



FotoBounce Desktop Product Comparison Report (Local Apps)

Prepared For

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Prepared By



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ABOUT TEST MILE

Test Mile is a company focused on software testing. We provide software testing services and build software to aid in testing. We are the only company in our space providing packaged testing services with online pricing.

We do hands-on testing with primary focus on functionality, performance, security and usability. We also provide coaching in the mentioned areas along with competency assessment of your existing testing talent and/or interviewing for new talent in the same.

We develop software for test automation needs of two types – tools & frameworks which are off-the-shelf software or building the same as per the client needs.

We can also be engaged to assess your current testing methodology and suggest improvements. This may be clubbed with the other services that we offer.

TEST MILE AS PROVIDER OF TESTING SERVICES

Our team consists of SETs with solid Python programming knowledge and are well-versed with tools like Webdriver, Intercepting Proxies for Security Testing, JMeter, LoadRunner, WebLoad, and SilkPerformer for generation of well-designed simulated user traffic. We have specialists who can help in performance tuning of web servers (Apache/IIS), application servers (WebSphere/JBoss/WebLogic), Databases (Oracle/MS-SQL Server) and other server-side components.

For our projects, we first evaluate execution of projects using free/open-source tools as commercial testing tools form a major component of costing. This benefits our clients with major cost advantage.

We develop our testing strategy by close collaboration with stake holders to deliver accurate results. Our Motto is – **Test What You Value**. We focus all our test engineering efforts on the areas that matter from testing perspective in terms of use cases and back-end components.

PURPOSE

This document is the report of Product Comparison tests done for FotoBounce desktop application. Along with this report, an Excel workbook containing detailed comparison metrics has been submitted.

Following are the apps considered for the purpose:

- FotoBounce™ (v 3.9.3)
- Google Picasa™ (v 3.9.0)
- Windows Photo Gallery™ (v built-in)
- Apple iPhoto™ (v 10)

The above names are the trademarks of the respective companies. The same should be considered wherever the names are mentioned hereafter.

PHOTO GROUPS USED

To have controlled variables, same photo group was used by a single tester for all local apps, while following the same sequence of sub-groups and persons while tagging.

Photo Group (and number of photos in each sub-group) used:

- Group 1: 178
- Group 2: 94
- Group 3: 30
- Group 4: 28
- Group 5: 23
- Group 6: 21
- Group 7: 17
- Group 8: 9

TEST ENVIRONMENT INFORMATION

Machine 1 (FotoBounce, Picasa, Windows Photo Gallery)

- OS: Windows 7 Home Premium 64-bit
- Make: HP
- RAM: 4 GB DDR3
- Processor: Intel core i3 – 2100 CPU @ 3.10 Ghz

Machine 2 (iPhoto)

- OS: Mac OSX version 10.8.3
- Make: Apple
- Processor: 2.5 GHz Intel Core i5
- RAM: 4 GB DDR3

