



Photo Sharing in App Inventor

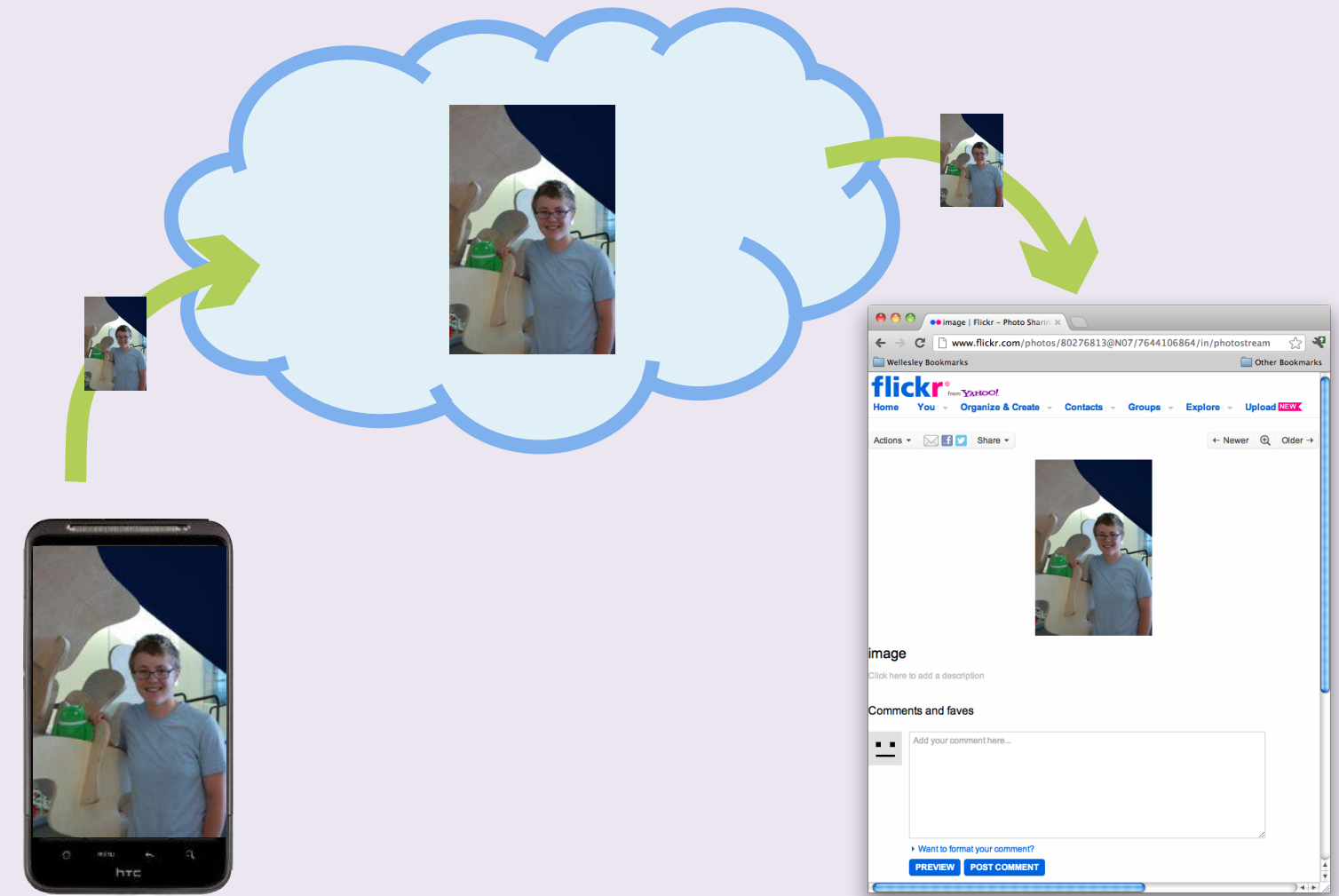
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The Image Sharing Problem



Uploading pictures to the internet allows them to be viewed through a URL. App Inventor can access pictures through a URL, providing apps with user-to-user picture sharing capabilities. However, previously there was no way to upload pictures or drawings to a photo sharing site from a phone. With only one part of the equation, apps could not share images created in the app between users.

