



CHRIST
(DEEMED TO BE UNIVERSITY)
BANGALORE · INDIA

PRESENTATION

BYJU'S OSMO WORKSHEET

Krethick Chakravarthy

Game Development

Guides:-

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EXTERNAL: Arvind Sadasivam

MISSION

CHRIST is a nurturing ground for an individual's holistic development to make effective contribution to the society in a dynamic environment

VISION

Excellence and Service

CORE VALUES

Faith in God | Moral Uprightness
Love of Fellow Beings
Social Responsibility | Pursuit of Excellence

TOPICS DISCUSSED:-

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- Byju's' app was developed by Think and Learn Pvt Ltd, established by Byju Raveendran in 2011. Byju's has acquired Osmo, a Palo Alto-based education startup. **'Osmo Worksheets'**.
- These are interactive worksheets for kids in and below Grade 3. These worksheets are programmed and validated based on user gameplay. Each time the player successfully accomplishes the objective and wins, the system will learn to take advantage of the winning strategy, and the game will continue with a new objective to be achieved and a now slightly harder task.
- The game consists of multiple worksheets. Each time the player completes a certain worksheet, he/she goes to the next state. Coding in Unity is done through C#. Every action that takes place in the game has to be triggered using a C# script.



INTRODUCTION

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- Byju's has acquired Osmo, a education startup. '**Osmo Worksheets**'.
- These are interactive worksheets for kids in and below Grade 3. These worksheets are programmed and validated based on user gameplay.



PROBLEMS FACED BEFORE:-

- Adult Supervision Required all the time.
- Evaluation is time consuming.
- Too much stress.
- Learning becomes boring.

PROPOSED SYSTEM MODEL

- Character Guidance
- Auto Correction
- Hint System



Candy Crush

PROPOSED SYSTEM MODEL

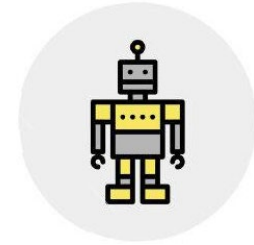
- Objective:

Help children's solve worksheets with the help of interactive guidance system(Character) and hint mechanics.



FUNCTIONAL REQUIREMENTS

- 1) Player
- 2) Jane
- 3) Progress
- 4) Achievements
- 5) Settings
- 6) Hint System



NON-FUNCTIONAL REQUIREMENTS

- 1) Replayability
- 2) Frame rate
- 3) Speedy response time
- 4) Required resources
- 5) Platform
- 6) Maintainability



