



Welcome to Mission Mars

Sound Module – Part 3/3



MODULE 5



Making of Sprite & Background Libraries – Consolidation Project





“A man is outside a lift and has to go to the second floor. Both his hands are full. He cannot press the buttons.

Convert this manual lift into a Sound Operated Automatic lift, & show him going to the second floor”.

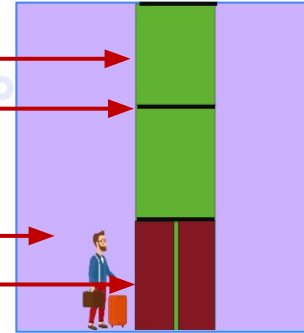
Any ideas on how it will be done.





The thought process of this code starts with making a backdrop that shows:

- The lift's well. →
- The floor markings. →
- A man as our sprite. →
- The door of the lift (brown). →



It's made using the **paint option** under My Backgrounds.



Concept of Costumes in Coding

Before going further let us understand the concept of costumes in Coding.

A costume is one out of many different frames (pictures) of a sprite or a backdrop.

Since in this code the sprite is not changing, it does not require any costumes.

However, since the door is changing - opening, closing, going up, coming down, it requires costumes that depict these changes or actions.





In this project, in addition to the main backdrop, we need backdrops to show:

- **Open door of lift.**
- **Closed door of lift.**
- **Lift at level 1.**
- **Lift at level 2.**

Costume			
1	2	3	4
Door open	Closed	at level 1	at level 2

In coding such backdrops appear as costumes of the main backdrop.



Procedure of Making Costumes

Open paint editor of My Background library.

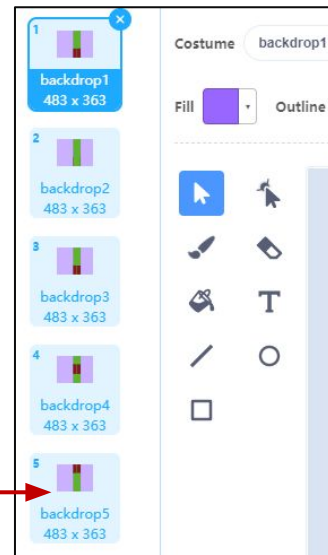
Start by making the Parent Backdrop

Then make the other backdrops as shown above.

These get saved as costumes in the same way as the parent backdrop was made.

They appear on the mBlock screen between the stage & paint area as shown.

