CoderDojo Athenry

"Above all, be cool"

Every week:
✓ Sign in at the door

If you are new:
✓ Fill in Registration Form
✓ Ask a Mentor how to get started

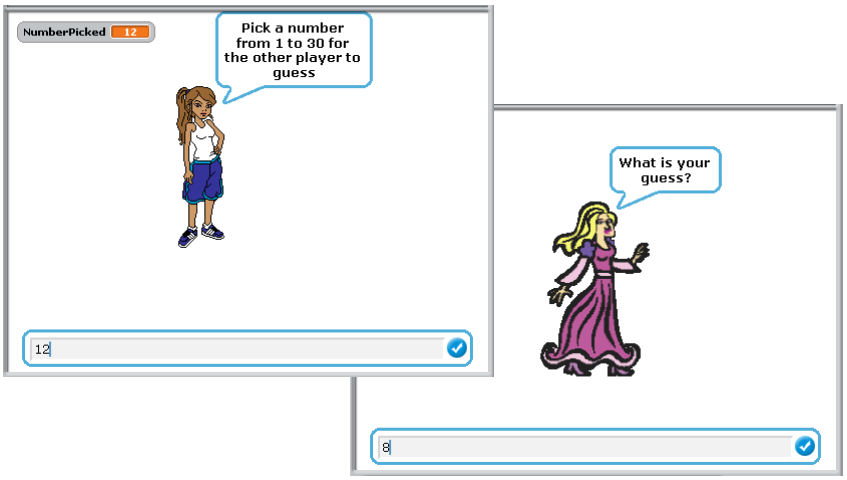
Make sure you are on the Athenry Parents/Kids Google Group: email coderdojoathenry@gmail.com

CoderDojo Athenry

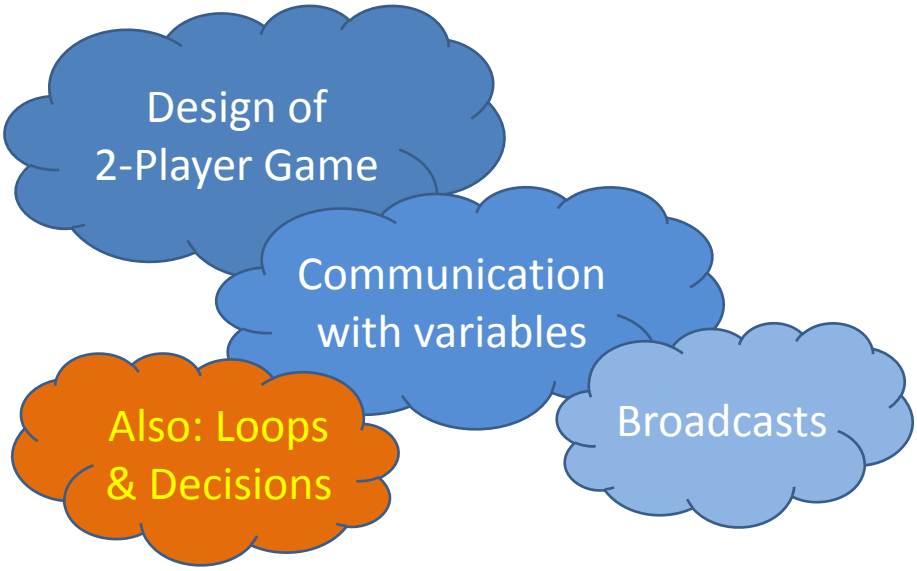
Scratch Beginners

Code and notes by Michael Madden, 2013

Today's Ninja Challenge:
Make a 2-Player Guessing Game!



Today's Big Ideas



The Coding Plan

Write a single-player program to guess numbers like we did before

Write a second program for a "boss" to pick the number

Set up a mesh between the two programs

Use broadcasts and sensing to get them to work together

What We Need To Figure Out

Pick a random number and store it;
Ask for guess and store the answer

Test if it's right, too high or too low;
Display messages

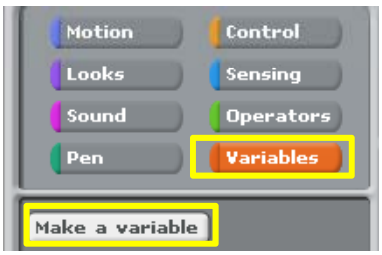
Give them 5 guesses

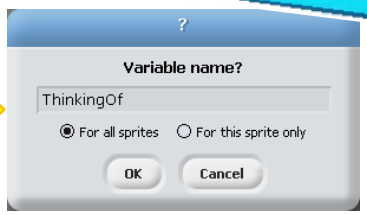
Write a "Boss" program to pick the number and broadcast a Start message