SOFTWARE AND HARDWARE REQUIREMENTS

HARDWARE

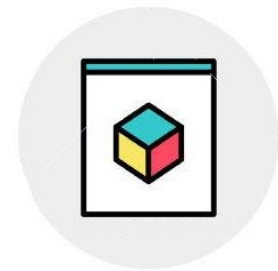
Processor: MediaTek

Storage : Space 4 GB

RAM: 2 GB

SOFTWARE

Operating System: Android 7.0



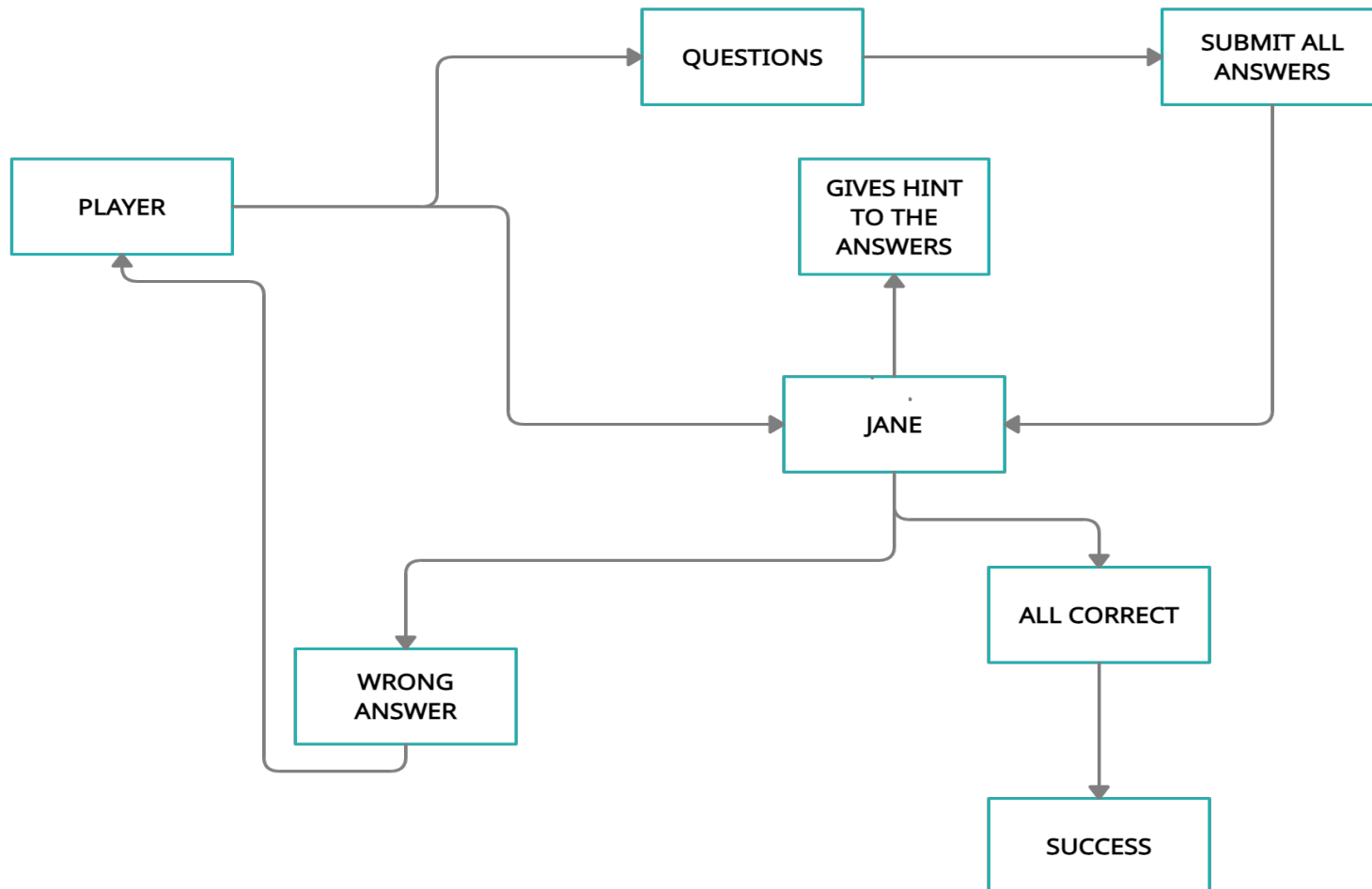
PROGRAMMING LANGUAGE AND ENGINE