What is App Inventor?

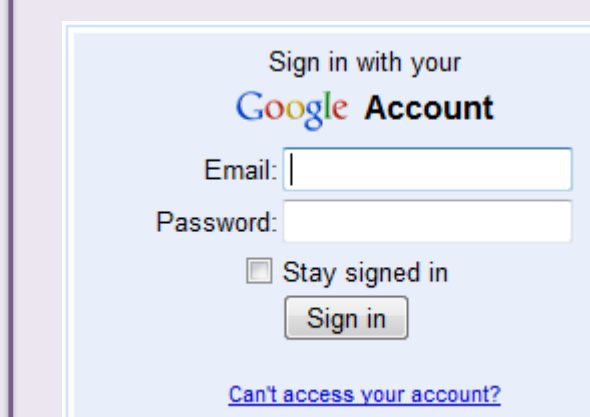
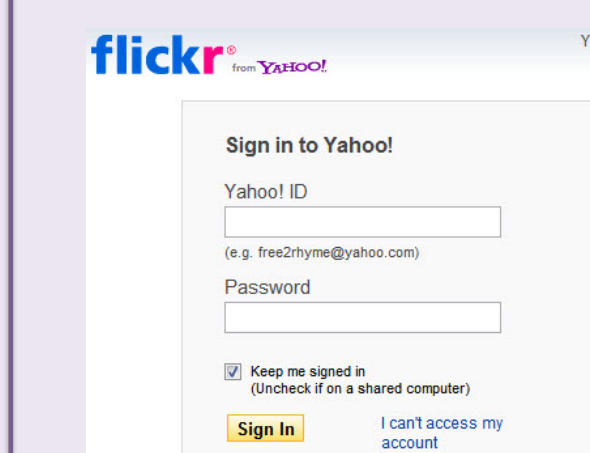
App Inventor is a blocks-based programming environment for creating Android apps. App Inventor simplifies the process of making an app by breaking it down into two parts. First, the App Inventor user drags and drops components into a representation of the Android phone screen. Second, they use a blocks-based programming environment to control the functionality of the components.

Photo Sharing Sites

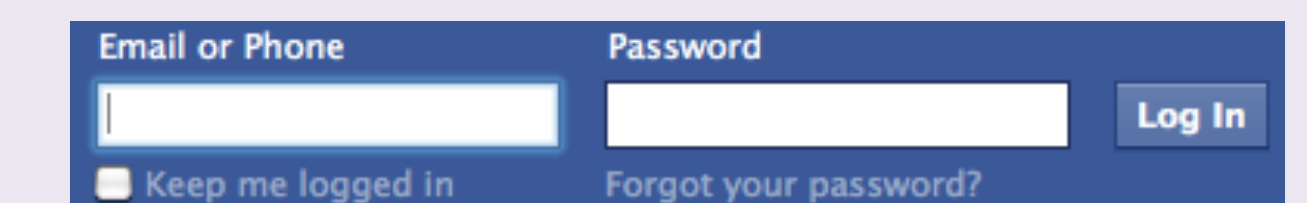


There are many great photo sharing sites that allow users to upload images for free, providing quick and easy picture sharing. Many of these sites also have Application Programming Interfaces (APIs) that provide a way to use the services of the site without having to visit the site in a web browser. The APIs of Facebook, Flickr, and Picasa allow an application to upload images to an account without visiting the web page.

The Log In Problem



The main hurdle to uploading images to photo sharing sites is associating the image with an account. Uploading an image requires access to a user's 'private resources' within their account. These resources are usually accessed by logging in to the service. For an app to access an account it must be authorized by the service provider, in this case the photo sharing site.