C
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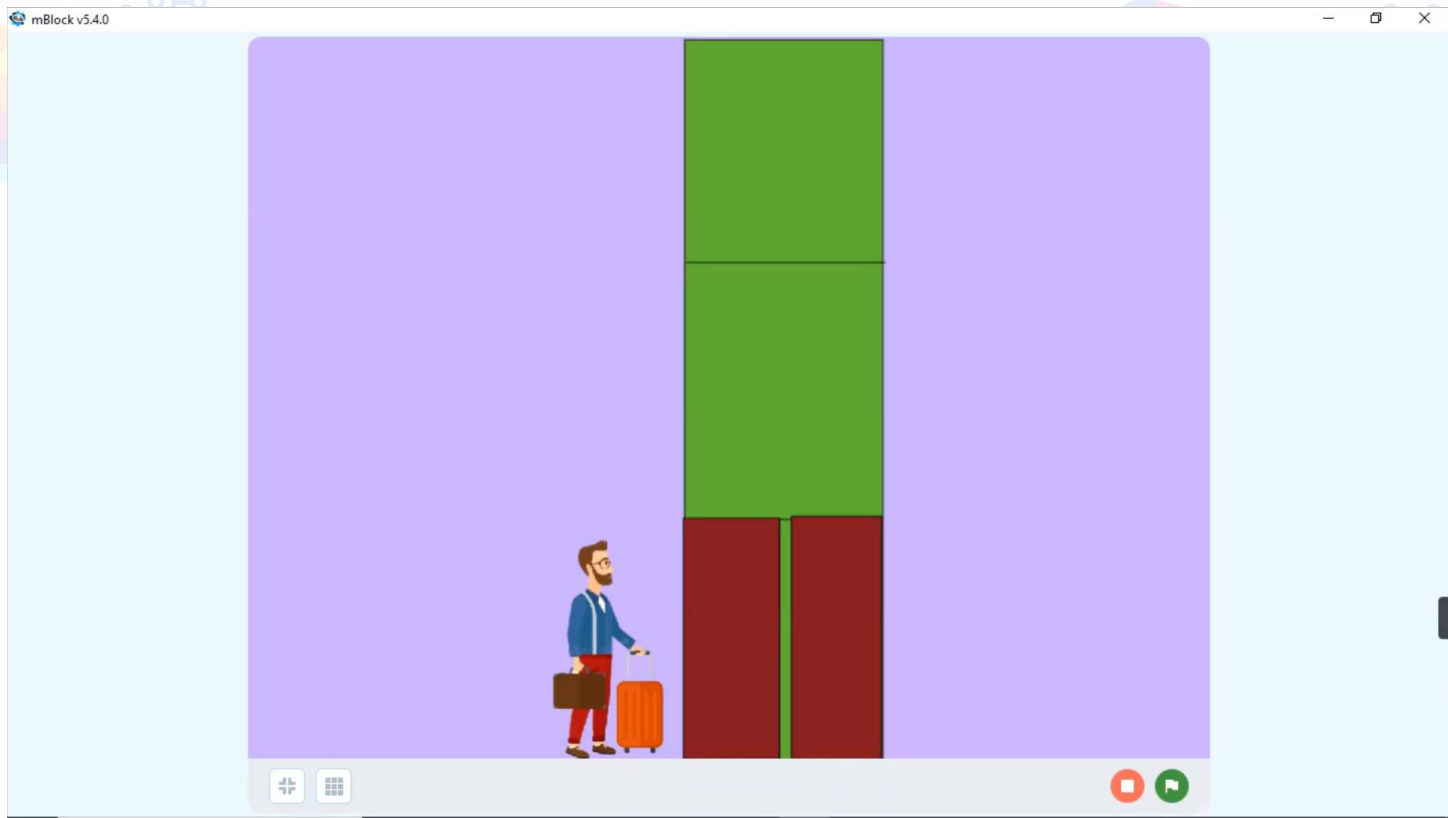


We shall learn more about costumes in Animation & Games Modules.





Video of the Running of the Code



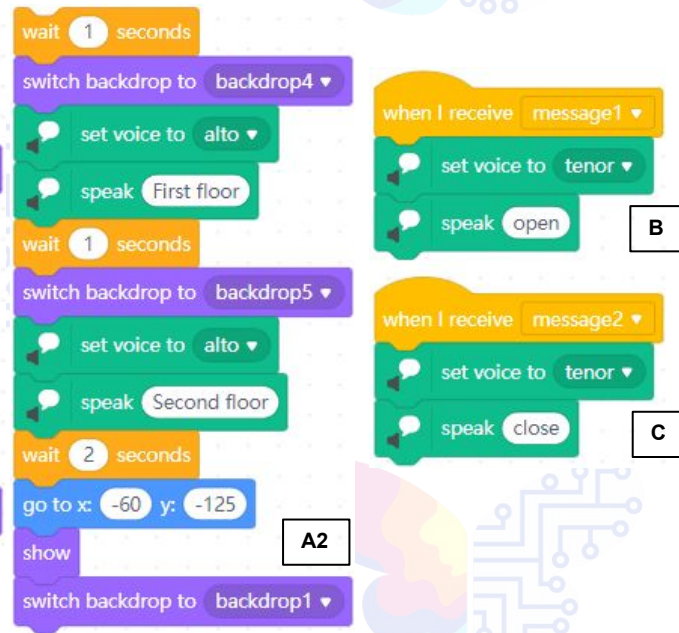
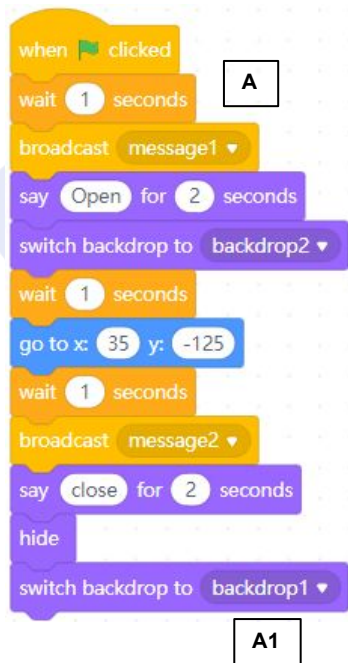