C#

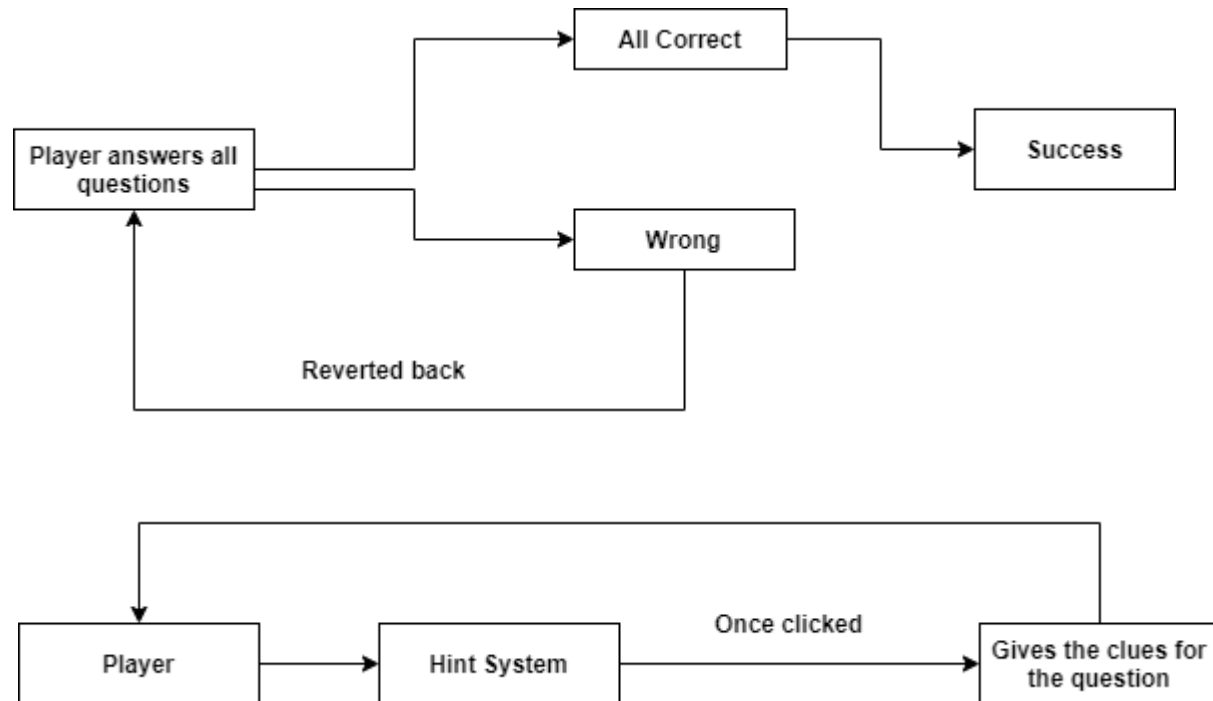
Unity

Bolt

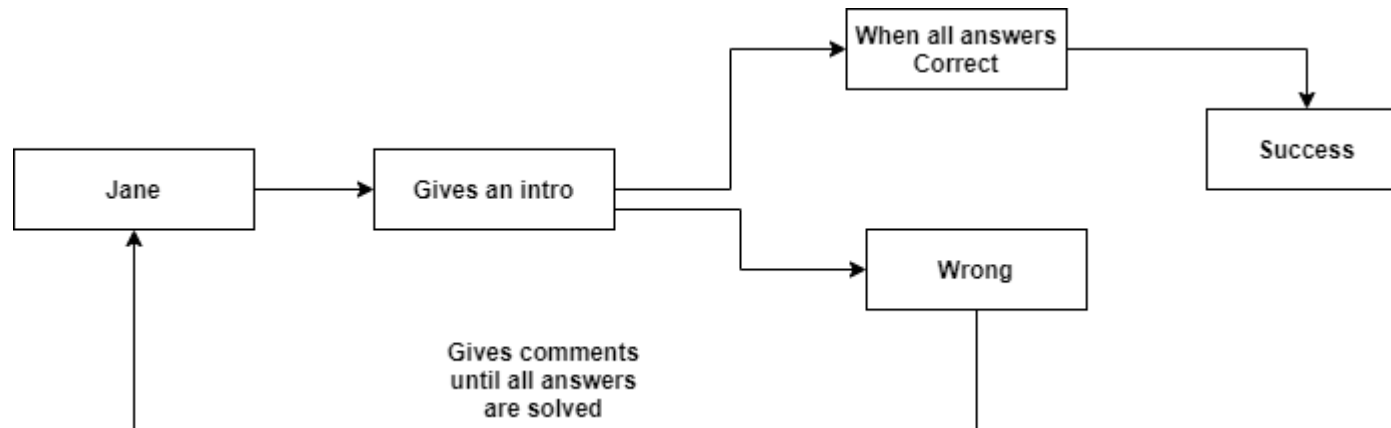
BASIC UNDERSTANDING. SYSTEM MODEL.



SYSTEM DESIGN (Part 1)

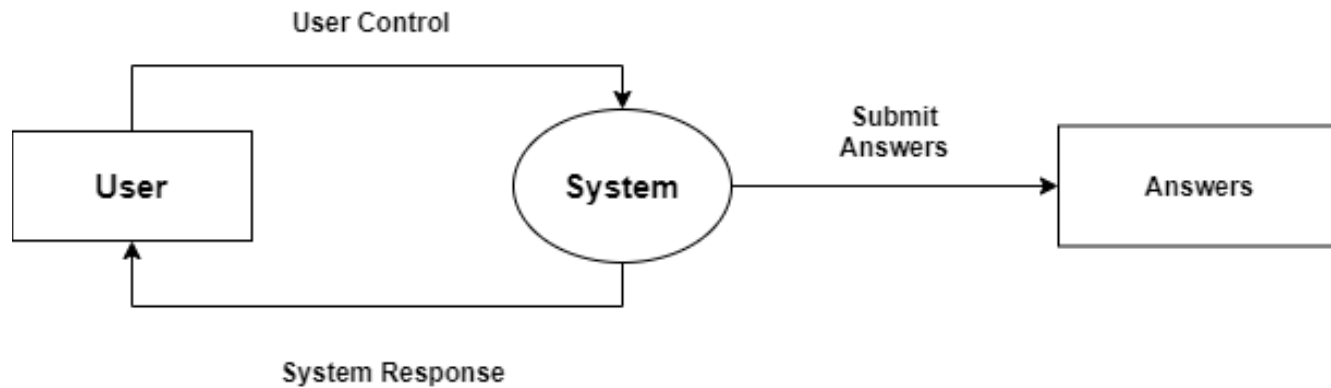


SYSTEM DESIGN (Part 2)



