

WebTour 2021

ACM WSDM Workshop on Web Tourism

Jerusalem, Israel, March 12th, 2021

Proceedings

Edited by

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Proceedings of the Workshop on Web Tourism (WebTour 2021), held in conjunction with the 14th ACM Conference on Web Search and Data Mining (WSDM 2021), March 8th - 12th, 2021, Jerusalem, Israel, <http://www.wsdm-conference.org/2021/>.

Further information about the workshop can be found at: <https://web.ec.tuwien.ac.at/webtour21>

Preface

Web has become a premier source of information in almost every area, including tourism. When a user is planning a vacation or a trip, she searches the Web for information about destinations, accommodations, attractions, means of transportation, in short, everything related to her future vacation/trip. Nowadays, when the search is complete, it is possible to reserve almost everything online: flight tickets, train tickets, reserve accommodations, attractions tickets or car rentals. The blessing of the easily accessible information comes with the curse of information overload, that brought information filtering and recommendation techniques into play. This is especially true recently given the wide spread of COVID-19 and the uncertainty and transformative power it brings to travelling. WebTour 2021 was the first workshop focusing on the specific role of the Web in tourism. It brought together researchers and practitioners working on developing and improving tools and techniques for improving users' ability to better find relevant information that matches their needs.

WebTour 2021 had two parts, a traditional workshop papers' track, where traditional papers were submitted and presented and a challenge track, where a challenging task + a dataset were published and teams registered and competed in addressing the challenge.

Five research papers and eight challenge papers were accepted to the proceedings. The research papers covered a diverse set of topics, including traditional tour planning to tourists' paths analysis as well as novel ideas of evaluating 360 virtual tour applications and considering diversity and social cohesion in content recommendations.

The challenge attracted more than 800 participants. The accepted papers (of the best performing teams) presented a diversity of deep-learning based approaches for finding the best recommendation of an additional trip destination.

The workshop itself took place virtually due to COVID-19 pandemic, but nevertheless, triggered interesting discussion.

The rapid development of information and communication technologies (ICT) and the Web transformed the tourism domain. Nowadays travelers no longer rely on travel agents/agencies. Indeed, recent studies indicate that they are now active in searching for information and composing their vacation packages according to their specific preferences.

When onsite, they search for freely available information about the site itself rather than buying a visitor guide, renting a mobile guide or hiring even a tour guide that may be available, but would be considered expensive or sometimes outdated. However, like in many other cases, the blessing of the Web comes with a curse – the curse of information overload. Recommender systems are a practical tool for overcoming this information overload.

However, the tourism domain is substantially more complicated, and as such, creates huge challenges for those designing tourism focused on recommender systems. Planning a vacation usually involves searching for a set of products that are interconnected (e.g. means of transportation, lodging, attractions etc.), with a rather limited availability, and where contextual aspects may have a major impact (timing, social context, environmental context). In addition, and most importantly, products are emotionally “loaded” and considered “experience goods”. Therefore, decision taking is not only based on rational and objective criteria (i.e., system 2 thinking). As such, providing the right information to visitors of a tourism site at the right time about the site itself and various services nearby is challenging. Thus, all of this makes building effective recommendation systems within tourism extremely difficult. The workshop focuses on the specific challenges for tourism-related information search and recommendations. This workshop focus on tourism provides an opportunity for WSDM participants working in this area to discuss specific issues of interest that are unique to this complex and attractive domain. We are confident that this workshop will be a start for focused discussions at WSDM for years to come.

