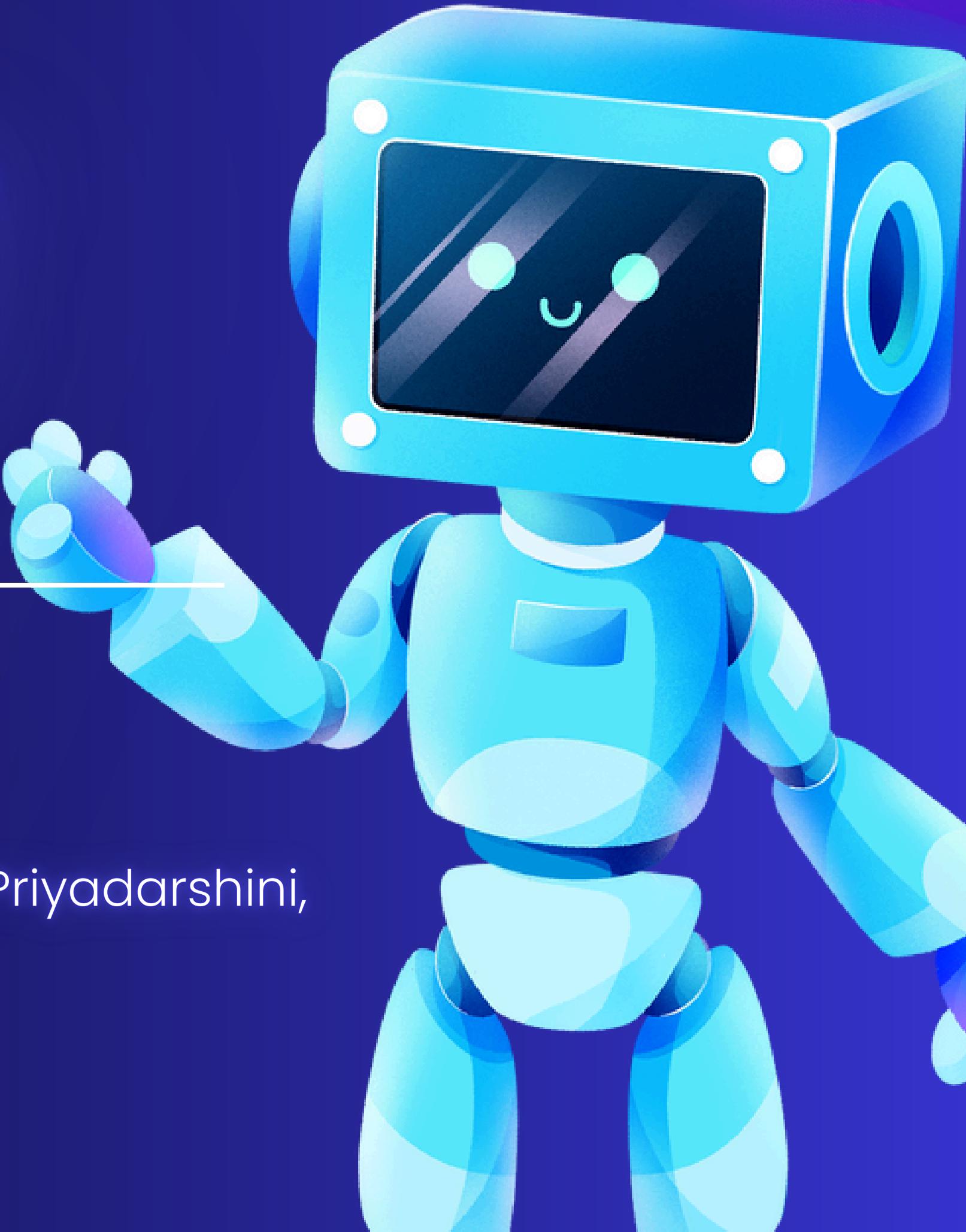




TABLE OF CONTENTS

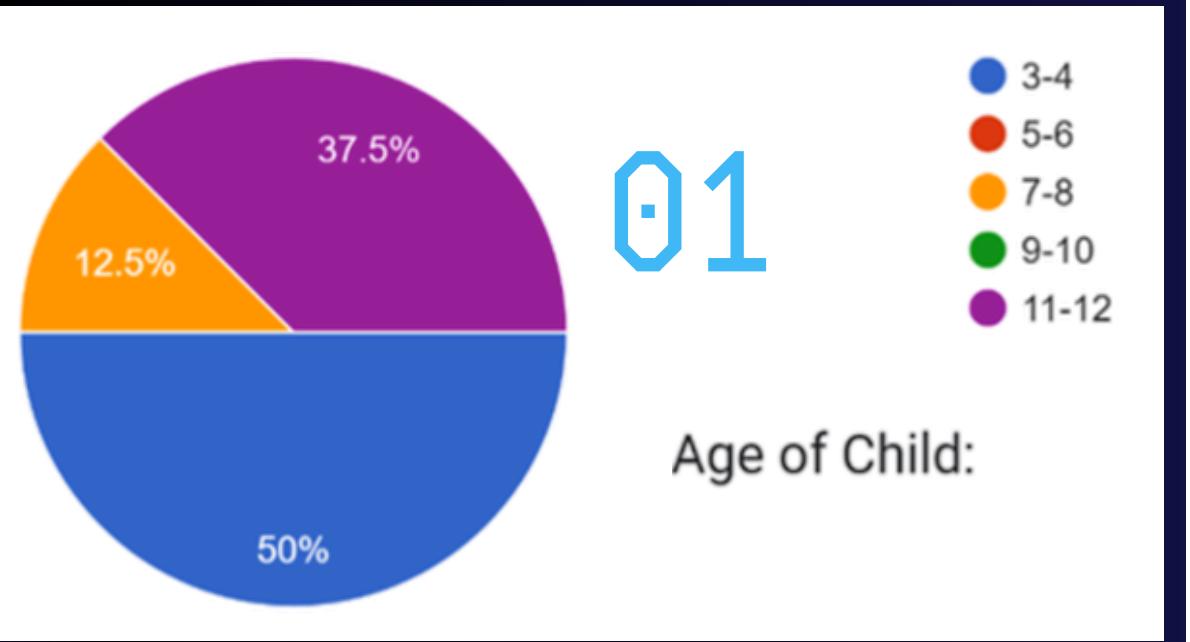
- EMPATHIZE 01
- DEFINE 02
- IDEATE 03
- PROTOTYPE 04
- TEST 05