View of Project Code

It has three parts – A, B & C.

A has two parts – A1 & A2.

Part A2 will come below part A1.





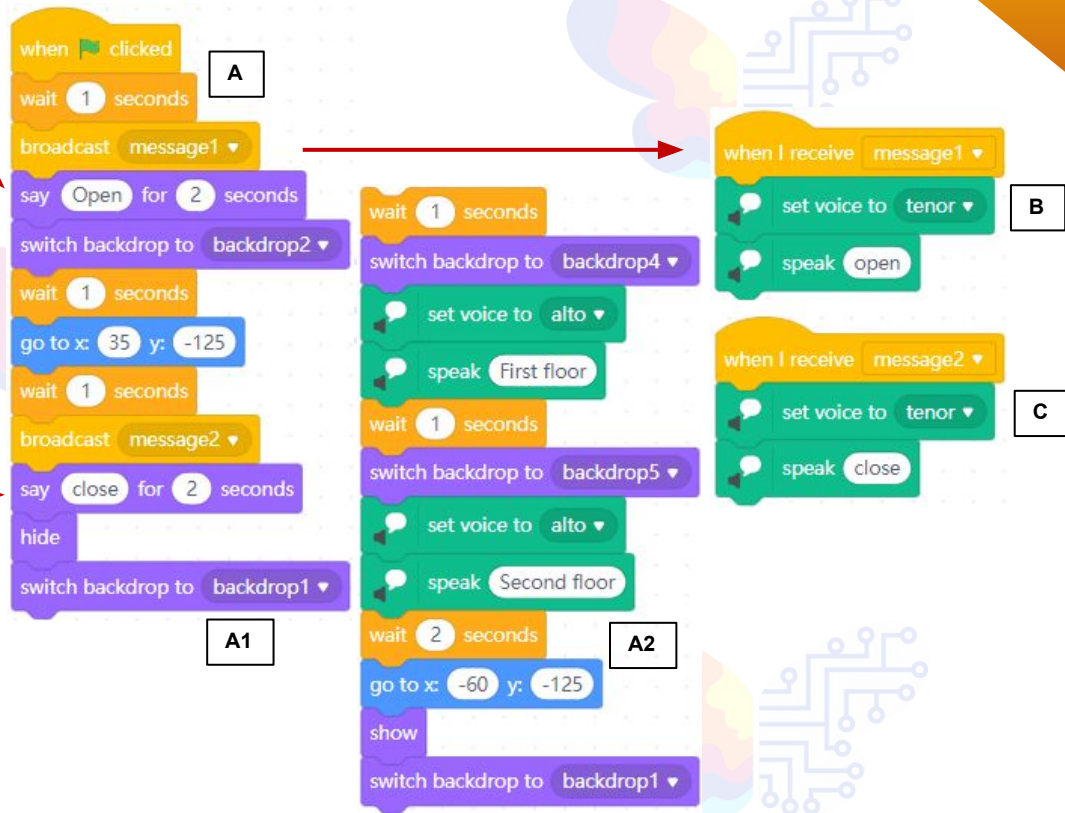
Code B is for voice recording (open).
This is added to give audible voice to
the voice bubble (open) in line 4 of A.

Thus broadcast message in line 3 of
A1 acts as broadcast message for B
to ensure line 4 of A1 & 3 of B get
synchronised to appear together.