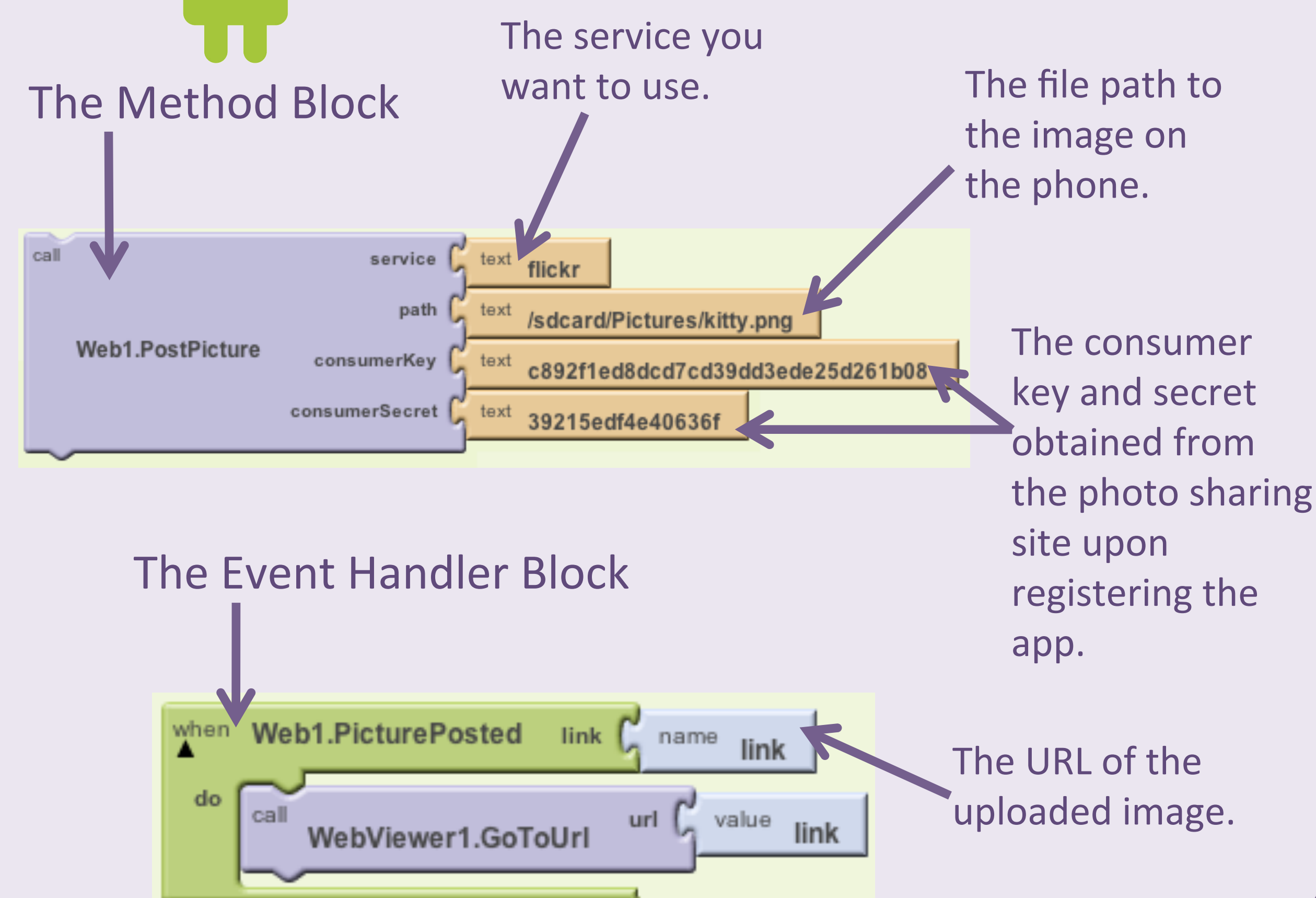
The OAuth Solution

OAuth is an authorization protocol that provides a solution to the log in problem. Instead of giving their username and password directly to the app, the user is directed to a login page associated with the photo sharing site.

