Film Tourist App Design

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Outline

Introduction

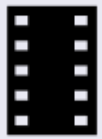
Aims

- The aim is to design a Prototype FilmTourist App for the Android and iOS platforms (cross-platform).
- This app is designed to make film lovers visit locations portrayed within a specific movie and discover locations near him.
- The app User Analysis is based on the review of 2 articles: Connell 2012 and Rittichainuwat and Rattanaphinanchai 2015 (see optional slide)

Features

The locations will be shown on a map based on user location

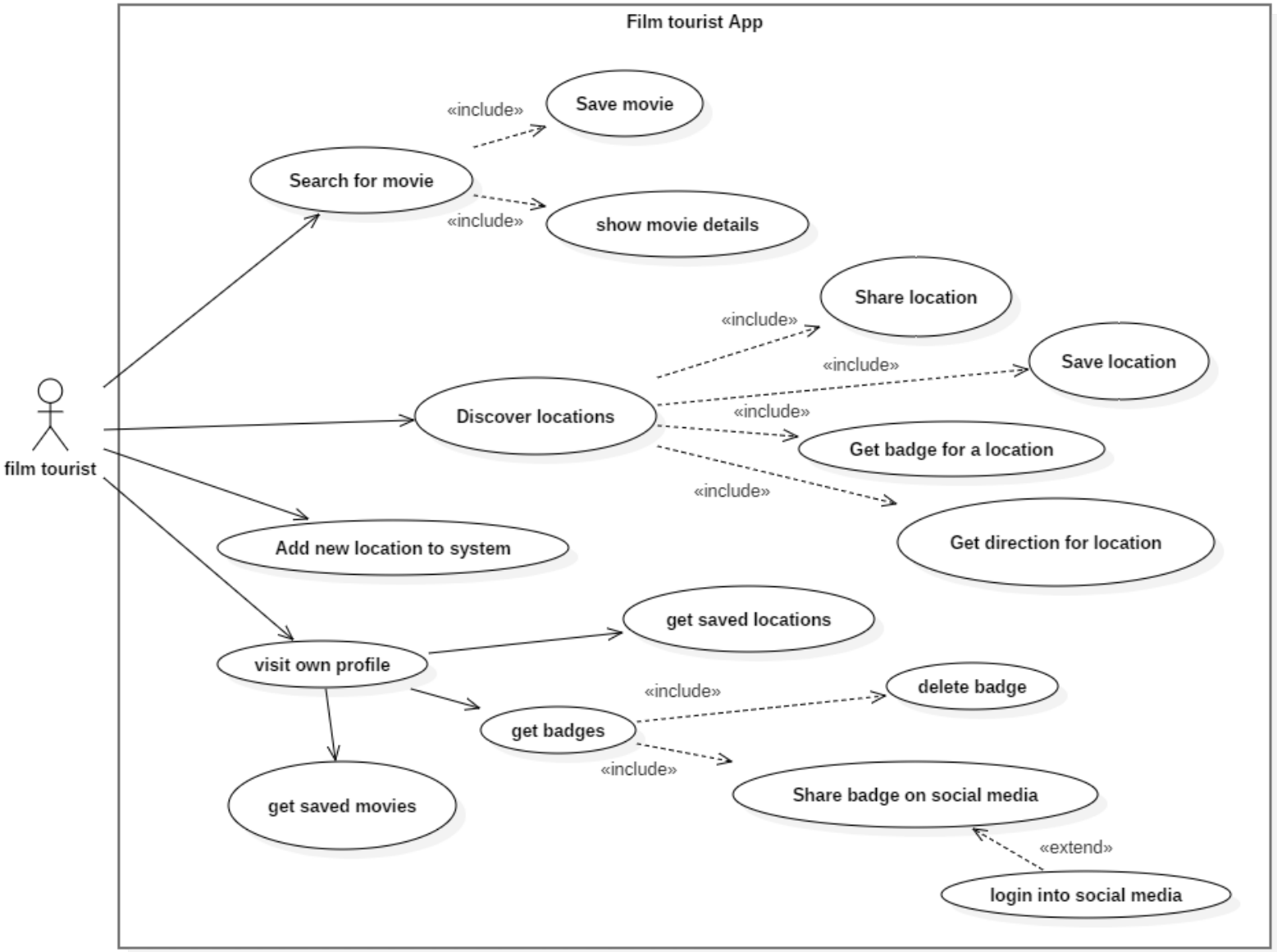
Get all the filming locations for a movie, bookmark them and get a verified badge when user visits the place.



