



B-ELSA

Baby - English Learning and Security Assistant.

Supervisor



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Co Supervisor



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Team Members



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Presentation Outline

- Introduction
- Research Problem
- Literature Survey
- Existing Systems
- Objectives
- Methodology
- Tools and Technologies
- Expected Outcome
- Work Breakdown Structure
- Q&A





Introduction



- What is a “B-ELSA” ?
- Major components of the system
 - IOT device and face recognition feature.
 - Voice recognition feature.
 - Character recognition feature.
 - Report generation system.



Research Problem



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MAIN LITERATURE REVIEW



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- Voice actuation with context learning for intelligent machine control.
- 3D Human face recognition using point signature.
- An integrated approach for analysis base report generation.
- A color prediction system for interactive drawing based image retrieval on mobile devices.

Proposed system



IOT device and face
recognition feature
generation

Voice recognition module
generation

B-ELSA

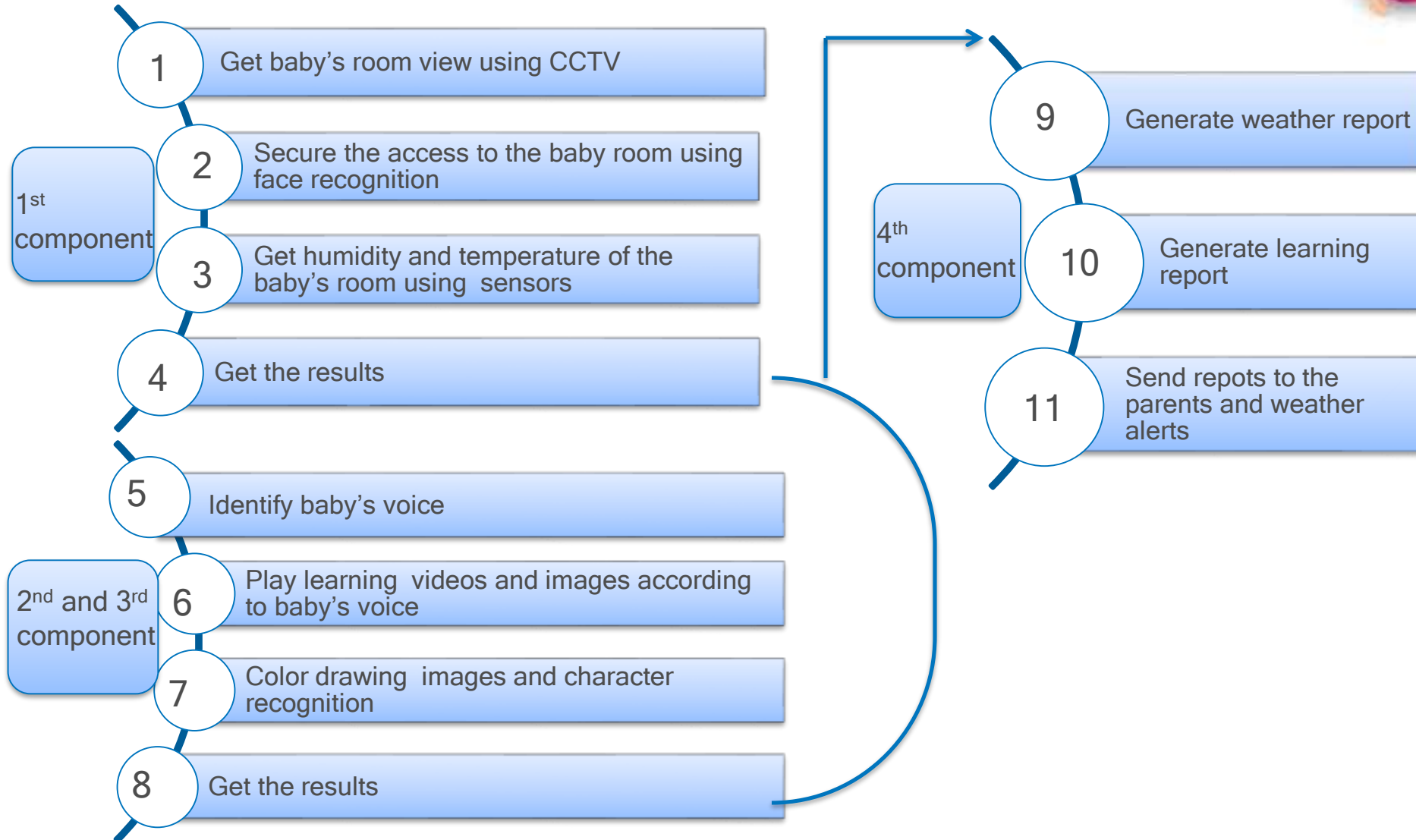
Character recognition
module generation

Report generating system

Flow chart



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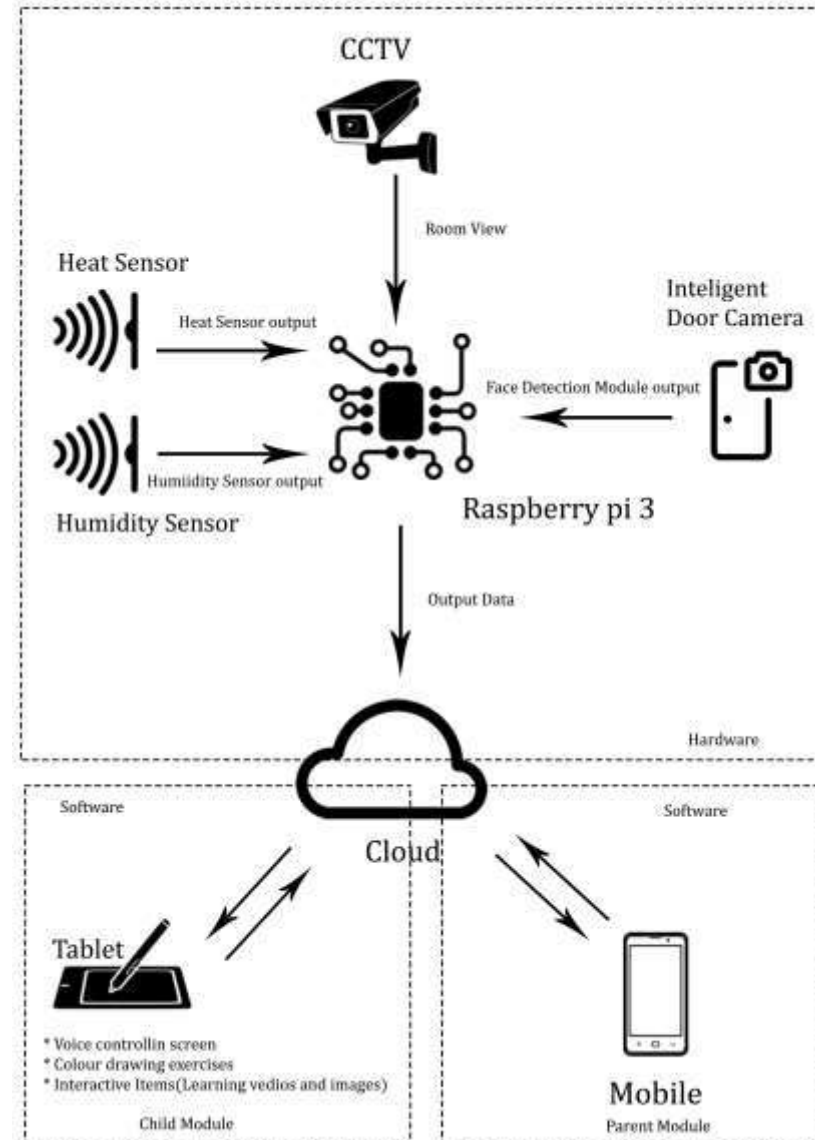




SYSTEM ARCHITECTURE



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SYSTEM COMPARISON



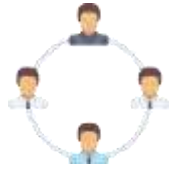
Feature	Propose system	Gilobaby kids robot toy [2]	Lingokids [1]	Netnanny [3]	Smarty ABC tablet interactive educational toy [4]
1. IOT device and face recognition feature generation	✓	✗	✗	✓	✗
2. Voice recognition module generation (Interactive with learning)	✓	✗	✗	✗	✓
3. Character recognition module generation	✓	✗	✗	✗	✗
4. Report generating system (Learning)	✓	✗	✗	✗	✗



OBJECTIVES



- Implement a security IOT device.
- Implement Voice controlling screen with English lessons.
- Implement Image and character recognition in child learning system.
- Implement child progress report system.