Similarly line 3 of C (close)
is linked to

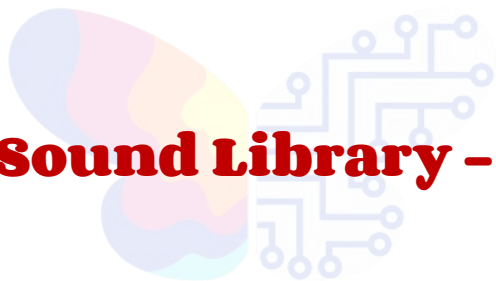
Voice bubble Close in A1 (line 10).

Will learn more in Sensing &
broadcast Module.



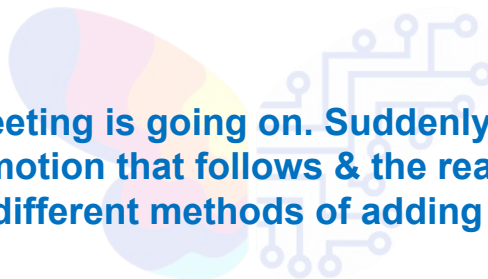


Making of Sound Library - Consolidation Project





“A corporate meeting is going on. Suddenly a rat appears. Depict the commotion that follows & the reactions of three persons, using different methods of adding messages & sounds to a code”.





Real Life Application of this Project Learning

- 1. Its main application is to give voice to a machine.**
- 2. Best ex is Alexa. When we ask her a question, the code picks out the answer from a database & this voice module converts it to the voice of Alexa which we then hear.**
- 3. Making Talking comics, Story Books, School wall magazines etc.**
- 4. Applications are limited only by imagination.**





Step 1 – Planning the Sprites & Background

To make this code, we have taken:

- One lady, two men & one rat as the sprites.
- Each of these will have its own code.
- The sprites have been downloaded from internet.
- The background showing the downloaded sprites sitting on the centre table of a conference room has been created using the Paint utility.
- At the start, the rat is hidden.



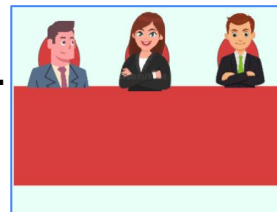


Step 2 – Planning the Sounds

We have planned to use the following sounds & voice bubbles:

For the lady.

- Recorded voice 'Eeeek' (sound of lady on seeing the rat).
- One sound bubble (to display the above sound).



For the man on her left.

- One voice bubble for the man to say 'Its just a rat'.
- Its recording.



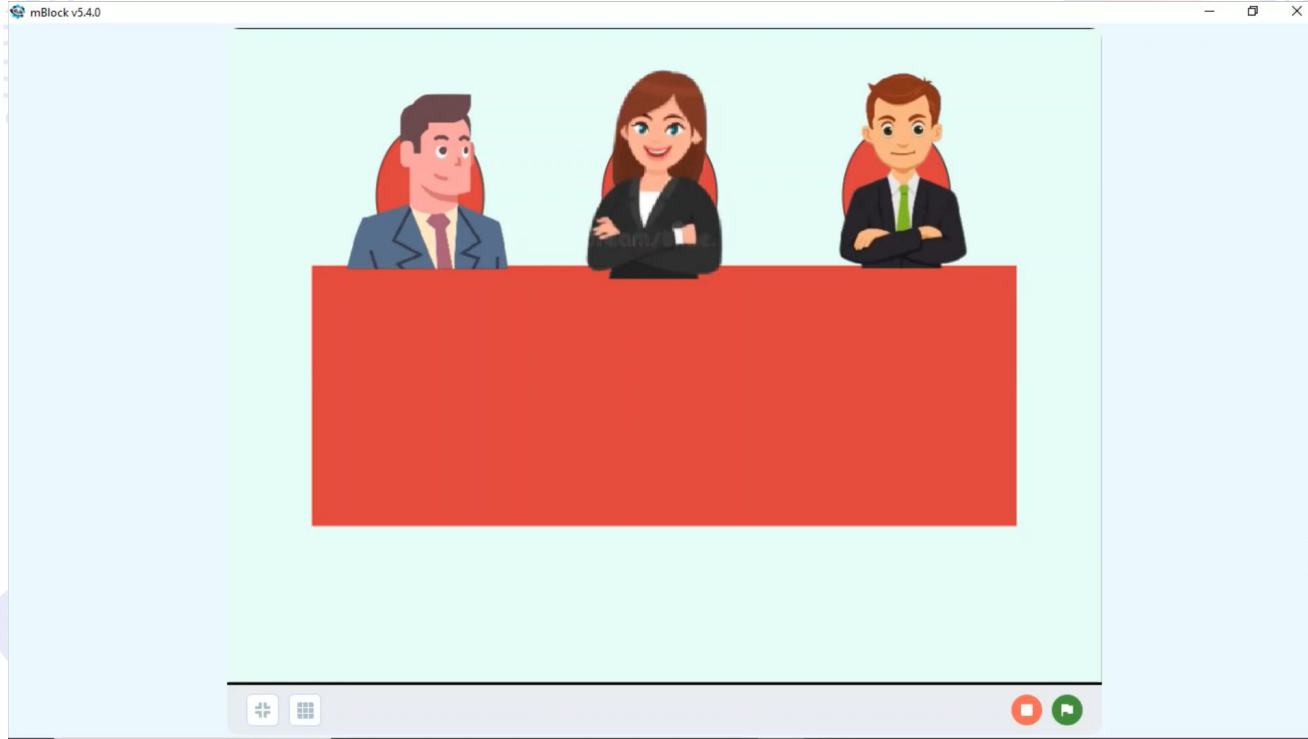
For the man on her Right.