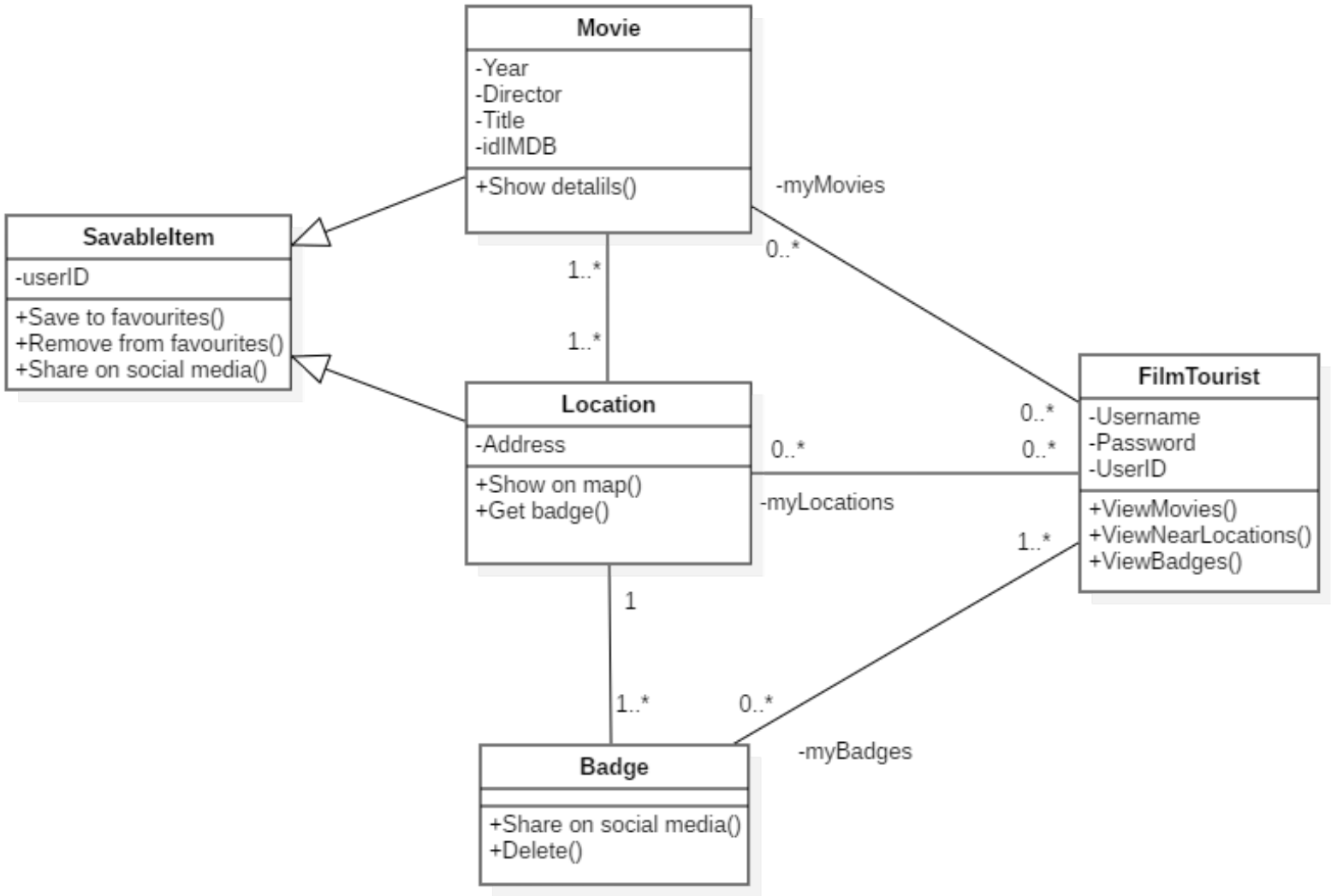
Verified badges, movies and locations can be shared with friends using social medias (eg. Instagram stories)

(Optional) Send notification when the user is close to a filming location bookmarked. Remember the user to ask for a badge!

