

Rethinking User Generated Location Rating: Where Does the Lion Get its Share?

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ABSTRACT

Mobile devices and web pages increasingly set not only the direction, but also the pace taken in many everyday life activities. In essence, the lives of many people today follow algorithmic paths, provided by navigation units and by social recommendation systems. Although this improves the efficiency and functionality of many tasks, this process may also lead to a standardized, and, perhaps, oversimplified approach to reality. In essence, many *likes* on social pages (e.g., Facebook), star ratings on leading traveler websites (e.g., Tripadvisor) and reviews provided by the online crowd may lead the lion's share of users to visit only a limited number of locations. This means that in many cases, people with very different backgrounds, taste, cultural awareness and sensitivity may end in the very same places while missing more appropriate ones, be them historical or commercial. The work presented in this paper aims at moving a first step in unveiling such problem, and experimenting with possible working strategies which may better represent the significance of a location, while still conserving the simplicity of the most commonly utilized evaluation systems.

Categories and Subject Descriptors

H.1.2 [Information Systems]: User/Machine Systems – *human factors*.

General Terms

Design, Experimentation, Security, Human Factors.

Keywords

Recommendation systems, TripAdvisor, Evaluation, Tempio Malatestiano.

1. INTRODUCTION

Be it a medication, a trip or any type of advice, a common trend today is to resort to the web and to mobile apps to find solutions, ideas, and suggestions [1], [2]. In most cases search engines, as well social and web feeds, are capable of providing answers, i.e., synthesis of the plethora of information that is available online, often ranked utilizing user-generated evaluations and scores [3],

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[4]. Recommendation systems, in addition, regularly push suggestions and answers also when no search is being undertaken, hence stimulating users with information, which is typically based on past preferences and choices [5], [6], [7].

Crowd-sourced information often acts as an influencer of new decisions and actions. Evident examples are given by touristic and commercial location evaluation systems, capable of directing thousands or even millions of people to given resources, based on the experiences reported by other thousands of people that already visited those locations.

Although extremely useful, the extensive amount of posts on one side, and the, maybe, excessive synthesis given by simple rankings on the other, may lead to a loss of information and of engaging opportunities, standardizing the choice of the lion's share of online users. A challenge we here individuate, hence, is that of discovering ways of creating stronger connections between given locations and mobile and web end users, whereas keeping systems simple and usable.

Such challenge certainly calls for an answer from visualization research: the problem that is everyday approached in such area is how is it possible to visualize the information provided by, virtually, an infinite amount of people [8]. The same challenge, however, that visualization system research approaches synthesizing great amounts of data in few graphs and sentences, also pose other types of questions, of cognitive nature. For example, are we currently employing correct evaluation methodologies, i.e., are we posing the right questions, or other type of questions, i.e., more sophisticated ways of representing user tastes, choices and personal impressions, are required? Practically speaking, does an evaluation system where a user is asked to provide a score within a one to five based scale of appreciation well represent the significance of a given location? Does not, such approach, lead people to locations based on a simplistic aggregation of such scores, in essence average values?

Anybody who has experienced a situation where a location recommended by any of the mainstream commercial sites did not match her/his expectations already knows how to answer the questions that have been raised. Solving such problem, though, requires understanding where it really lies. Is it about the set of people that contribute to the creation of evaluations? In essence, would a set of people that better matches each of us (e.g., gender, age, education, etc.), in terms of preferences, provide evaluation results which fall more closely to our taste? This is, for example the approach that many touristic websites are now taking, providing the feedback for classes of customers, such as couples, families, elders, etc. [9]. Or should the solution to such problem

be sought at greater depths, for example reinventing how human being preferences are probed.

While a wealth of research exists regarding how it is possible to find ways of categorizing different sets of users, i.e., on how it is possible to profile different people in order to find common points of interest, the research field which deals with finding alternative evaluation methodologies of physical locations for online systems remains largely unexplored [10], [11], [12]. This can be explained, firstly, considering that it is always hard to scientifically approach a problem, which, in fact, is highly influenced by human factors such as engagement and emotion. Secondly, currently employed evaluation systems have, in most cases, proved their validity in the average cases, and hence for the lion's share of users which contribute and receive information from them.

This paper, hence, does not aim at revolutionizing the current state of the art of online evaluation systems. What it intends to do, instead, is to move a first step in the direction of understanding what alternative evaluation metrics may be employed online, while reaching out for deeper significance and stronger bounds, considering options, which may complement or augment the mainstream ones. Each of us is constrained to map the emotions and feelings experienced at given locations in scores and words: are those scores and words sufficient to represent the multifaceted dimensions of human engagement?

In order to do so, this work confronts TripAdvisor information with the data obtained with a custom survey concerning a historical site, the Tempio Malatestiano, located in Rimini, Italy. Anticipating our results, the reviews and pictures found in TripAdvisor all converge to a standard description of the historical site of interest. The same happens with the set of keywords provide by the volunteers of our survey campaign. As we will shortly see, things, instead, slightly change with other the dimensions which have been probed with our survey.

The remainder of this work is organized as follows. We first describe the site of interest and then provide the results obtained analyzing first TripAdvisor posts and pictures and then our survey answers. We then proceed to a discussion, which may serve as a starting point for future research works.

2. TEMPIO MALATESTIANO

The Tempio Malatestiano, depicted in Figure 1, is the cathedral church of Rimini, but first of all it is widely recognized as one of the most important Italian Renaissance landmarks. Designed by the famous Renaissance architect and theorist Leon Battista Alberti, not only its architectural elements, but also the decorations and paintings it contains, contribute to its important artistic value: one of its chapels ends with a crucifix attributed to Giotto, while another is decorated with a fresco by Piero Della Francesca. Interestingly, although the Tempio Malatestiano is regarded as one of the main artistic attractions in Rimini, it is by far not the primary reason why people visit its area. Rimini, in fact, is also one of the main seaside resources of northern Italy and as such it is the destination of millions of people from all over Europe. Sites like TripAdvisor, hence, play a key role in letting seaside tourists discover an attraction they were not really seeking, while still not far from the beach.