- **Voice clip of 'Mogambo Khush Hua' from web.**
- **One voice using Text to Speech translation blocks for recoding the voice of Amrich Puri (will learn later), for the other man to say 'Mogambo khush hua'.**





Video of the Running of the Code





Code of president

```
when I receive m1 ▼  
switch costume to woman ▼  
broadcast ms1 ▼  
say eeeek for .5 seconds  
broadcast mS ▼  
wait 0.5 seconds  
broadcast m2 ▼
```

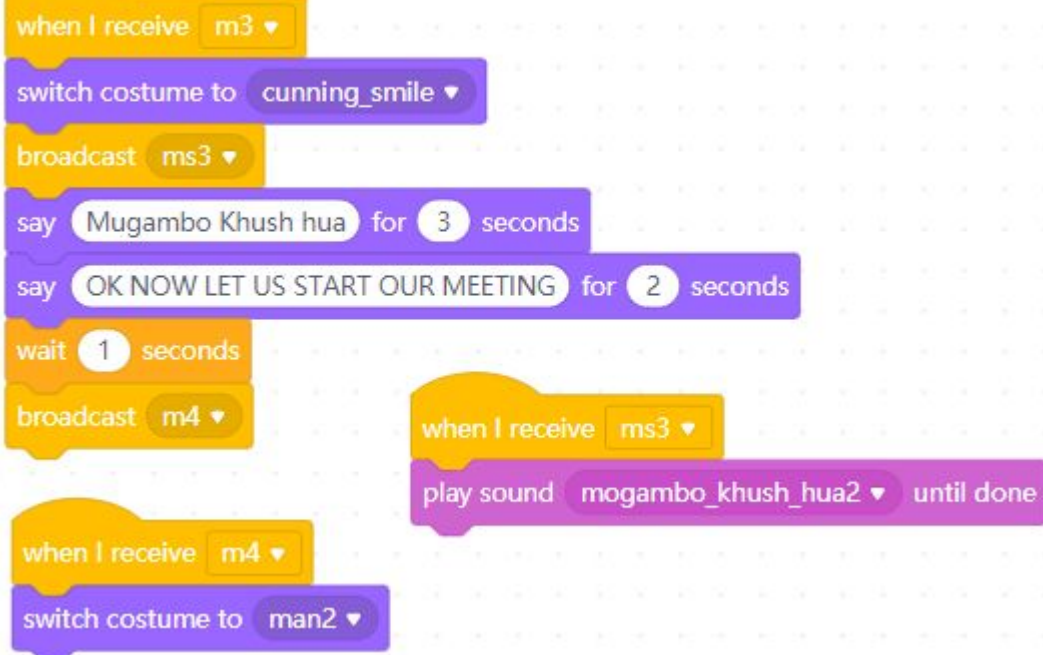
```
when I receive m4 ▼  
switch costume to woman1 ▼  
  
when I receive ms1 ▼  
play sound eek2 ▼ until done
```