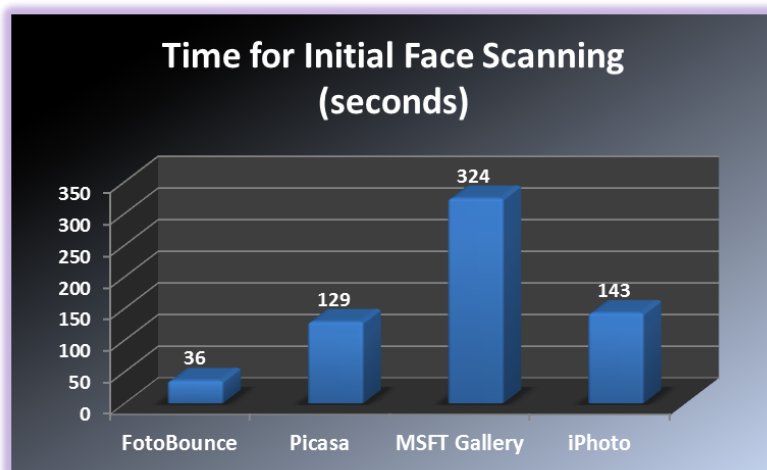
COMPARISON METRICS SUMMARY

EXPERIENCE SUMMARY IN TERMS OF FACE RECOGNITION

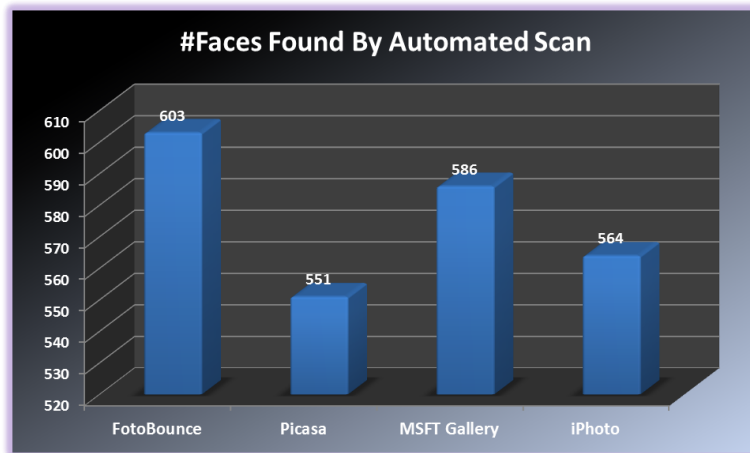
| Summary of Measurements for Parameters for 400 photos | | | | | |
|--|-----------------|------------|--------|--------------|--------|
| Parameter | Unit | FotoBounce | Picasa | MSFT Gallery | iPhoto |
| Number of Photos | Count | 400 | 400 | 400 | 400 |
| Number of People | Count | 134 | 134 | 134 | 134 |
| Initial Face Scanning | Time in seconds | 36 | 129 | 324 | 143 |
| Number of Faces Found | Count | 603 | 551 | 586 | 564 |
| Number of Faces Not Found | Count | 45 | 97 | 62 | 84 |
| Number of instances where an object was identified as a face | Count | 4 | 1 | 6 | 11 |
| Number of Faces Not Tagged (Application does not allow the same) | Count | 0 | 1 | 0 | 2 |
| Total Faces | Count | 648 | 648 | 648 | 648 |

- **Total Faces:** Number of Faces Found + Number of Faces Not Found
- Number of Faces Not Found is inclusive of the faces not found during the automated scanning and the faces that the application did not allow to tag even with manual tagging.
- Number of times, where an object like a logo, bike etc. was identified as a face has not been considered in total face count and has been mentioned in the table for reference.

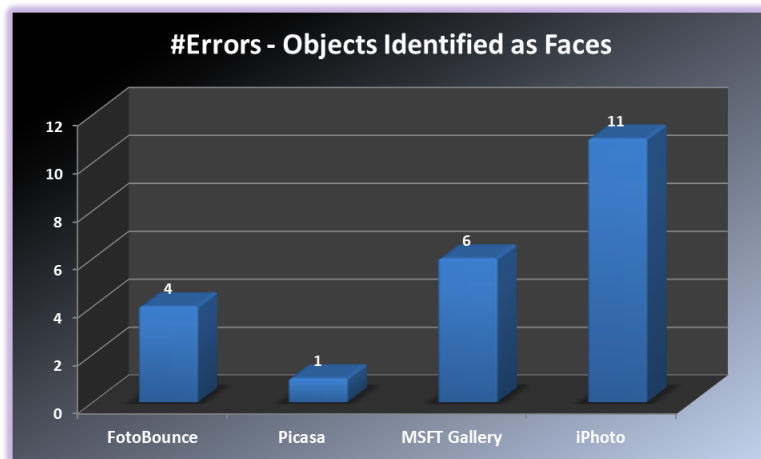
VISUAL COMPARISON AND OBSERVATIONS



- FotoBounce is a winner in terms of initial face scanning time by orders of magnitude. The nearest one is Picasa which takes 4 times the time that FotoBounce takes.



- FotoBounce finds more faces than any other local app in the comparison.



- FotoBounce stands 2nd when it comes to number of errors. Picasa being the best in this case.