WebTour is the first workshop focusing on the specific role of the Web in tourism. Traditionally, the RecTour workshop series has been associated with the RecSys

conference since 2015, focusing on applying recommendation techniques for helping users cope with information overload of tourism-related information. However, as the Web is the main (if not the only) source of information for travelers that are planning their trips, a WSDM workshop is a natural choice. Tourism-related information is available all over the Web. This workshop therefore brings together researchers and practitioners from different fields (e.g., tourism, recommender systems, user modeling, user interaction, mobile, ubiquitous and ambient technologies, artificial intelligence and web information systems) working in the tourism recommendation domain. The workshop aims at providing a forum for these people to discuss novel ideas for addressing the specific challenges for recommender systems in tourism with the goal to advance the current state-of-the-art in this field. Another goal of the workshop is to identify practical applications of these technologies within tourism settings from the point of view of individual users and user groups, service providers, as well as additional stakeholders (e.g., destination management organizations).

WORKSHOP TOPICS

The key interest topics of the workshop are:

- Systems, applications and novel techniques
 - Information search in travel and tourism
 - Recommendation systems for travel and tourism
 - Route planning and trip recommendation
 - Data integration methods
 - Case studies and evaluation
- User modeling in tourism
 - Travelers preference elicitation
 - Context and mobility
 - Information needs, information access and search patterns
 - Cold-start problem in tourist information search
 - Interaction concepts with personal and group displays

- Personalized explanations and feedback of recommendation systems
- Digital storytelling and narratives
- Networks, governance and policy
- Analysis of networks in tourism
- Novel ICT and its impact on travel and tourism
- Sustainability of the tourism ecosystem
- Travel and tourism in the COVID-19 and post-covid era

CHALLENGE

As part of the workshop, the WebTour 2021 Challenge organized by Booking.com is taking place. It focuses on a multi-destinations trip planning problem, which is a popular scenario in the travel domain. The goal of this challenge is to make the best recommendation of an additional in-trip destination. To do so, Booking.com provides a unique dataset based on millions of real anonymized bookings. Top performing teams are invited to present short papers describing their solution approach and receiving prizes. For a more detailed description of the challenge dataset see <https://www.bookingchallenge.com/>

SUMMARY

The WebTour 2021 workshop draws special attention to the various challenges of tourism in the Web context and brings together scientists from diverse fields such as e-tourism, recommender systems, user modeling or adaptive hypermedia. Therefore, this first instance of a workshop topic constitutes an important step for establishing e-tourism research at the WSDM conference series. The workshop proceedings can be found on the website of the workshop at <https://web.ec.tuwien.ac.at/webtour21/>.

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Program

The workshop will take place on March 12, 2021. The schedule is provided in Jerusalem time (GMT+2).

12:00 – 12:15 – WebTour opening

12:15 – 12:40 – Elif Erbil and Wolfgang Wörndl: Generating Multi-Day Round Trip Itineraries for Tourists.

12:40 – 12:55 – Rinita Roy and Linus W. Dietz: TripRec – A Recommender System for Planning Composite City Trips Based on Travel Mobility Analysis.

12:55 – 13:10 – Lukas Vorwerk and Linus W. Dietz: An Interactive Dashboard for Traveler Mobility Analysis.

13:10 – 13:25 – Roman Shikhri, Joel Lanir and Lev Poretski: Evaluation Framework for Improving 360 Virtual Tours User Experience.

13:25 – 13:40 – Tsvi Kuflik, Paul Mulholland and Alan Wecker: Tourist recommendations with a touch of SPICE: A TRS with Deep Cultural Understanding.

13:40 – 13:45 – Wrap up of the paper session

13:45 – 14:45 – Lunch break

14:45 – 15:00 – Dmitri Goldenberg: Booking.com WSDM WebTour 2021 Challenge.

15:00 – 15:20 – Michał Daniluk, Barbara Rychalska, Konrad Gołuchowski and Jacek Dąbrowski: Modeling Multi-Destination Trips with Sketch-Based Model.

15:20 – 15:40 – Benedikt Schifferer, Chris Deotte, Jean-Francois Puget, Gabriel de Souza Pereira Moreira, Gilberto Titericz, Jiwei Liu and Ronay Ak: Using Deep Learning to Win the Booking.com WSDM WebTour21 Challenge on Sequential Recommendations.

15:40 – 16:00 – Closing discussion

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