Use Mesh Network to get the two programs to work together

Create a Variable to Hold a Random Number

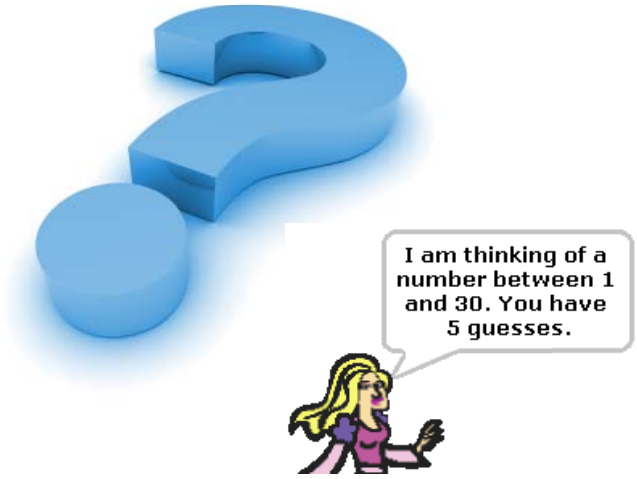
These notes are from when we did it previously



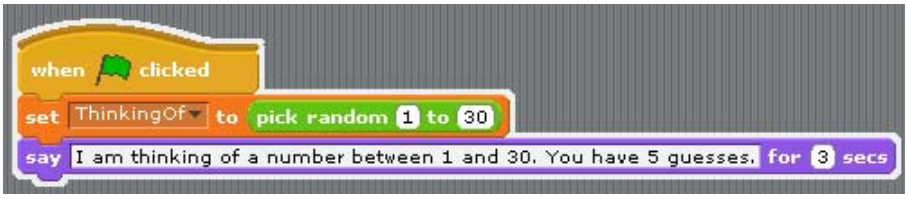


Tip:
Clear this checkbox so it is not shown on screen

When Flag is Clicked: Pick Random Number, Display "I am thinking of …"



When Flag is Clicked:
Pick Random Number,
Display "I am thinking of …"



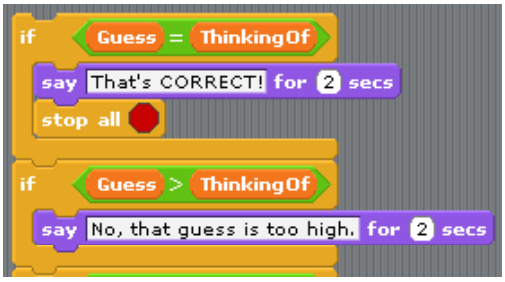
Ask Player to Guess It,
Store Answer

Ask Player to Guess It, Store Answer

Need another variable!
I've called it **Guess**.

Test whether Guess is Right, Too High, Too Low

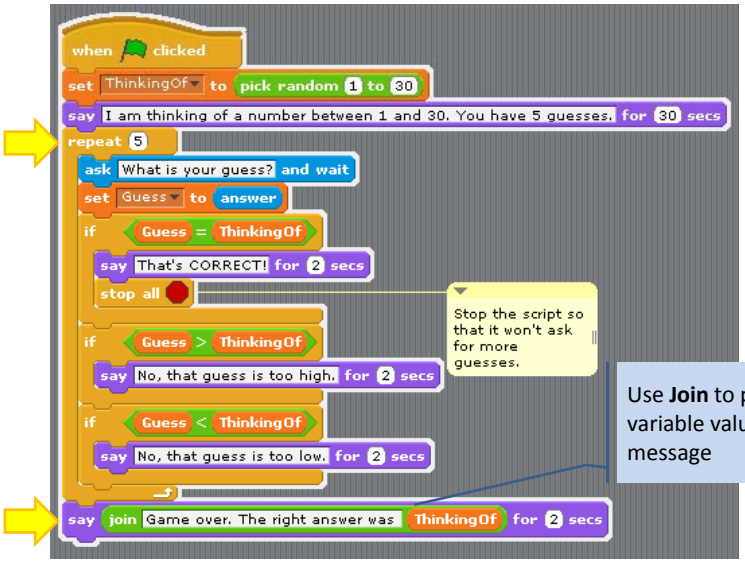
Test Whether Guess is Right, Too High, Too Low