COMPARISON OF USER INTERACTIONS AND NUMBER OF STEPS NEEDED

| Number of User Interaction Steps for a Given User Action | | | | |
|--|------------|--------|--------------|--------|
| User Action | FotoBounce | Picasa | MSFT Gallery | iPhoto |
| Accepting Single Suggestion | 2 | 2 | 3 | 3 |
| Accepting Multiple Suggestions | 2 or 3 | 2 | 3 | NA |
| Rejecting Single Suggestion | 2 | 2 | 3 | 3 |
| Rejecting Multiple Suggestions | 2 or 3 | NA | 3 | NA |
| Tagging Identified Faces | 3 | 3 or 5 | 4 | 3 |
| Tagging Unidentified Faces | 4 | 5 or 7 | 4 | 5 |

- This table is used to depict the number of steps required in an application for carrying out a user action.
- FotoBounce takes 2 steps to select/reject multiple suggestions if all suggestions are for accepted/rejected, else depending on the ratio of correct/wrong suggestions, a user would go for a combination of selection/rejection strategy. Hence for our report, we considered the worst case scenario of calculating number of steps in case of multiple selections/rejections as 3.
- In number of steps, FotoBounce is pretty competitive and at times better than other apps. Please check the user interaction observations for further subjective details.
- When tagging a face for the first time Picasa needs 2 additional steps that deal with registering the person via a windows pop-up. We have considered it in calculation of number of steps in the overall report here, although in the provided Excel sheet the count of steps is taken as 3 (here for 134 times, which we have assumed to happen for identified faces via automation, number of steps have been considered as 5)

| Number of Times a User Action is Taken for 400 photos | | | | |
|---|------------|--------|--------------|--------|
| User Action | FotoBounce | Picasa | MSFT Gallery | iPhoto |
| Accepting Single Suggestion | 66 | 31 | 41 | 270 |
| Accepting Multiple Suggestions | 47 | 37 | 15 | NA |
| Rejecting Single Suggestion | 28 | 0 | 1 | 867 |
| Rejecting Multiple Suggestions | 13 | NA | 0 | NA |
| Tagging Identified Faces | 358 | 361 | 626 | 375 |
| Tagging Unidentified Faces | 45 | 97 | 68 | 92 |

- This table summarizes the number of times a particular kind of user action was taken until all faces were tagged.
- The above multiplied by the number of steps for a particular action is used to calculate the total number of steps taken by the user in the next table (action-wise) and then overall at the end of this section for total step count of any type.

| Number of User Interactions (User Action-Wise) for 400 photos | | | | |
|---|------------|--------|--------------|--------|
| User Action | FotoBounce | Picasa | MSFT Gallery | iPhoto |
| Accepting Single Suggestion | 132 | 62 | 123 | 810 |
| Accepting Multiple Suggestions | 141 | 74 | 45 | NA |
| Rejecting Single Suggestion | 56 | 0 | 3 | 2601 |
| Rejecting Multiple Suggestions | 39 | NA | 0 | NA |
| Tagging Identified Faces | 1074 | 1351 | 2504 | 1125 |
| Tagging Unidentified Faces | 180 | 485 | 272 | 460 |

- This table summarizes the total number of user interactions need to complete a user action across all photo graphs. This is prepared by the product of data in the previous two tables for each cell with its corresponding cell in the other table. For example:
 - Number of steps to accept a single suggestion in FotoBounce = 2
 - Number of times a single suggestion was accepted for the group of 400 photos: 66
 - So, total number of user interactions = $2 * 66 = 132$
 - The above is seen in the first data cell in the above table. Others are calculated in a similar way.
- Please note that the calculation of steps for Picasa has been done with the formula: $(134*5) + (361-134)*3$ which gives 1351, where 134 is the number of people. 5 is number of steps for a new person, and 3 is number of steps for a repeated face of the same person. As atleast one face of a person was identified via automated scanning in Picasa, the calculation was applied only for tagging identified faces.
- Within timing measurements across multiple user users of different types, this in future could also form the basis of time measurements with additional tests.