EMPATHISE - SURVEYS

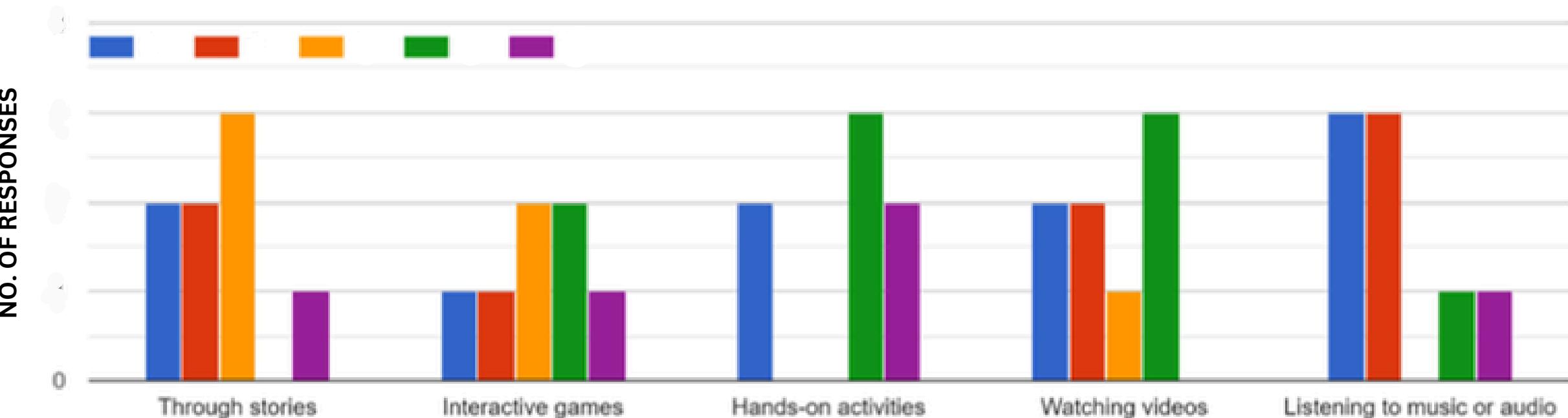


01



How does your child prefer to learn new things? (Rank in order of preference, 1 being most preferred)