You need to complete this …

Give Player Five Guesses

Give Player Five Guesses



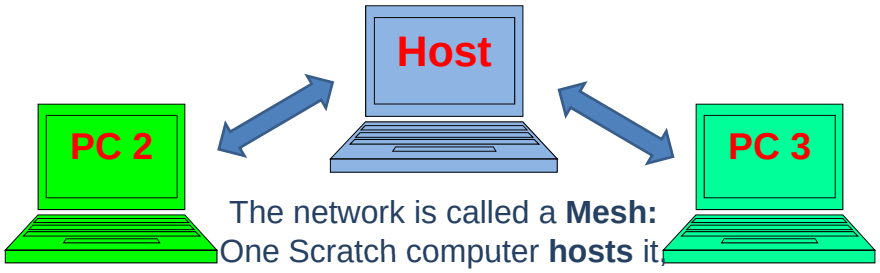
Use **Join** to put a variable value in a message

Add a Leader to Pick Number: The Guesser will be the Follower

The **Leader** will ask you to enter number, then **broadcast** a message so the follower can start guessing

When it **receives** the broadcast, the **Follower** will **sense the number** and then start the guessing game

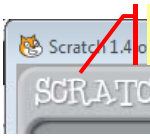
First, A Recap on Networking Between Computers in Scratch



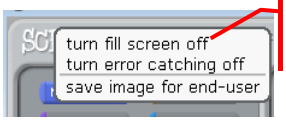
The network is called a **Mesh:**
One Scratch computer **hosts** it;
Others can **join** it.

Then all of them can **communicate**:
Receive each other's **broadcasts**,
Sense each other's **variables**.

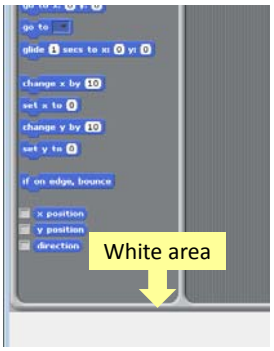
Meshes are a secret hidden feature!!
Tricky to set up first time!

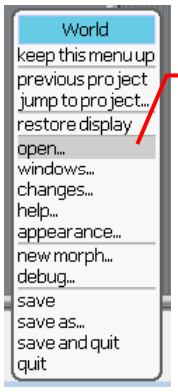


1: Shift-Click on Top of **R**



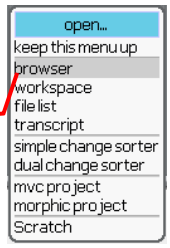
2: Select "**turn fill screen off**": White area appears at bottom





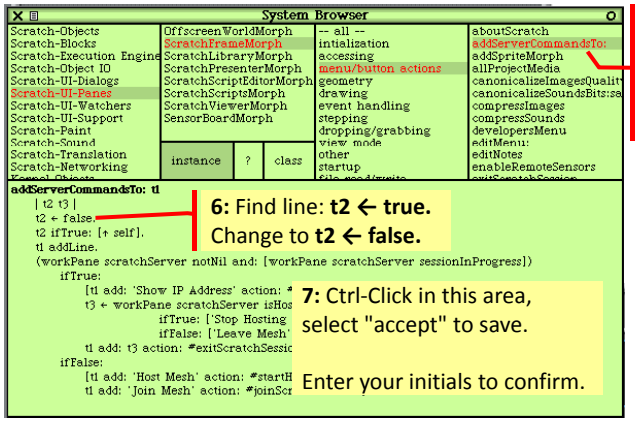
3: Click in white area; select "**open**"

4: Then select "**browser**"



SAVE your program first: at the last step, Scratch shuts down.

Set Mesh Up, Part 2



5: Click: **Scratch-UI-Panes** then **ScratchFrameMorph** then **menu/button actions** then **addServerCommandsTo**

6: Find line: **t2 ← true.** Change to **t2 ← false.**

7: Ctrl-Click in this area, select "accept" to save.