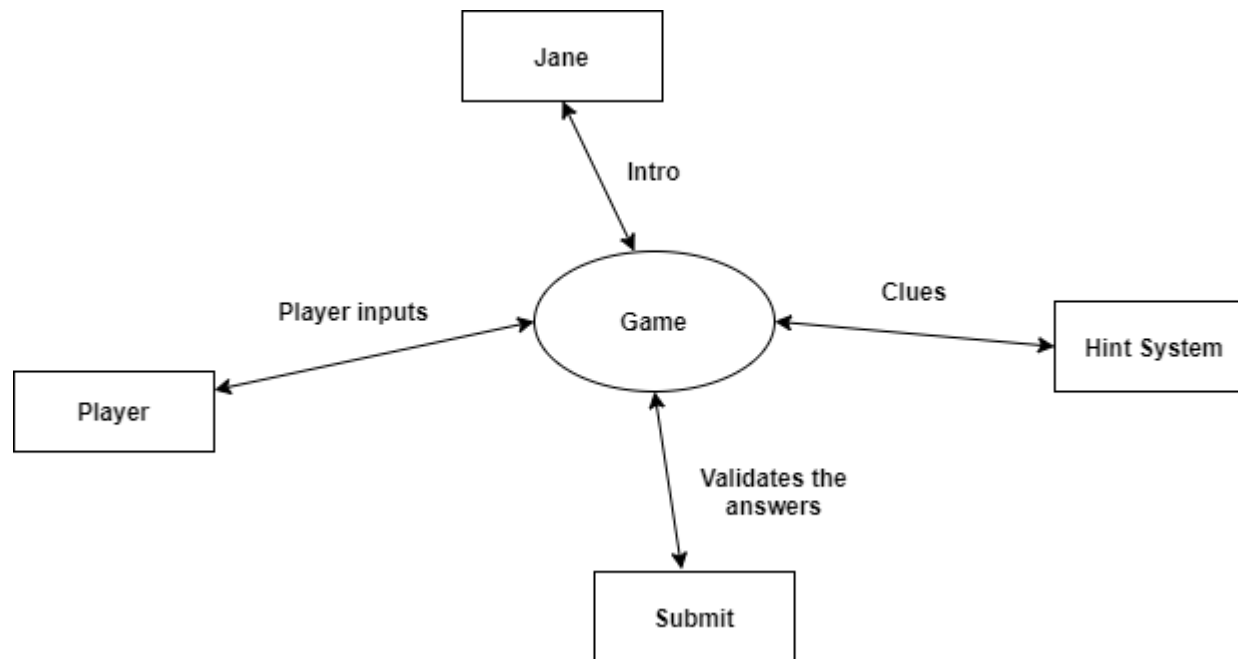
DATA FLOW DIAGRAMS

LEVEL 0:



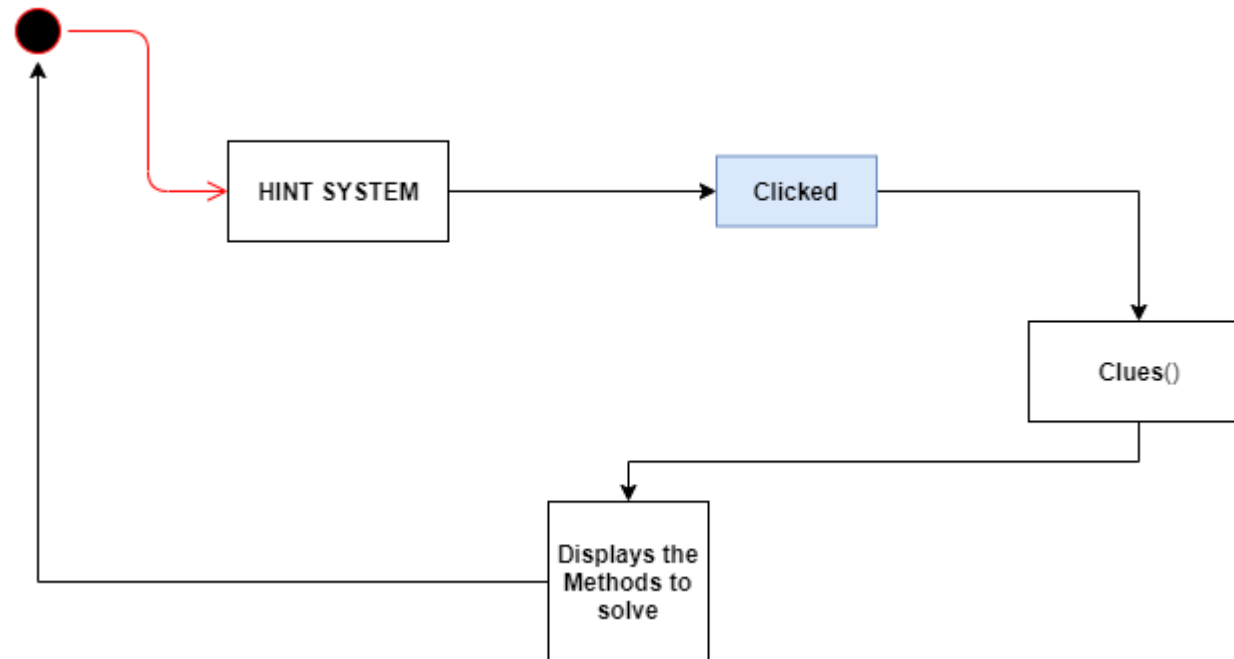
DATA FLOW DIAGRAMS

LEVEL 1:



DATA FLOW DIAGRAMS

LEVEL 2:

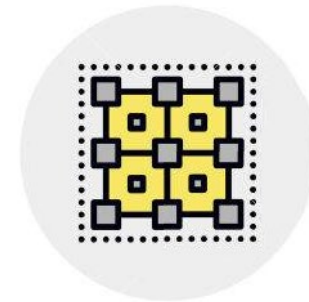


ARCHITECTURAL DESIGN

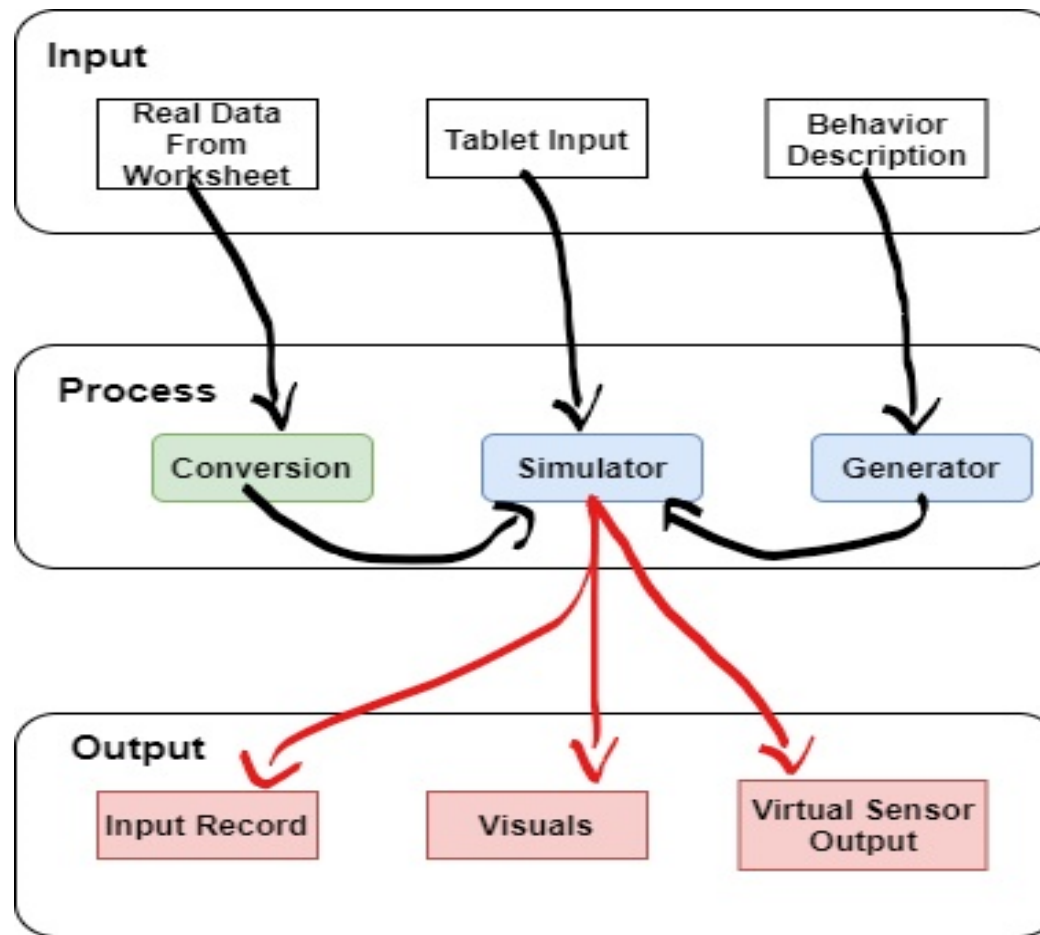
Represents the structure of data and program components that are required to build the software. (Tier-ed architecture)

4-tier Architecture in use:

- Presentation layer (PL)
- Data service layer (DSL)
- Business logic layer (BLL)
- Data access layer (DAL)



THREE-TIER ARCHITECTURE



DATABASE

- o As it is a game development project we don't work on DB design or ER diagrams.
- o But we use cms to access different worksheets for implementation.