Use case diagram

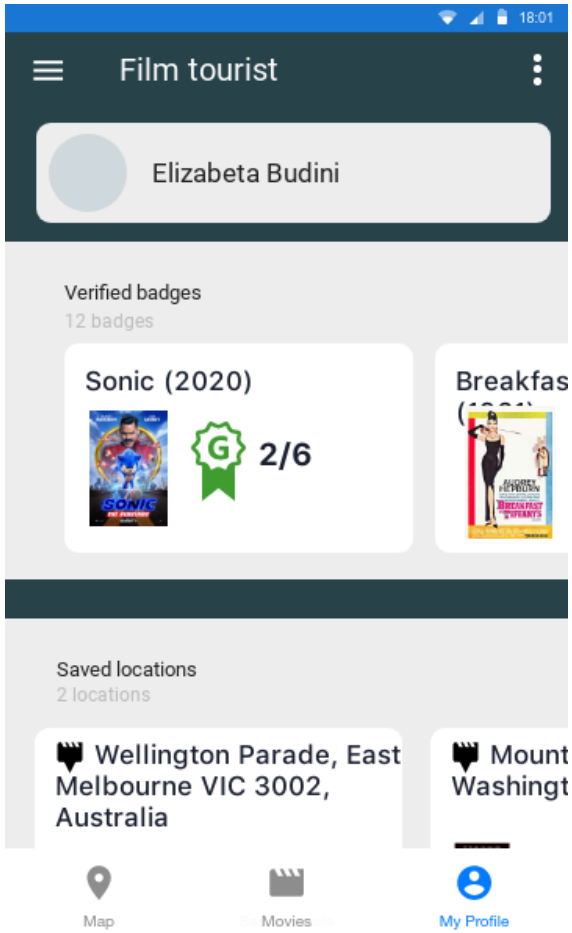


Class diagram



UX Design

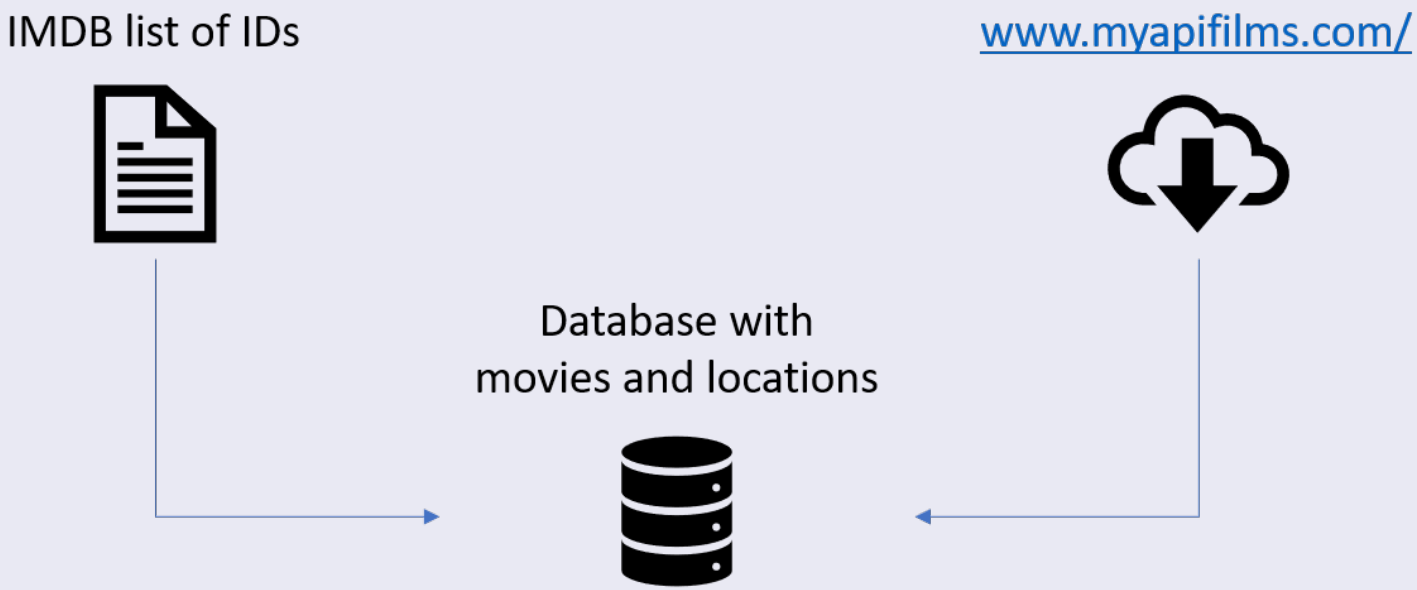
Figure: Screen Example



Video demo: `https://youtu.be/AoP2ey-hSfo`

Data source(s)

- Merge data from the myApiFilms (proprietary) web service and Amazon IMDB dataset to create own Movie database (see extra slide for code)



Data source

Web API

- Will use the MyApiFilms to get Movie locations and data: Example Request URL – search for a movie by IMDB ID (e.g. tt1877830): `https://www.myapifilms.com/imdb/idIMDB?idIMDB=tt1877830`

