STEMCA School of Robotics and Innovation Center

Inspiring the New Generation

Learn, Teach, Invent, Make!

Follow by Color

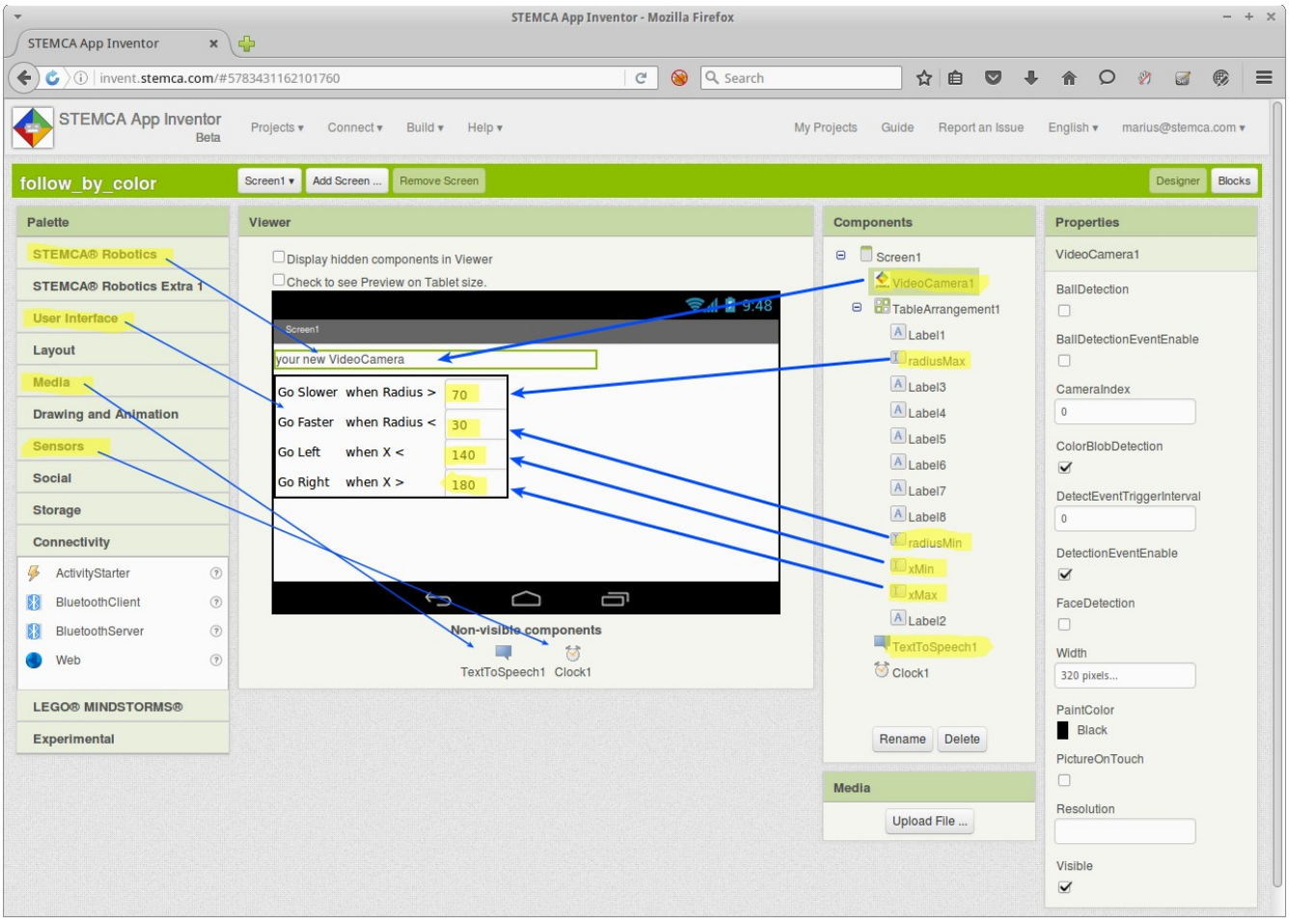
*Made with **STEMCA App Inventor***

This application shows how the **VideoCamera**, **TextToSpeech** and **Clock** components can be used to create useful and fun applications for **Android** devices.

The application could be used by visually impaired or blind people to follow a guide that carries a colored object (rounded balloon for example) as tracking object.