2.1 TripAdvisor

In the *Top Things To Do in Rimini* ranking on the TripAdvisor website, the *Basilica Cattedrale (Tempio Malatestiano)* appears as the third most important landmark in town, only surpassed by two

architectonic elements which date back to the Roman Empire, the Tiberius Bridge and the Arch of Augustus. In general, anyone surfing through the Tempio Malatestiano TripAdvisor pages will decide (or not) to visit the church based on its *Top Things To Do in Rimini* ranking, its star evaluation, the number of visitors ratings which fall in each of the five available classes (excellent, very good, average, poor, terrible), the pictures that other users have uploaded and on the user reviews. Other factors, such as the nationality of who wrote a review, or also the language in which a review is written, could also play an important role in influencing a user.



Figure 1. The Tempio Malatestiano in Rimini.

We operated our analysis selecting eighteen (this limit is adopted to match the number of surveys we collected for this study) reviews and viewing all the pictures that were available online on June the 1st 2015. In addition, the reviews have been selected combining two strategies: (a) they are the most recent which may be found on June the 1st 2015, and, (b) we kept the same proportion of reviews, within each evaluation class, i.e., excellent, very good, average, poor, terrible, as if we were considering the whole set of reviews. In essence, we considered fourteen excellent, three very good and one average reviews.

Figure 2 provides a tag cloud representation of the words that most frequently appear in the analyzed reviews (more frequent corresponds to higher font size). Most of these words are related to the structure or to the history of this site, rather than to more personal aspects, related to particular experiences or emotions, if any. A more detailed analysis reveals that most of the reviews that may be found are essentially of descriptive nature. Seven reviews concentrate on the architectural components of the church, underlying it is one of the masterpieces of the Italian Renaissance, five concentrate on the presence of masterpieces by Giotto and Piero Della Francesca, three concentrate on Leon Battista Alberti and one provides a historic background of the site. Of the two remaining ones, one provides a very iconic comment:

“Beautiful. It's worth just to sit a bit to look at it and then walk. A quiet and inspiring site for seaside tourists and for visitors. We recommend a visit.”

and a final one concentrates on the esoteric meaning, or interpretations, of the architectural components of the church.

Of the over seventy pictures found on the social network, most of the pictures concentrate on the same elements cited in the text reviews: (a) the façade, (b) the crucifix by Giotto, and, (c) the Piero Della Francesca fresco.

that a person produces related to that location and the most personal feelings the same person experiences in that place, or not? Is it possible to provide means to convey not only standard historic or artistic information, but also the ephemeral one which remains impressed in the memory of a person? What our results appear to indicate is that the more we move to the personal side, the more a selection process is enacted which, in addition to the personal relation to the site, could also let other relations, i.e., possible relations with those who shared similar experience and memories, become evident.

The question is whether the more we search for a personal touch with a physical place through a computer interface, the more we instead find the emotions, the feelings and the memories of other people (Figure 4). Is it possible to use other means than words and pictures to encourage such process?

Movies and music appear as promising lines of work, although they completely reshape how many people approach rankings, scores and, in general, the relation with any standard set of evaluation metrics. In fact, places that in principle would receive low scores, or also result difficult to rank in any standard way, could still ignite memories and emotions, which many people could feel worth living.

Are there other means of evaluation that could be exploited? Certainly yes, these need to be thoroughly assessed together with the alternative feedback means, i.e., music and film titles, with which we have here experimented.

4. CONCLUSION

How people discover reality through social media is key, as masses of people move according to the information they gather online. When considering the idea of visiting a site, buying a good, or choosing a path, social media provide us with the results of evaluation processes which are necessarily synthetic, in order to be usable. The challenge that is here uncovered amounts to finding alternative means of evaluation, which may carry a richer set of information regarding a physical object. In order to introduce such idea, we here presented an example based on a comparison with the TripAdvisor information that may be found concerning a touristic site located in Rimini, Italy. Although preliminary, our results interestingly reveal that: (a) crowd-sourced feedback tends to flatten around a few distinctive features concerning the evaluated site (at least, this is what we observed for the posts, keywords and photos we reviewed for the Tempio Malatestiano), and, (b) utilizing alternative, or additional, means of evaluation such as music and film titles it is possible to uncover unexplored relations between a site and the people that visited it.

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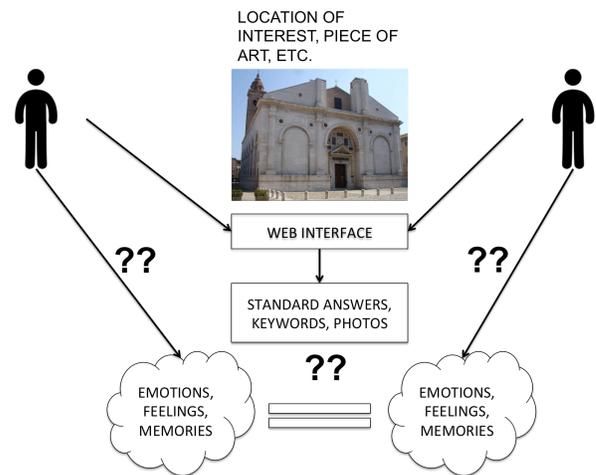


Figure 4. Seeking for alternative evaluation means.

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