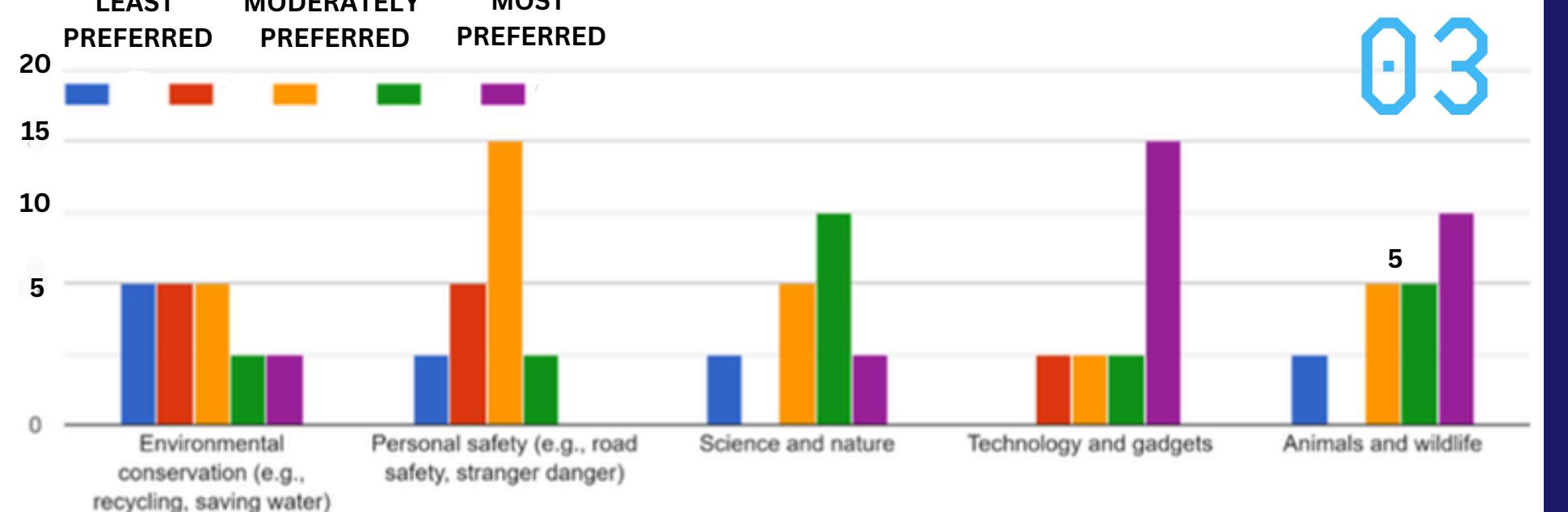
LEAST PREFERRED MODERATELY PREFERRED MOST PREFERRED



02

How interested is your child in the following topics? (Rate each from 1-5, 1 being not interested at all, 5 being very interested)