Enter your initials to confirm.

8: Press **X** to close System Browser.

Select **Yes** to save changes.

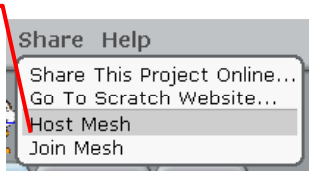
9: Shift-click on top of **R** again. Select "**turn fill screen on**" to get rid of white area.

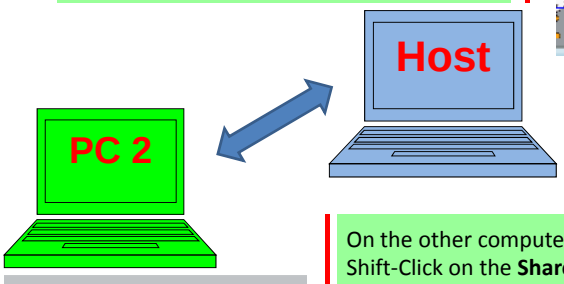
10: Select "**save image for end-user**": this is you won't have to repeat these steps every time!

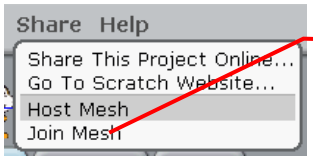
Now Activate a Mesh!

Pick a computer to be the **Host**.
Shift-Click on the **Share** menu and select "**Host Mesh**" from the extra menu items.

It will display an **IP address**: write it down!





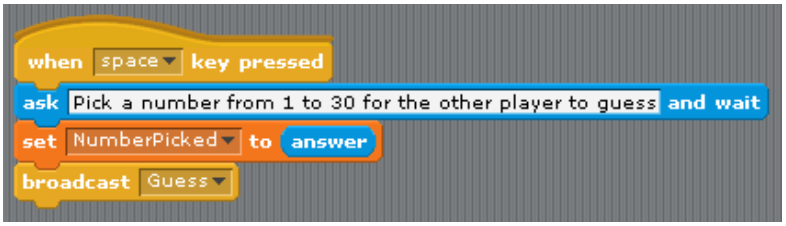


On the other computers,
Shift-Click on the **Share** menu and select "**Join Mesh**".
You will have to enter the **IP address** of the Host.

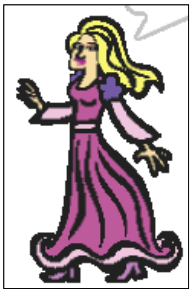
When meshed, Scratch programs on the two computers can receive each other's **broadcasts** and sense each other's **variables**.

Code for the Leader: Very Short!

Ask for a number,
store it in 'NumberPicked',
and broadcast "Guess" to tell
the Follower to start guessing.

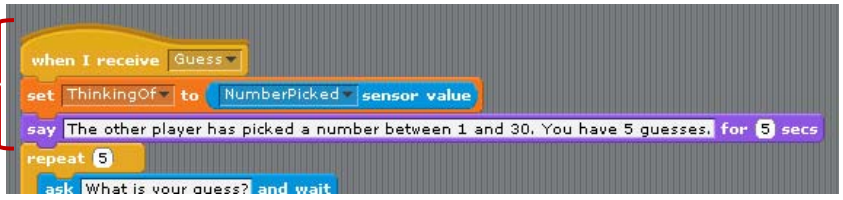


Code for Follower: Just Modify the Start of the Guessing Game



The follower now starts when it
receives **broadcast**,
senses value of 'NumberPicked',
and **says** a different message.
Everything else is the same.

Replace code that was here



More Features You Can Add…

1. Sound Effects
   Go to sprite's Sound tab, import sounds
   Add commands to play sounds
2. Timer
   Add another variable called Timer.
   Add another block:
   When flag is clicked, set it to 60
   Repeat until 0: change by -1, wait a second
   Time up: stop all scripts.
3. Display the Result to the Leader
   Broadcast when Follower is finished
   Add code to Leader to see if right answer guessed
4. Animation
   What can you think of?

At the End …

Upload your project to the Scratch Website
user: **cdathenry** password: _____

Access it from home

Improve it

Show your friends!