INDIVIDUAL COMPONENTS



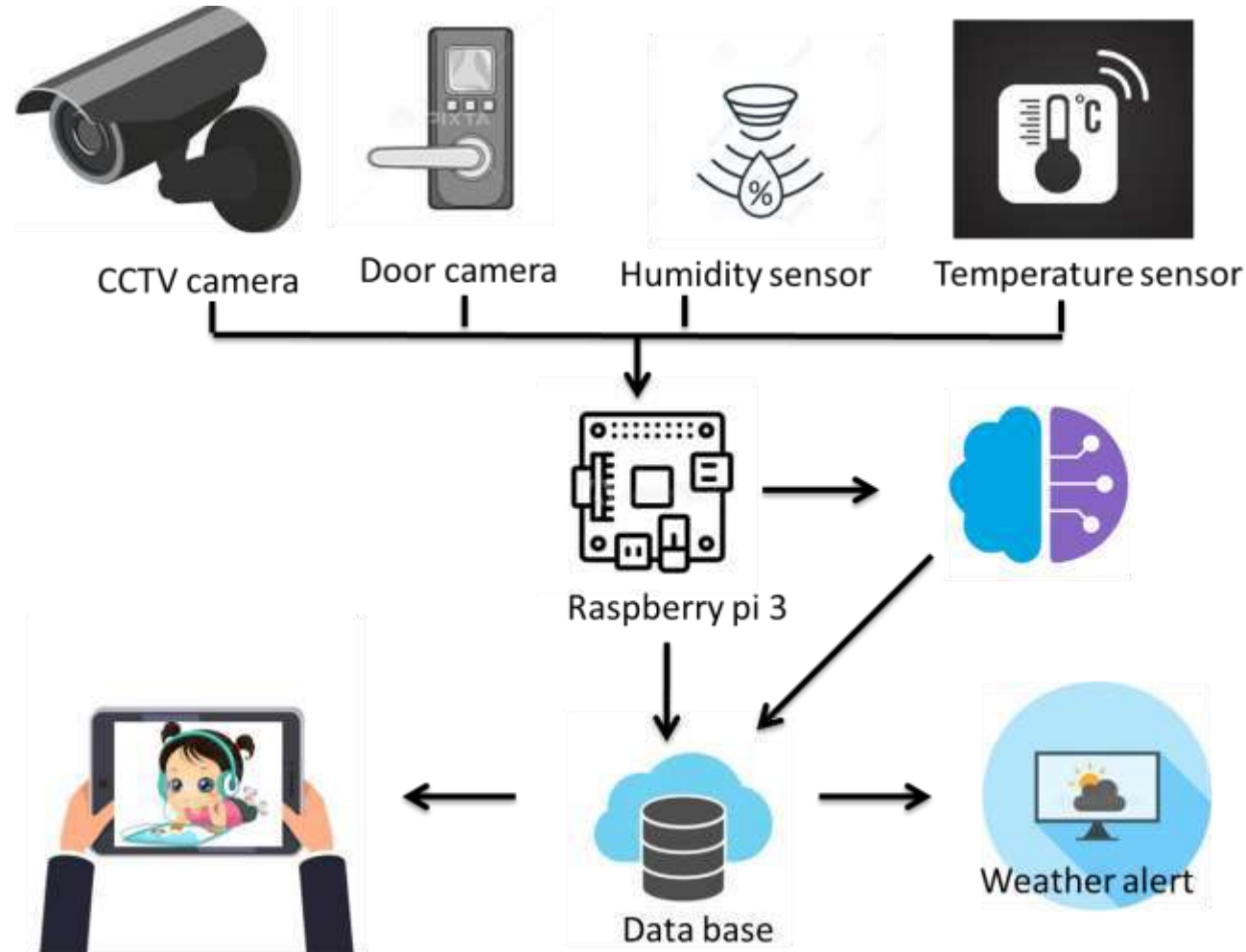
Member	Component	Tasks
Shehan D.S	IOT device and face recognition feature generation	<ul style="list-style-type: none">• Get room view• Get images using face detection camera.• Get humidity and temperature data using sensors.• Mobile application developing.• Documenting.• Testing.