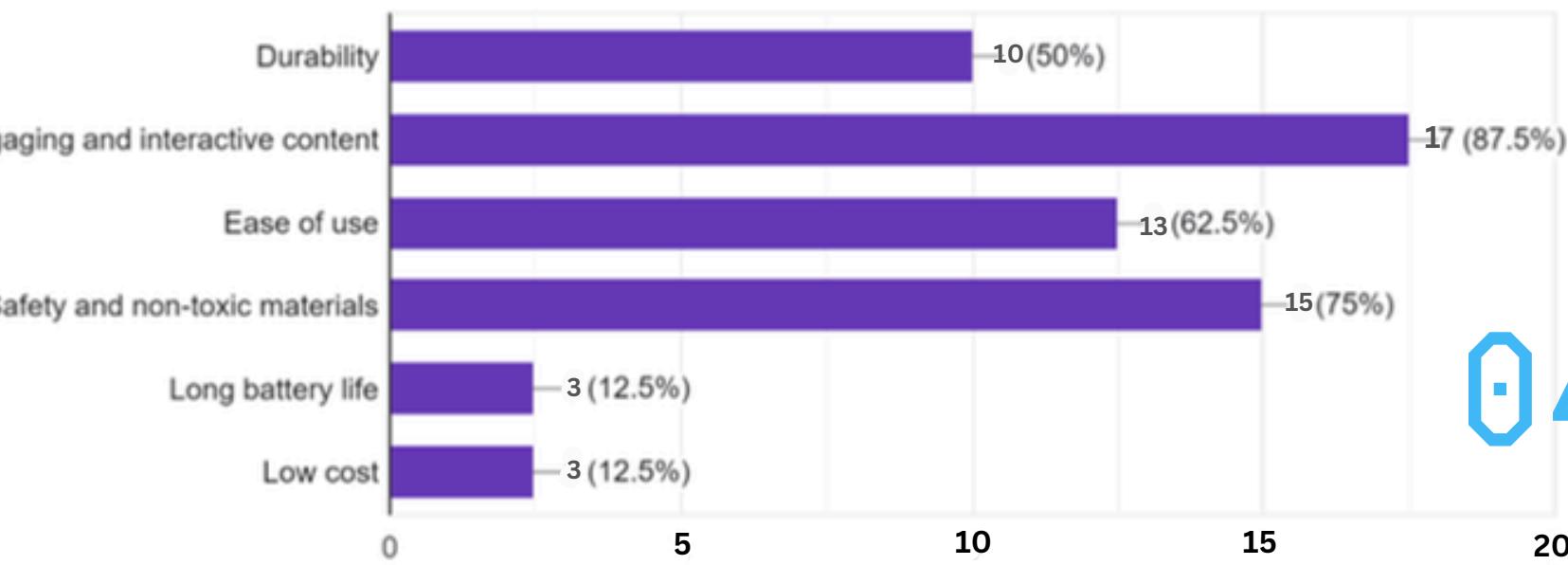
LEAST PREFERRED MODERATELY PREFERRED MOST PREFERRED



03

Which features do you think are most important for a smart educational toy? (Select up to 3)