OBSERVATIONS FOR OVERALL NUMBER OF STEPS

FotoBounce wins by a large margin over Windows Photo Gallery and iPhoto when it comes to total number of user interactions (clicks/entering data/dragging/resizing etc.) needed to complete the photo group used by us till every face is tagged. Its performance in this area is better than Picasa as well.

Following is the number of steps summary table:

| FotoBounce | Picasa | MSFT Gallery | iPhoto |
|------------|--------|--------------|--------|
| 1622 | 1972 | 2947 | 4996 |

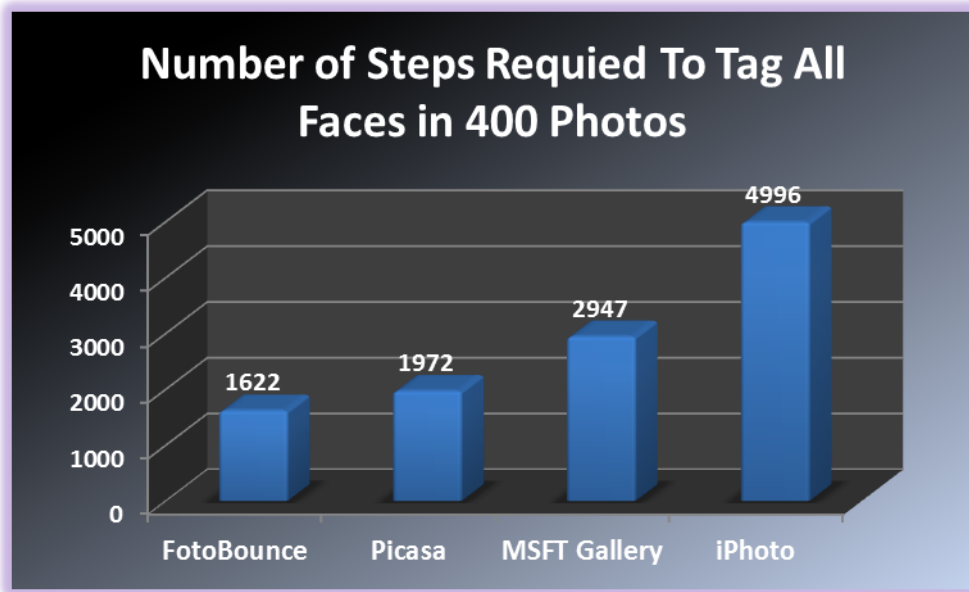
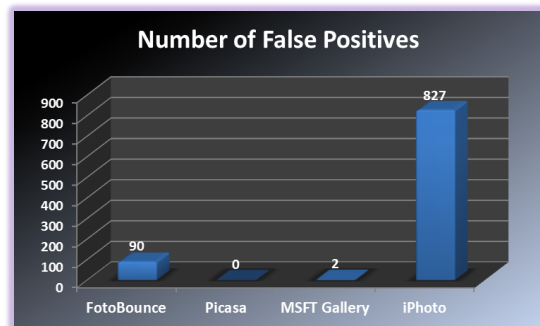
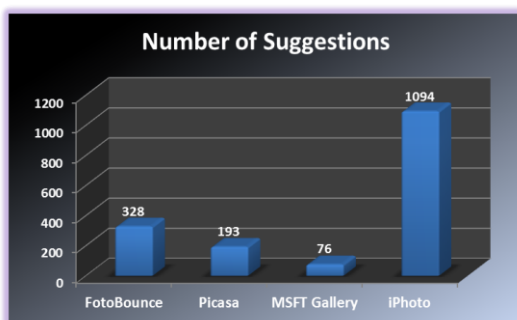


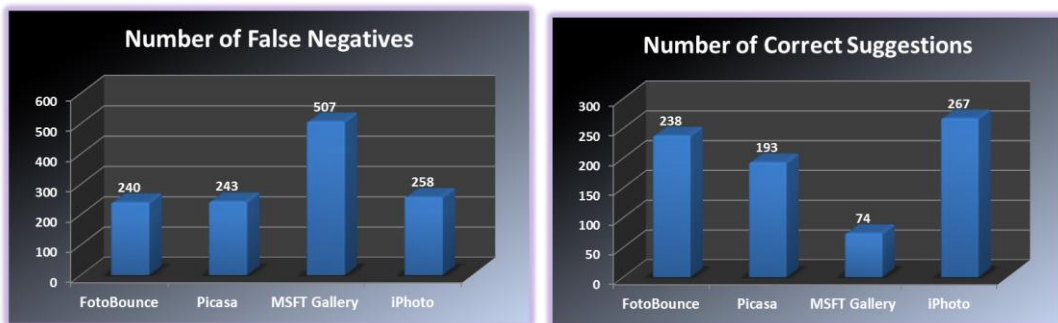
Photo Group wise step detail table can be found in the provided Excel workbook.