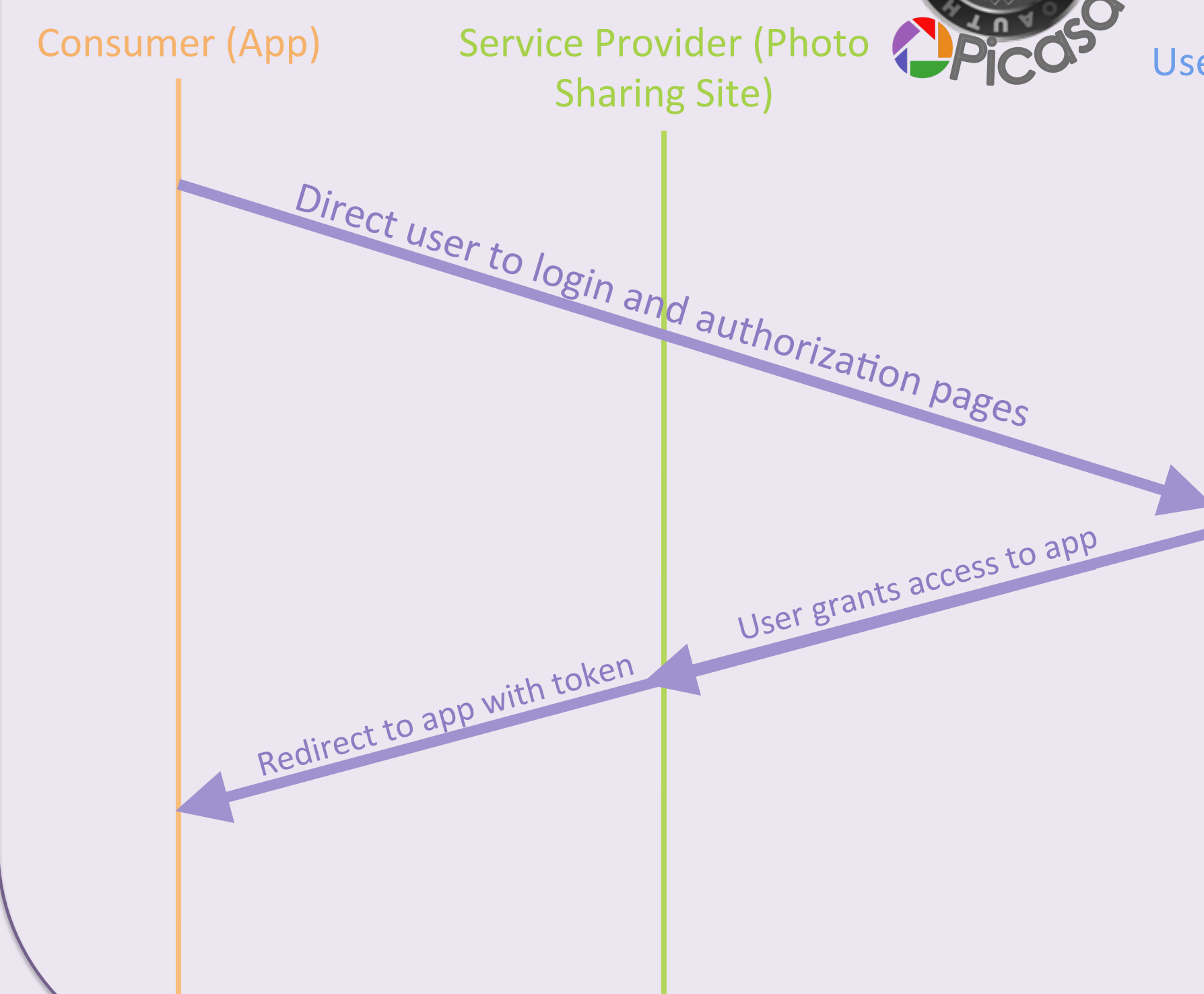


I implemented the OAuth protocol in the Java code base of App Inventor. In the Web Component I added two blocks that use OAuth to access the user's account and upload an image.

The Blocks



OAuth 2.0 Protocol



OAuth 1.0a Protocol

