Прилог 6

ToR for ITOP Platform

### System Description

The platform will involve web-services that fetch touristic offers of the target regions, from popular websites that offer data for accommodations and attractions, including their ratings, comments and other metadata to the iTOP[[1]](#footnote-1). As such, on one hand the platform is fed content automatically - and from the very beginning-while the SMEs, startups, restaurants, etc. do not need to upload their offer more than once in a system of their preference.

On the other hand, the STEP project team has an overview of the complete offer from the both regions, thus helping as necessary. Most importantly, and innovatively the iTOP allows ‘human mediation (ex: touristic guides, enthusiasts, etc.), and the possibility to combine offers, or even particular items from different offers, into newly-claimed unique offers -of their own- offering unique touristic experiences.

The system should also offer the possibility for tourists themselves to be able to craft their own custom ‘demands’, combined on the offers of the platform, which are then matched to given ‘human mediators’ convenient for the requests. In the context, the challenge of attracting visitors to use iTOP will be tackled not only through its advertisement, but also through promotion of its innovative and appealing features in social media.

The iTOP Platform should be developed using an Open Source technology stack as an enterprise-level information system that will integrate multiple modules as presented bellow into a single platform, offering a comprehensive data processing and other actions life cycle in a manner compliant with the guidelines and Laws of Republic of Macedonia and required international standards.

### System Architecture

The iTOP Platform will be a solution that will cover all processes related to publish information of public character that will be used to improve tourism in the targeted regions (Polog and Elbasan regions). It should be designed using a modular approach, in which each module should be able to share information with different data sources, share information, provide a standardized platform for data exchange etc.

The basic requirement that is to be met is the idea on management of information about events, places and touristic offers, from the moment of their registration to the system, management of user accounts, update of offers, multimedia publication, modules for data management, secure data storage, integration and interfacing with other systems etc.

## Operating Environment and Collaborations

The server should be designed to run under the Linux Platform, and will need Apache or another web server supported by the operating systems listed above. All the components of the system are to be open source. The suggested DBMS systems are MySql or PostgreSql, but other DBMS may also be considered.

The client will run on any operating system, sufficiently to have a modern web browser installed. The contractor should make sure that the client runs smoothly in any reasonable screen size, making the application suitable for desktop, tablet and mobile clients.

### iTOP Modules, Sub Modules and other components

Below is a brief description of the modules that ITOP should contain:

1. **Touristic Information Platform (iTOP) web application or portal** 
   * The internet portal will be the entry point of this application
   * Ability to login with different access control rights and present information appropriately to users of various levels
   * Support responsive user interfaces adoptable to clients of various screen size and various operating systems (desktop, mobile, tablet)
   * Offer multilingual user interface (Albanian, Macedonian and English by default, but also translatable to other languages in the future)
2. **Web scraping capabilities** 
   * to import or link data with existing touristic platforms (worldwide platforms, such as booking.com)
3. **Data Entry for new offerings**
   * Entering data about: hotels, apartments, attractions, trips, restaurants and similar.
   * This also requires data linking of new entries with web scraping data (combining)
   * Dynamic fields for data entry to be allowed with different data types: Text, Date/time, price, duration, etc…
4. **Data Listing of combined offerings**
   * The input from iTOP system and the ones imported from web scraping should be listed as “touristic offers” and as standalone items with appropriate pricing per person/day/event.
   * This listing should be graphically designed that matches major Touristic providers, such as booking, tripadvisor, trivago and/or similar.
5. **Ability to add/embed multimedia (youtube, Instagram and similar) and third-party content**
   * Tripadvisor embedding tool is mandatory.
   * Other tools with embedding possibility should be allowed to be integrated in the portal and attached to the data listing offerings
   * Ability to create albums of images or video
   * Ability to attach such albums to POI or Events
   * Handle large amounts of data and appropriately design data distribution
6. **User Management Module**
   * Ability to register new users and manage existing users
   * Ability to assign different access control levels to different users
   * Multi-level users: Administrators of iTOP, touristic workers and tourists as three different types of users. In addition, “API users” will be created only for consumption of iTOP APIs.
7. **Touristic offers**
   * Ability to create “vacation package” from the existing data with prices by touristic workers
   * Ability to create “vacation needs” from the existing data (if applicable with prices) by tourists themselves
   * Ability to attach multimedia to these offers
   * Handle large amounts of data and appropriately design data distribution
   * B2B matching of the “vacation needs” from tourists and touristic workers with communication tools in between (messaging system)
8. **Notification and Communication Center**
   * Notification through E-mails or System notification,
   * Sending the notification on individual bases, Unit, all organization etc.
   * Presenting the incoming Notification though Dashboard and dedicated Inbox (including outgoing notification) integrated in the system
   * Automatic integration with processes
   * Possibility to be integrated with GSM SMS Services.
9. **Other**
   * Responsive Web site that will work on mobile devices also
   * Available API for external consumption of iTOP data by third party users, called “API users”
10. **Business Intelligence Module**
    * Integrated solution presented through Dashboard with options for configuration and limited adopting,
    * Graphical presentation and Pivot Table format of analytic statistics with further results drill down options,
    * Presentation of trends for processes within time periods,
    * Presentation of statistics and analyses in Pivot Tables.
    * Ability to generate custom statistics

## Non-functional Requirements

In accordance with requirements there should also be an option of offering professional model of Desktop Application GUI  that will meet all standards and requirements as mentioned in Technical Specification Document  that are referring to:

* Good performance,
* Security,
* Stability and
* Minimal consume of network resources.

All three solutions will have secure authentication that will be implemented in different approaches in accordance with technology (custom authentication or authentication via OAuth providers) using best security practices. System should be localized in three languages, with an option of adding more as requested, starting with: Albanian, Macedonian and English.

System should have normalized back-end and well managed front-end that provides very good service (high speed and stability) to the users which insure that all transactions (DML and DCL) are completed with excellent time score. Critical transactions are treated with high level of priority.

Data entry is supported with various tools that reduce typing and all fields are managed with certain level of data integrity supported with data constraints which insures that possible typing mistakes are very much limited, less work and good time of data entry processing.

For all mistakes on data insert/update users are prompted with the message about the error with instructions for the solution and the focus on the control where problem occurs.

Depending on the scenario, some of these error messages may require mandatory actions. Solution in generally will provide Security, Stability and performances that will meet organizational expectations.

### Product requirements

Solution should be delivered as turn-key project with common interface that is going to be used for various purposes.

A web based GUI will cover major part of application involving Data Manipulation and other actions that are considered as sensitive.

Entire interface of system will operate in languages (Albanian, Macedonian and English) and should be very much automated towards data entry and other processes in the system.

The system should be supported as well with other feature like: hints, help, adequate controls that will make system neutral in processing information, maintaining data integrity through validation and mandatory fields will make this system very efficient and responsible.

The system will also prompt with messages that should inform users about further instructions being reliable and efficient within project expectations.

1. Please refer to: tripadvisor.com, viator app, booking.com, expedia.com for more details on potential models and views of the new site. [↑](#footnote-ref-1)