The number of steps should give a sense of time that a user would take to do the operations. As the tester was taking notes so his exploratory session time cannot be considered.

OBSERVATIONS FOR FACE RECOGNITION FEATURE STARTING WITH TAGGING

| Parameter | FotoBounce | Picasa | MSFT Gallery | iPhoto |
|-----------------------------------|------------|--------|--------------|--------|
| # Cycles of Suggestions | 102 | 64 | 50 | 139 |
| # Suggestions | 328 | 193 | 76 | 1094 |
| # False Positives | 90 | 0 | 2 | 827 |
| # False Negative (manual tagging) | 240 | 243 | 507 | 258 |
| # Total Face Count | 598 | 551 | 585 | 525 |
| # Correct Suggestions | 238 | 193 | 74 | 267 |





- In the above table, total face count is essentially referring *only* the faces which app by itself was able to recognize.
- FotoBounce is a winner here as it identified the maximum number of faces by itself through the process of automatic scanning (after upload and later as a part of suggestion process). The count here 598 can also be calculated by taking the first table under this section and subtracting number of errors from it, which gives $603-4 = 599$ (there is an off-by-one error in our test, kindly ignore that.)

DETAILED COMPARISON TABLES

- The comparison tables have been put in a separate Excel based report for brevity sake. This document attempts to summarize the observations.
- The comparison workbook contains the following sheets:
 - **Definitions:** Describes phrases used in the excel sheet and in this report
 - **Local App Experience:** Contains Photo Group by Photo Group and person by person metrics for local apps
 - **Local - Number of steps:** Total number of interaction steps needed for user actions related to face recognition reported at a photo group level
 - **Local - User Interactions:** Contains interface steps needed for a user action for local apps
 - **Local App Experience Summary:** Contains the summary tables which have been included in the report in the previous section.

OBSERVATIONS FOR FACE RECOGNITION

BEST OF ALL

- **Initial Face Scanning time (includes photo uploading time):** FotoBounce is the fastest of all local apps under consideration. For example, for Photo Group-1 containing 178 photos with 91 people and 226+ faces, FotoBounce finished this stage in about 7 seconds as compared to 53 seconds in Picasa and 45 seconds in iPhoto. Windows Live Gallery was the slowest of them all as it took 140 seconds.
- **Number of Faces Found (Initial Scanning):** FotoBounce shines here as well as it identified 598 faces in initial automatic scanning as against 585 in Windows Live Gallery, 525 in iPhoto and 551 in Picasa.
- **Suggestions for Previously Tagged people in a previous photo group:** FotoBounce is a winner here as it is the only app under consideration which

provided suggestions for faces that are present in a newly uploaded photo group and are already in the system. One observation though is that for this first time suggestion round, there are quite a few false positives every time a new photo group is added.

NOT UP TO MARK

- **Number of errors:** FotoBounce recognizes objects and marks them as identified faces. For Photo Group 1, it marked 4 such 'faces' wrongly, which is same as iPhoto. Windows Live Gallery made 3 such errors. Picasa performed the best in this category by marking only 1 face in a wrong manner.

COMPETITIVE

- **Number of Suggestions:** FotoBounce and Picasa perform better than the other apps in providing controlled number of suggestions with less false positives. In a few cases of photographs, FotoBounce provided more suggestions than Picasa. At other instances, it also gave more false positives than Picasa as well. We found their performance almost equivalent in this area as far as an end user is concerned.
- **Suggestions – False Negatives:** FotoBounce, Picasa and iPhoto have a very similar behavior in this area. Windows Live Gallery performs the poorest as a lot of faces have to be manually tagged. Same is also indicated in its performance in terms of suggestions made.