20 responses

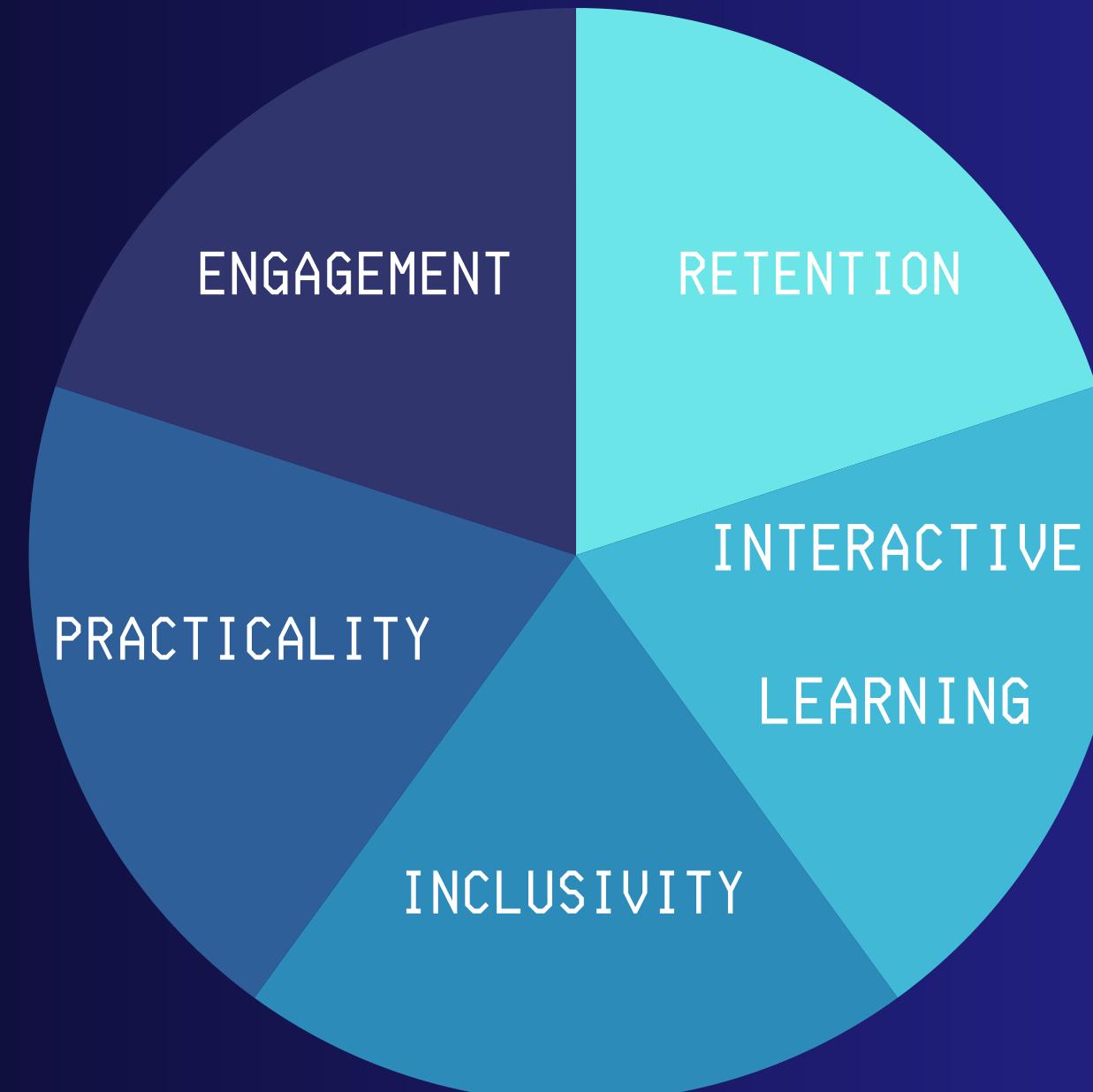


04

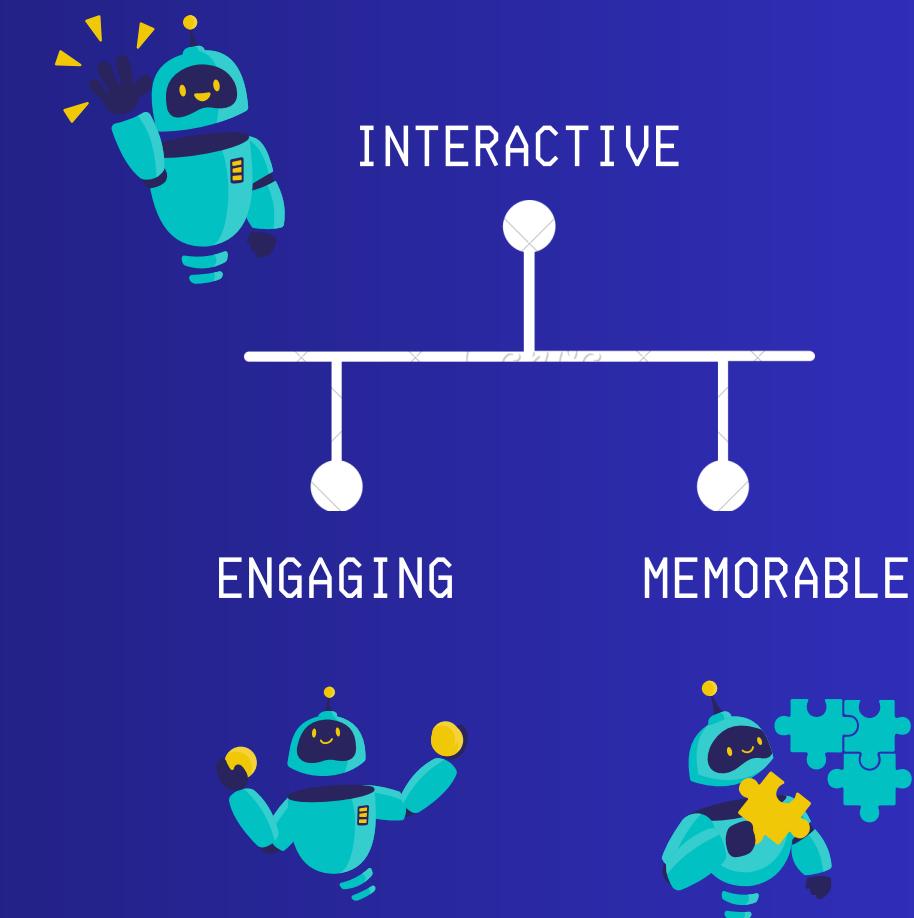
CORE PROBLEM STATEMENT

Transforming Playtime into a Learning Adventure for Future Earth Champions

Traditional learning methods often fail to captivate children's attention and make critical concepts like water conservation, electricity usage, and personal safety seem boring or irrelevant.