Code of VP

```
when I receive m2 ▼  
broadcast ms2 ▼  
say IT WAS ONLY A TINY RAT for 3 seconds  
broadcast m3 ▼  
  
when I receive ms2 ▼  
set voice to tenor ▼  
speak IT WAS ONLY A TINY RAT
```

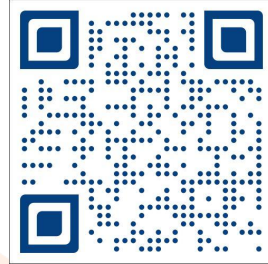


Code of Secy



Code of Rat





Click on QR code to see the code play.

Text to speech translation will be learnt in Level 2.

Spend time doing this yourself. This will be very useful later.

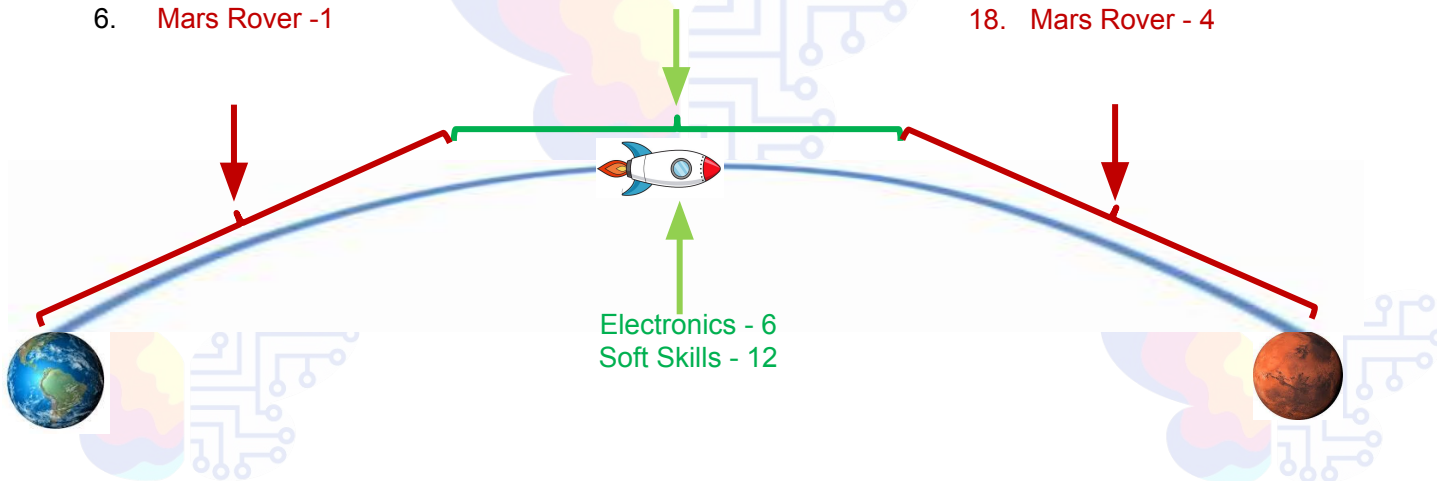


Mission Mars Learning Status - Modules Crossed

1. Foundation
2. Text
3. Movement
4. Positioning
5. Sound
6. Mars Rover -1

7. Sequencing
8. Looping
9. Decision Making
10. Mathematics
11. Logical Comparison
12. Mars Rover - 2

13. Sensing & Broadcast
14. Animation
15. Gaming
16. AI & IoT
17. Mars Rover - 3
18. Mars Rover - 4





End of Part 1 Module 5



Code Karega India Badhega