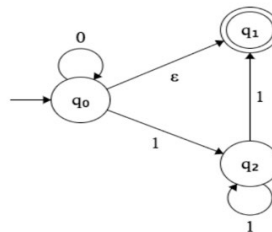


RESOURCES : Worksheets		Search
<input type="checkbox"/>	Nickname	4791 Worksheets
<input type="checkbox"/>	2-s-05-01-04	OPEN OPEN STUDIO
<input type="checkbox"/>	3-s-01-01-05	OPEN OPEN STUDIO
<input type="checkbox"/>	3-s-01-01-04	OPEN OPEN STUDIO
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<input type="checkbox"/>	2-s-05-01-08	OPEN OPEN STUDIO
<input type="checkbox"/>	2-s-04-01-35	OPEN OPEN STUDIO
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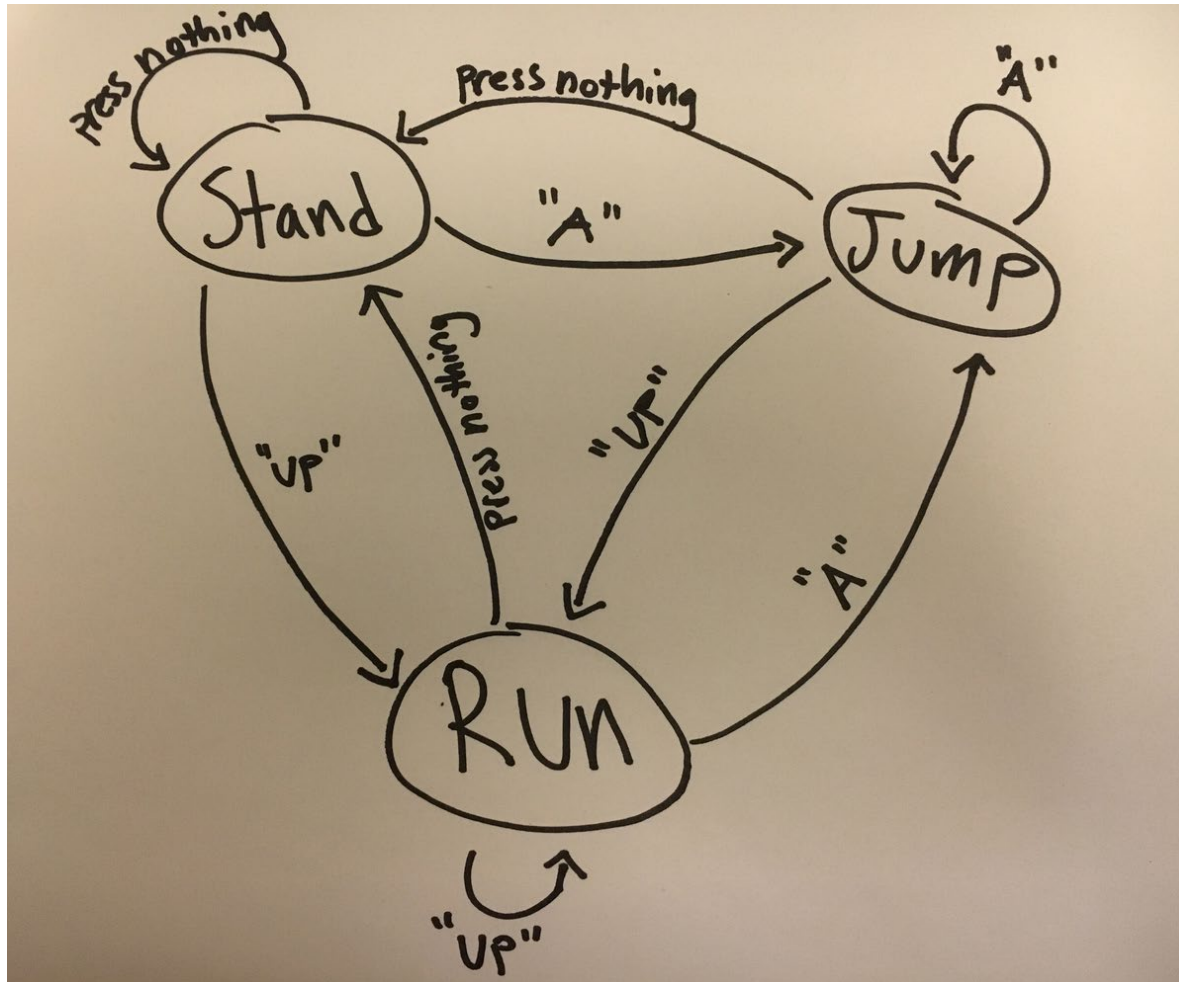
Finite State Machines: -

- It is called Finite State automation.
- It is a computational model that can be implemented with Software & Hardware.
- It can be used to simulate sequential logic and some computer programs.
- **Transition: -**

The process or a period of changing from one state or condition to another.