How to effectively educate children on important topics by making learning:-



IDEATION



Hello there! I'm Jerry,
your new best friend! I'm
here to make learning fun
and exciting.

PROTOTYPE

(JERRY)

LIGHT SENSORS
FOR AUTO
BRIGHTNESS
CONTROL

MICROPHONES

SPEAKERS

MOTION
SENSORS AND
PROXIMITY
SENSORS

TEMPERATURE
SENSOR FOR
OVERHEAT
DETECTION

CAMERA
WIDE SCREEN
DISPLAY

CONTROL BUTTONS

STORAGE

PROJECTOR

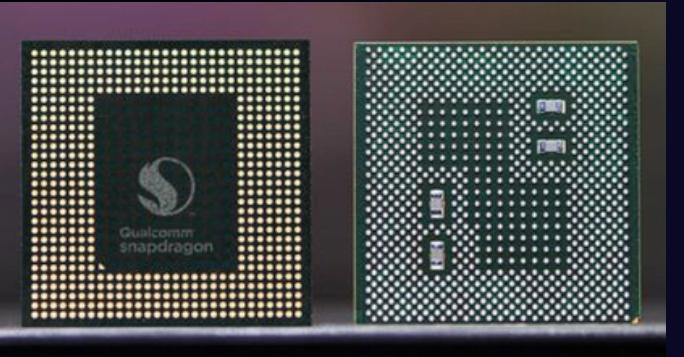
WHEELS FOR TASK LIKE
ROTATION
(MOTOR INTEGRATED)

PROCESSOR

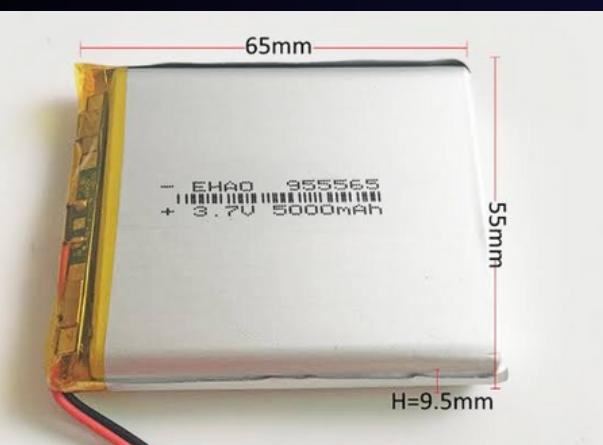


COMPONENTS

PROCESSOR
TI SITARA AM62A



BATTERY
LITHIUM 5000MAH



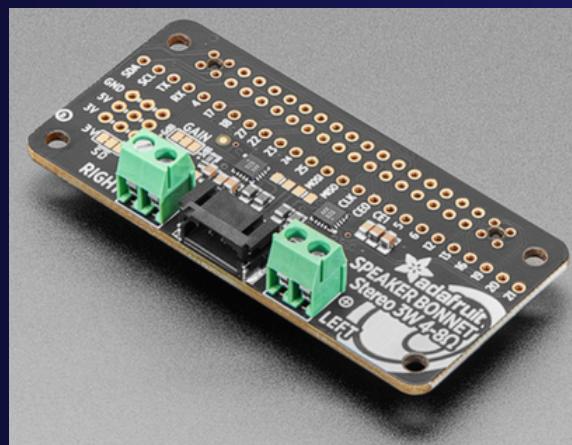
SENSORS



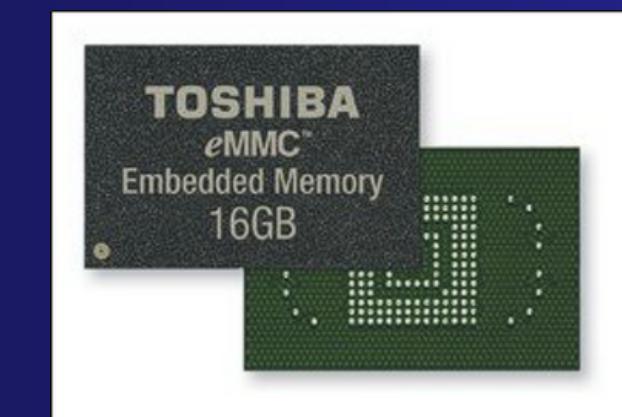
MEMORY
4GB LPDDR4 RAM



SPEAKERS
STEREO(ADAFRUIT)