COMPETITIVE BUT ALL ARE BAD

- **Suggestions – False Negatives (Photo Groups with mostly group photographs):** FotoBounce, Picasa and iPhoto all show a lot of false negatives in case of group photographs.

NOT THE BEST

- **Suggestions – False Positives (Photo Groups with mostly single person in a photograph):** Picasa performs the best in this category in terms of providing controlled number of suggestions and little to no false positives. Windows Live Gallery is bad here because it almost never suggests anything. iPhoto is the worst performing here because it gives a lot of suggestions (consider Picasa makes 5 suggestions and iPhoto makes 51 for one of the faces), but most of them are false positives (consider for the previous example that Picasa had 0 false positives whereas iPhoto has 48 false positives). Coming to FotoBounce, the behavior is close to Picasa, so it does better than Windows and iPhoto, but not as good in comparison to Picasa as it consistently gives more false positives than the latter.

OBSERVATIONS FOR USER INTERACTIONS

UPLOADING A SINGLE PHOTO

Barring Windows Photo Gallery rest of the apps support this operation.

All the other apps have same procedure via menu options to do that. FotoBounce involves an additional confirmation step at the end (confirm OK button) which is not there in Picasa and iPhoto.

FotoBounce can avoid the last step.

UPLOADING MULTIPLE PHOTOS

Barring Windows Photo Gallery rest of the apps support this operation.

All the other apps have same procedure via menu options to do that. FotoBounce involves an additional confirmation step at the end (confirm OK button) which is not there in Picasa and iPhoto.

FotoBounce can avoid the last step.

UPLOADING A DIRECTORY/FOLDER CONTAINING PHOTOS

FotoBounce has an additional confirmation step; otherwise the process is similar to Picasa and iPhoto. Windows counterpart has an additional step.

The additional step can be avoided.

TAGGING A FACE IDENTIFIED BY AUTOMATED SCANNING

Same as Picasa and iPhoto in terms of number of steps. Windows counterpart has an additional button click.

FotoBounce has a common text field for all photos whereas Picasa and iPhoto have a per photograph text once you click on 'add a name' link for a photo.

In our opinion the approach used by Picasa and iPhoto is cleaner in terms of providing the text field next to the photo itself and providing a link by readable text 'add a name' makes it obvious for the user how to do it.

One place where FotoBounce does much better than Picasa is if the person is being tagged for first time, it does not involve any native window pop-ups the way Picasa does.

CONFIRMING SUGGESTION(S)

Process in FotoBounce is similar to Picasa and Windows Photo, by clicking 'confirm all'.

Doing this in iPhoto is not obvious for multiple suggestions.

REJECTING A SUGGESTION

In FotoBounce one can reject a single suggestion the same way it is done for Picasa and is more obvious than Windows photo and takes one step instead of two as in case of iPhoto.

Rejecting multiple suggestions is simplest in FotoBounce using Reject All.

In Windows Photo, it needs two clicks (select all + not this person), whereas it is either not there or non-obvious in case of Picasa and iPhoto (unless the user wants to reject one face at a time)

TAGGING A FACE NOT IDENTIFIED BY AUTOMATED SCANNING

FotoBounce is extremely simple and takes about half the number of steps as compared to Picasa. Windows Photo has same number of steps, whereas iPhoto involves an additional click.

FOTOBOUNCE APP – TIMING FOR TAGGING WITHOUT NOTE TAKING

To get an absolute sense of time, the tester carried out a separate exercise confined to FotoBounce without taking notes, with the sole goal of tagging the same photo group used in in the test until every face is tagged.

It took **2 hours 32 minutes** to complete the process, after following the same sequence of operations as followed during the testing.

How one interprets this metric is subjective. From one perspective it tells the total time taken when a user is mechanically doing things. From another perspective, this measurement is not useful as it is a single measurement taken by a tester who by now was well versed with the interface and had dealt with the same set of photographs 4-5 times before this. So, this metric should not be looked at as a user experience metric.