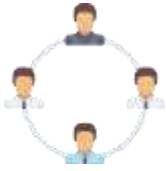


METHODOLOGY



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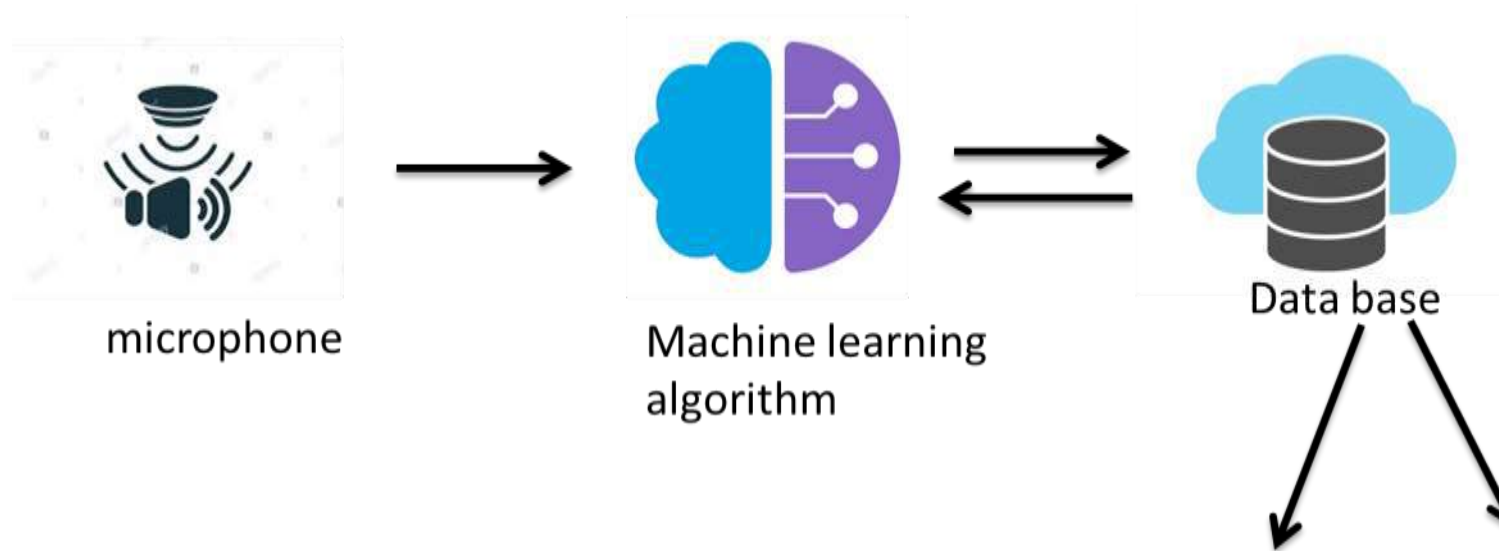


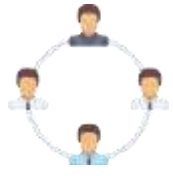
INDIVIDUAL COMPONENTS



Member	Component	Tasks
Divyanjali S.N.S	Voice recognition module generation	<ul style="list-style-type: none">• Compare baby's voice and data set keywords using machine learning.• Mobile application developing.• Documenting• Testing.

METHODOLOGY





INDIVIDUAL COMPONENTS

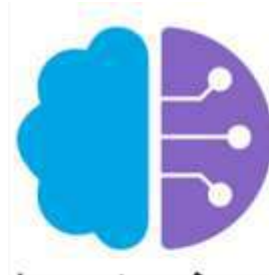


Member	Component	Tasks
Sankalpa H.A.B	Character recognition module generation	<ul style="list-style-type: none">• compare original image and upload image using image processing.• Mobile application developing.• Documenting• Testing.

METHODOLOGY



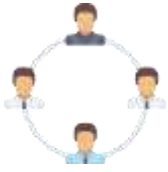
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Machine learning
algorithm



Compare process



INDIVIDUAL COMPONENTS



Member	Component	Tasks
Madushani N.G.H	Report generating system	<ul style="list-style-type: none">• Predict the results• Generate reports.• Mobile application developing.• Documenting• Testing.

METHODOLOGY



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Data base



Predict & generate



Learning report



Weather reports



- Ionic





- Python
- Java





HARDWARE RESOURCES



- **Developers**
 - Web Server
 - Core i5, 8GB RAM Computer
- **Users**
 - Smart phone.
 - Tablet pc.

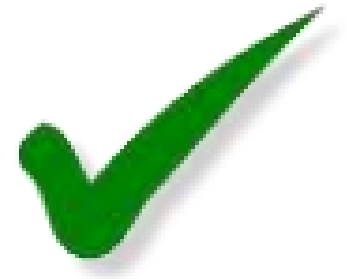


USES AND BENEFITS



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- Can easily monitor the child.
- Can easily analyze the child learning progress reports.
- can easily get weather alerts.
- Interactive learning system for the child.





BUDGET

Face recognition camera-	
CCTV camera	-
Raspberry pi 3	-
Sensors	-
Jumper cables	-
Documentation	-
 Total	 -



Identified Risk



- Working with new technologies within short period.
- Research Group member related problems (Sick, absent...)



Work Breakdown Structure



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Shehan D.S	Divyanjali S.N.S	Sankalpa H.A.B	Madhushani N.G.H
IOT device and face recognition feature generation.	Voice recognition feature generation.	Character recognition feature generation.	Report generation system.

Commercialization of the product



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Tablet pc



B-ELSA



Color drawing book



IOT device

References



- [1] <https://www.lingokids.com/>
- [2] <https://www.amazon.com/Interactive-Controlled-Repeating-Recognition-Recording/dp/B07MGB49QL>
- [3] https://www.netnanny.com/alt/?utm_expid=.hzApWHJ5Te-_IKor7gASVA.1&utm_referrer=https%3A%2F%2Fwww.google.com%2F
- [4] [amazon.com/Just-Smarty-Interactive-Educational-Development/dp/B07NBLQBBT](https://www.amazon.com/Just-Smarty-Interactive-Educational-Development/dp/B07NBLQBBT)



THANK YOU...!

Q & A