INTERNAL STORAGE
32GB EMMC



DISPLAY
5 TO 7-INCH CAPACITIVE



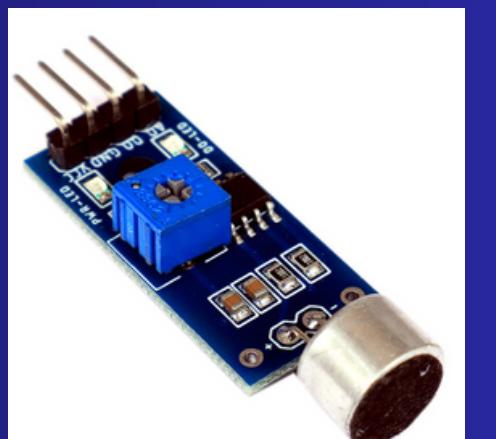
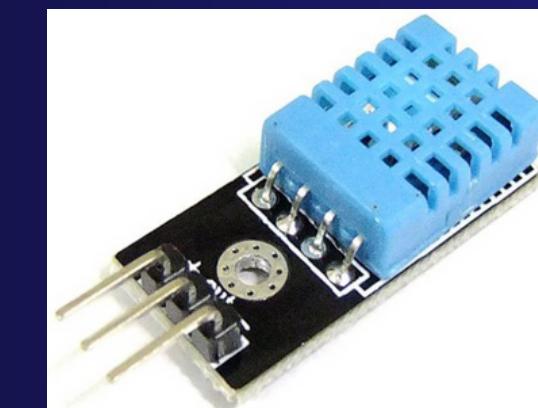
MICROPHONE ARRAY
SPH0645LM4H-B



CAMERA 1080P HD



LIGHT,
TEMPRATURE,
SOUND SENSOR



DETAILS



UI FRAMEWORK(Flutter/React Native, Swift)

NLP, AI, ML(TensorFlow Lite/Google Dialog Flow)

AR DEVELOPMENT(Google AR Core)

VOICE RECOGNITION (GOOGLE CLOUD SPEECH-TO-TEXT) AND FACIAL RECOGNITION(OPEN CV)

MULTILINGUAL SUPPORT(Google Assistant API)

CONNECTIVITY AND IOT INTEGRATION(Microsoft Azure IoT Hub / Google Cloud IoT Core)

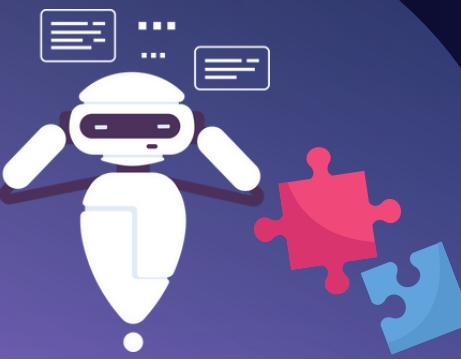
SECURITY AND PRIVACY(Open SSL)FOR DATA ENCRYPTION

SECURE CLOUD STORAGE(AMAZON WEB SERVICES/ GOOGLE CLOUD PLATFORM)

PARENTAL CONTROL AND PROGRESS TRACKING(QUESTUDIO / GOOGLE FAMILY LINK), GOOGLE ANALYTICS FOR FIREBASE FOR TRACKING

CONTENT MANAGEMENT AND DEVELOPMENT(CONTENTFUL, STRAPPY ,UNITY)

FEATURES:



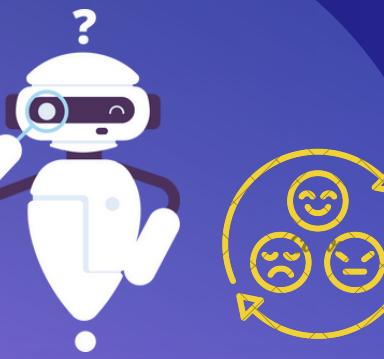
GAMES AND QUIZZES

- Recycling sort game
- DOs and DON'Ts game
- What will you do? (QnA)