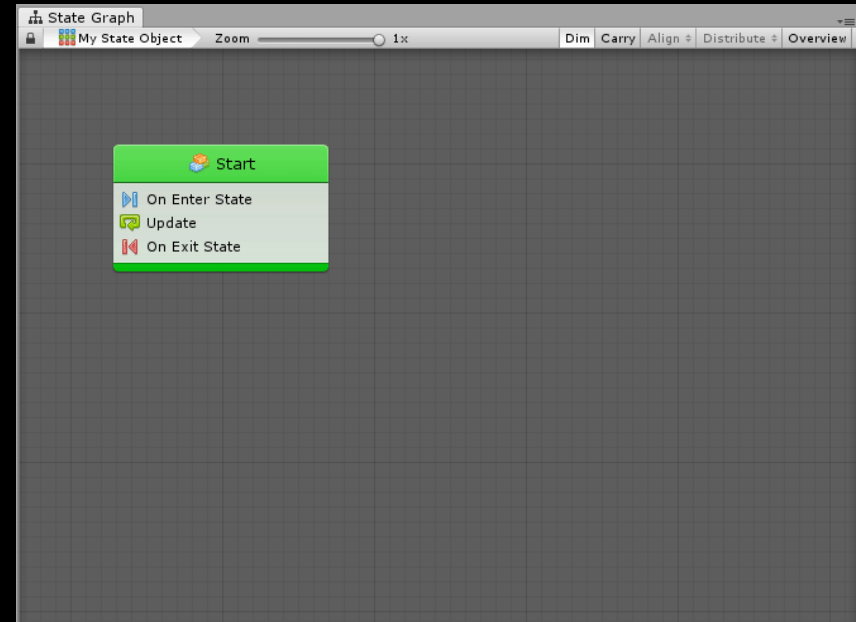
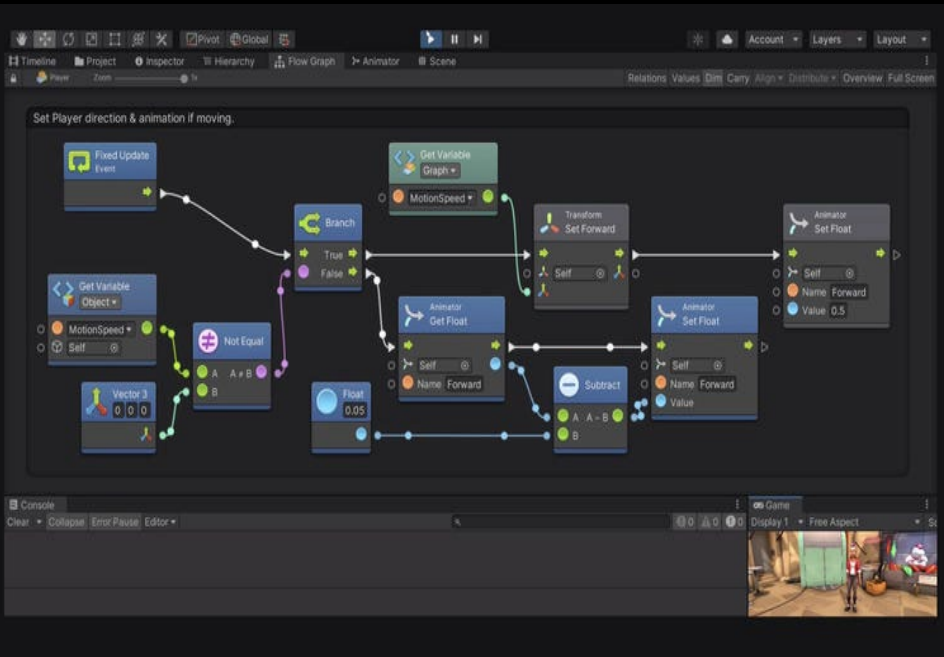
SAMPLE EXAMPLE HOW FSM WORKS



BOLT FRAMEWORK: -

- Bolt is a visual scripting solution for use within Unity. Bolt is used to develop and work on your application without having to write code.
- It helps all team members create scripting logic with visual, drag-and-drop graphs instead of hand-writing code.
- Artists and designers can get more done in the editor without requiring help from programmers, and it can help programmers quickly implement ideas for faster prototyping and iteration.
- Non-programmers can also make use of node graphs created by more technical team members.

