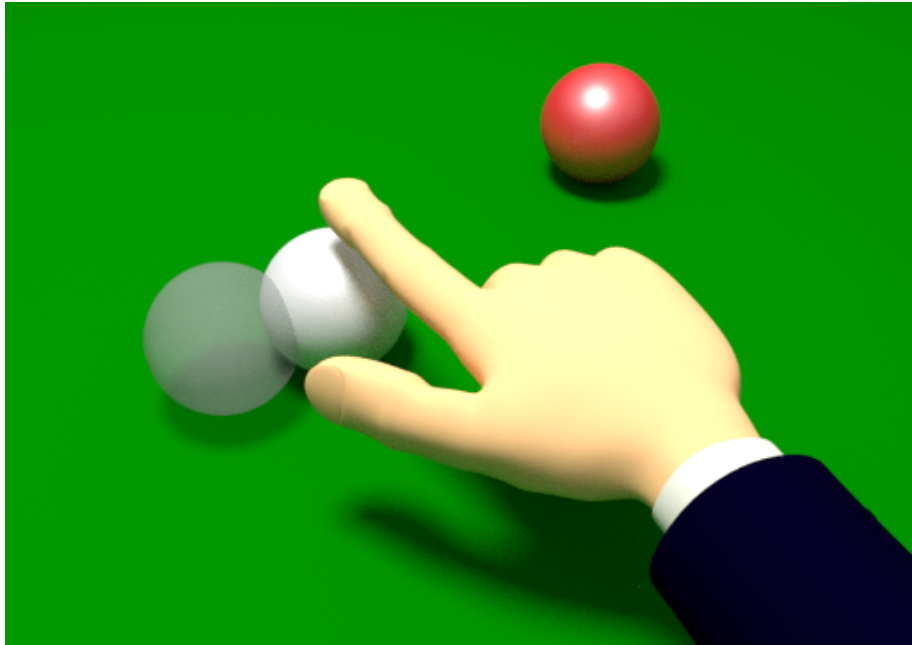


Foul and a miss

Android app to help replacing the balls after a foul and a miss



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App Version 1.1

Manual version 1.0

INTRODUCTION

Foul and a miss is an application for Android which helps replace the balls after a foul and a miss. It uses a similar process as in the professional tournaments by overlapping live stream video with an image of the balls original position, using a camera from an Android device (smartphone or tablet).

WHAT'S NEW

V1.1

- Added delay to take photo to avoid device movement and hand obstructing image in selfie camera
- Added possibility to take photo and animate transparency without touching device using proximity sensor
- Changed interface:
 - Removed change camera button
 - Added button for settings
 - Take photo button now changes to orange rectangle after user indication and to green when photo is taken (after defined delay) and animates transparency with picture
 - Removed automatic screen lock
- Added settings section:
 - Change camera
 - Enable/disable proximity sensor (when available)
 - Define delay time (1 to 3 seconds)
 - Adjust photo transparency
 - Possibility to flip image horizontally
 - Link to online manual

V1.0

- Original version.
- Buttons to change camera, take photo, animate transparency and reset.

MAIN SCREEN SHOT



Take photo Toggle transparency animation

Reset

Settings



PROCEDURE

1. When player is in a missable position, press camera button or use proximity sensor* to trigger the signal to take a photo.
2. After the delayed time (1, 2 or 3 seconds -> see settings), a photo is taken of the original ball positions
3. If player misses, balls can easily be replaced by comparing photo overlay with live video stream.
4. Use the transparency animation button or proximity sensor* to alternate between fixed or animated transparency, depending on what suits better.
5. If player makes a successful play, press the reset button to release photo from memory and keep playing as usual.

* not available in all devices. If available and enabled in settings, approximate hand to sensor (close to ear position in device) to take photo and to toggle transparency animation

In order to avoid device movement when pressing button to take photo, two improvements were made in version 1.1:

- Add a delay of 1 to 3 seconds between signal and photo acquisition
- When signal is given, orange rectangle appears. When photo is acquired, rectangle becomes green
- Add possibility to use proximity sensor, so user does not need to touch the device.

SUGGESTED SETUPS

This app can be used with any compatible android device (smartphone or tablet) in hand, but for better precision, it is advised to have the device in a fixed position (use an automobile device support for example).

The precision of the ball replacement depends on different aspects:

- the camera resolution
- screen size
- camera angle
- distance to balls

It is advisable to place the device as close as possible to the table, in a high position (hand reachable) as long as all the table appears on the screen.

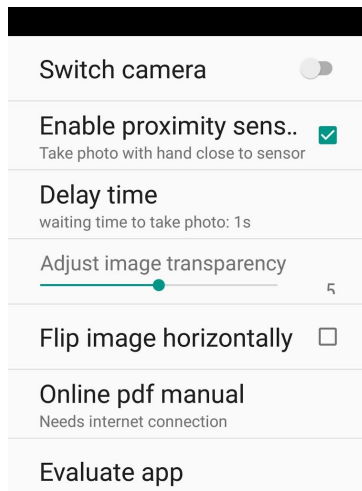
For image/video visualization, smartphone screen is the minimum available, a tablet might already be enough, but sharing the device screen into a TV screen gives best results.

SETTINGS

Accessing settings allows the user to:

- Switch between front and back camera
- Enable/disable proximity sensor (if available)
- Define delay between signal and photo
- Adjust photo transparency level (low -> very opaque, high -> very transparent)
- Flip image horizontally

- Access online website with this manual
- Link to evaluate app in Google Play



REFERENCES

- Website: <http://renatogsousa.weebly.com/foul-and-a-miss.html>
- Link to app in Google Play:
<https://play.google.com/store/apps/details?id=com.weebly.renatogsousa.snookerfo ulandmiss>
- Link to youtube demonstration video:
<https://www.youtube.com/watch?v=ORDxk4tXuq8>