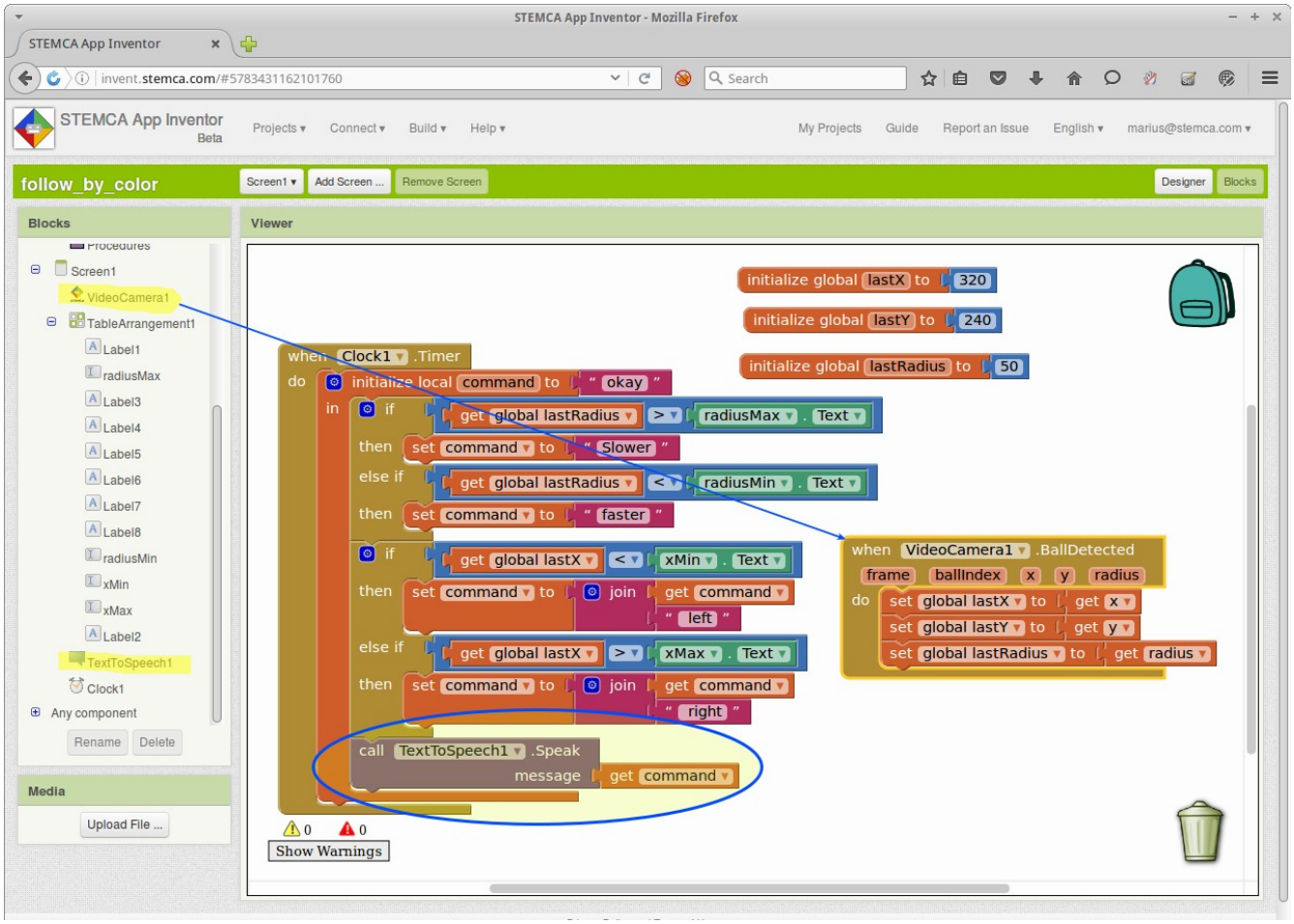
Login with your email to **STEMCA App Inventor** – http://invent.stemca.com/, create a new project and name it **follow_by_color**.

Drag in the **Viewer** the components shown bellow from the marked sections in **Palette**. Rename the components as shown in **Components** section.



Define the logic of the application in **Blocks** page as described bellow. Notice how the **Clock**, **VideoCamera** and **TextToSpeech** components are used.

The variables, control and math blocks used bellow can be picked from top of Blocks section on the left.



Challenges:

- Improve the app to give better commands when the guide disappears from the camera view
- Add scanning capability to help the user of the app to find the guide by scanning in circle
- Provide a way to set the **Clock** interval through the UI

Happy Inventing!

For more details about **STEMCA Inventor** platform follow: www.stemca.com, https://twitter.com/stemcaedu
We invite you to join **GTA Robotics** community group: http://www.meetup.com/GTA-Robotics/, https://twitter.com/gtarobotics

The source and APK of this app are available here: http://www.stemca.com/maker_festival/

A few extra steps, these needs to be done only once!

To test the app you need to install on your **Android** phone/tablet the following APKs (make sure **Unknown sources** is checked on your **Android** device in **Settings → Security**):

- OpenCV Manager 3.1.0

http://www.stemca.com/hackaday_stemca_inventor_apps/OpenCV_3.1.0_Manager_3.10_armeabi-v7a.apk

- STEMCA App Inventor Companion app:

http://www.stemca.com/hackaday_stemca_inventor_apps/sai.apk

Connect to the companion app using **Connect → AI Companion** menu in **STEMCA App Inventor** (in the browser).

Start **STEMCA App Inventor Companion** app and scan the **QR code** to connect the companion to the browser.

The app you are developing will show up on your phone/tablet and every change you'll make in the browser (**Designer** or **Blocks** pages) will be reflected immediately on the phone/tablet.

If the connection drops, use **Connect →Reset Connection** to reset the connection and then restart the **STEMCA App Inventor Companion** app on your phone/tablet and connect again using the **QR code** procedure as described above.