BOLT FRAMEWORK

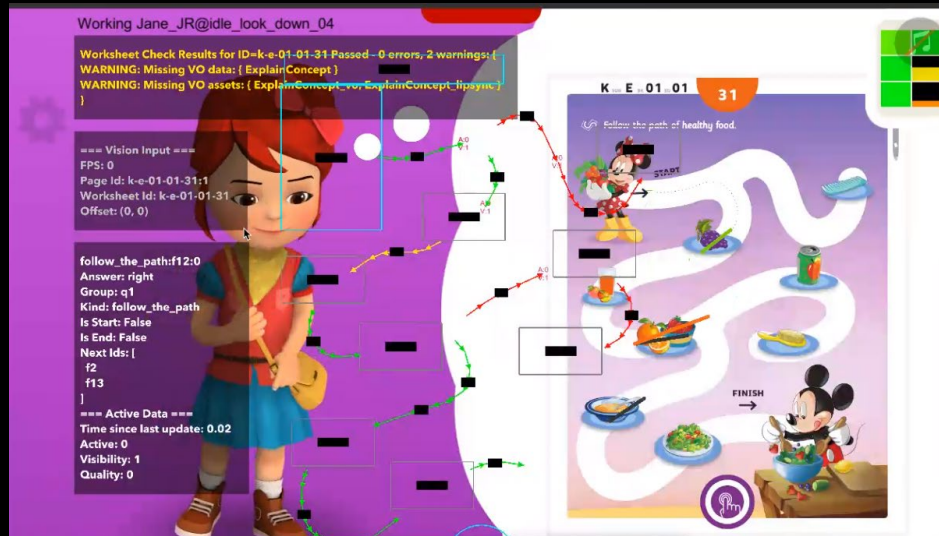


BENIFITS

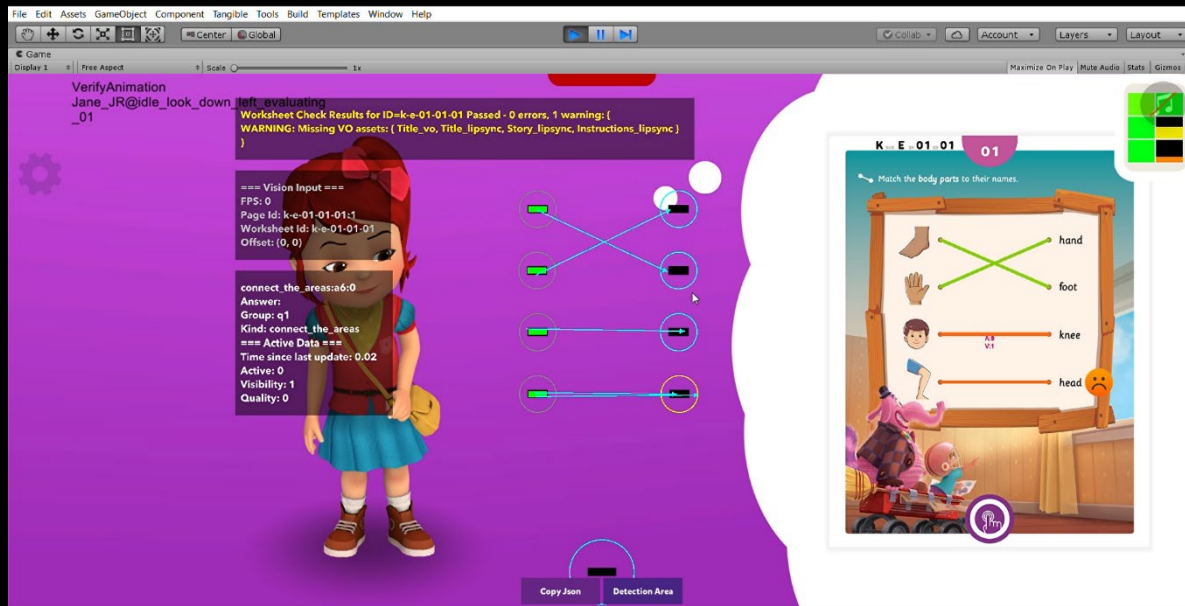
- o Learning becomes interactive
- o Guidance/hint system helps the child to solve questions easier.
- o Different worksheets with different problems.
- o Learning becomes entertaining



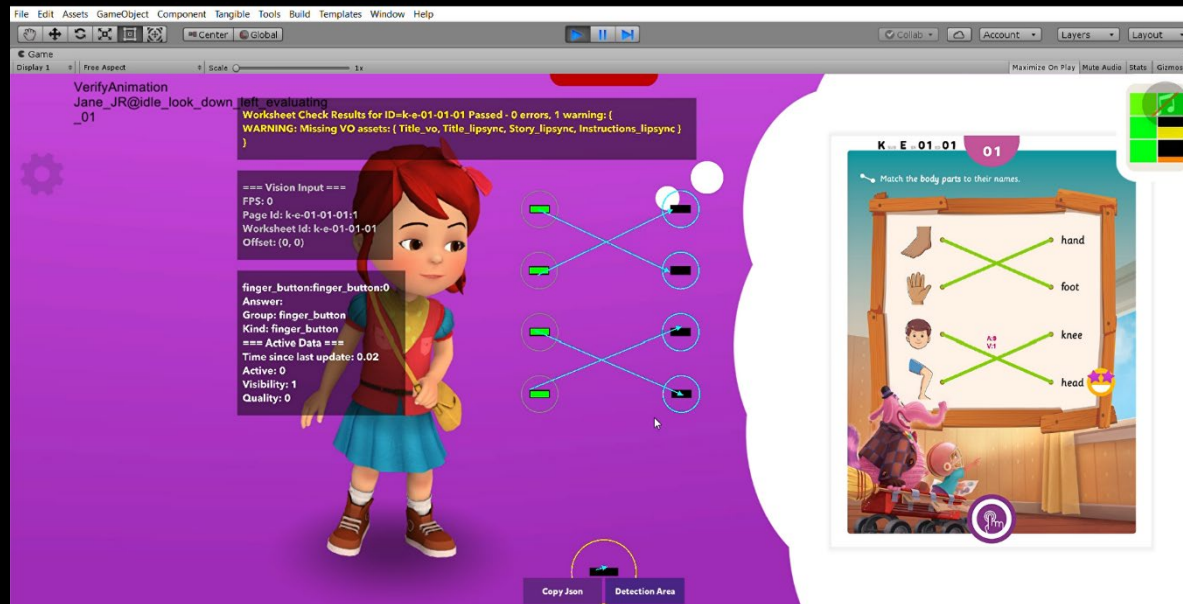
PROGRESS 1



PROGRESS 2



PROGRESS 3



REFERENCES:-

- <https://app.creately.com/diagram/2MvVtNFizqr/edit>
- <https://app.diagrams.net/>
- <https://www.patreon.com/posts/32320915>

THANK YOU