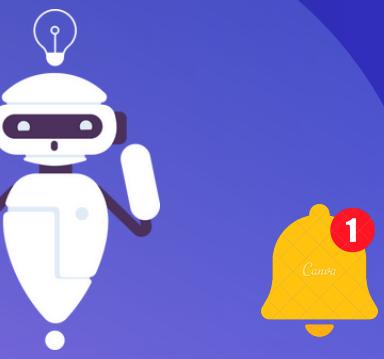
REWARDS AND FEEDBACK

- Music, Clapping, etc.
- Badges and visual treasure like in games.
- Feedback based on reaction and answers



EMOTION DETECTION AND FACIAL RECOGNITION

- Comfort and Engagement
- Interaction and security
- Encouragement



REMINDERS AND TIPS & SAFETY LESSONS

- Seasonal content
- Eco-tips
- Food for thought
- Good touch / Bad touch





MORE FEATURES

NON-TOXIC

COMPATIBILITY

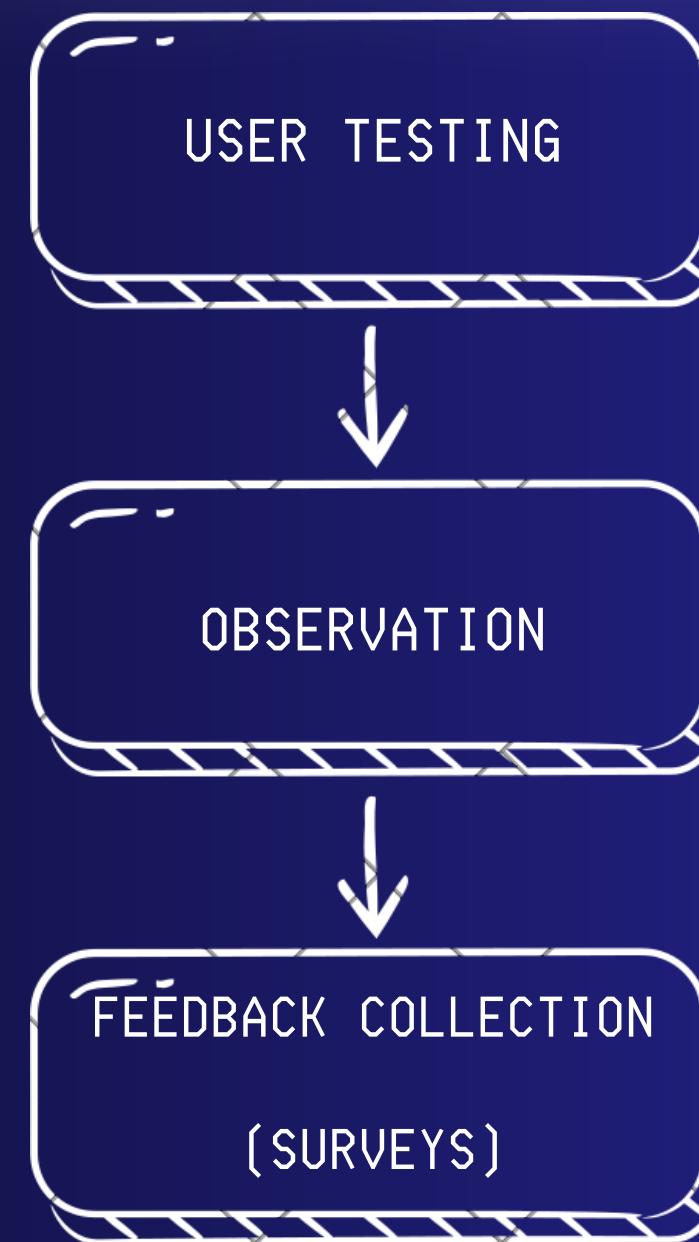
DURABILITY

THERMAL
RESISTANCE

COST-
EFFECTIVE



TESTING PROCESS



FEEDBACK RECEIVED: POSITIVE (HIGH ENGAGEMENT AND APPRECIATION OF EDUCATIONAL VALUE)

REFERENCES

IEEE SENSORS JOURNAL

SENSORS

SECURITY

THANK YOU!