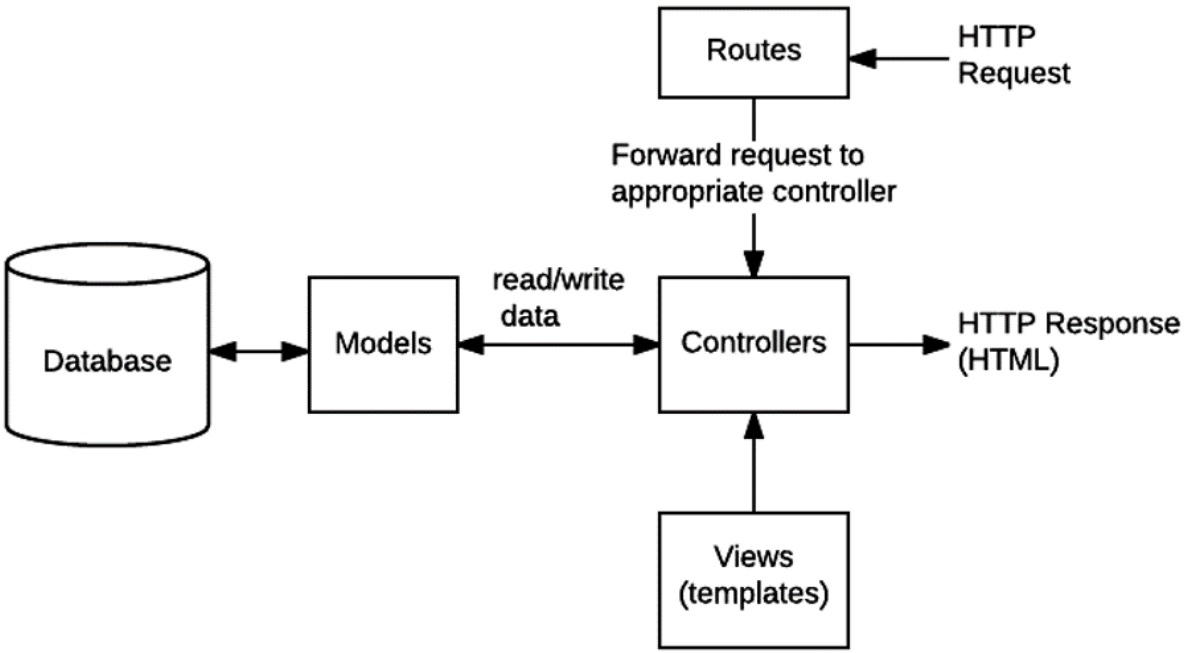
Example Response in JSON:


```
"title": "The Batman",
"year": "2021",
"idIMDB": "tt1877830",
"urlIMDB": "https://www.imdb.com/title/tt1877830",
"filmingLocations": [
        {
                "location": "Warner Bros. Studios Leavesden, Watford, England,
                    UK"
        },
        {
                "location": "Necropolis Cemetery, Glasgow, Scotland, UK"
        }
]
```

Build Specific API

Main routes

- /myAPI/movies/:filmID
  Get informations and locations for a movie
- /myAPI/filmlocations/:location
  Get filming locations near a given location
- /myAPI/badge/verify/:userPos&filmloc
  Verifiy the user location to give a new badge



Data persistence

- Using Realm for managing Movie data
  - It's fast, can be combined with server-side databases.
  - Good choice when dealing with large data.
  - Dynamic with the way it encrypts data. It uses different encryption mechanism for different mobile platform.
  - Example:

```
Realm.write(() => {
 Realm.create('Post', {title: title, cont: content, time: timestamp});
});
```

- Using Redux for application state managing
- Using AsyncStorage for simple and small data. For example, the data that the app will need to login the user, like session id and/or user id.
  - Example:

```
const userId = '8ba790f3-5acd-4a08-bc6a-97a36c124f29';
const saveUserId = async userId => {
try {
     await AsyncStorage.setItem('userId', userId);
} catch (error) {
// Error retrieving data
    console.log(error.message);
}
```

Frameworks

LOCATION

- Will use React Native GeoLocation framework to verify badges and show nearest filming locations
  - Example:

```
geolocation.getCurrentPosition(geo_success, [geo_error], [geo_options]);
```

LOG-IN

- Might use Google Firebase for authentication
  - See: `https://medium.com/fullstack-with-react-native-aws-serverless-and/google-sign-in-for-react-native-android-7d43df78c082`

WEB VIEW

- Will use React Native Web View to display IMDB trailers
  - Example: `https://reactnative.dev/docs/webview`

SOCIAL NETWORK

- To post badge to Instagram Stories will use Facebook API
  - Example: `https://developers.facebook.com/docs/instagram/sharing-to-stories/`

Target Platform features

- Access camera to attach picture to a verified badge. Will use Flutter for doing this. E.g.

```
await _initializeControllerFuture;
final path = join((await getTemporaryDirectory()).path,
   '${DateTime.now()}.png',
 ); await _controller.takePicture(path);
```

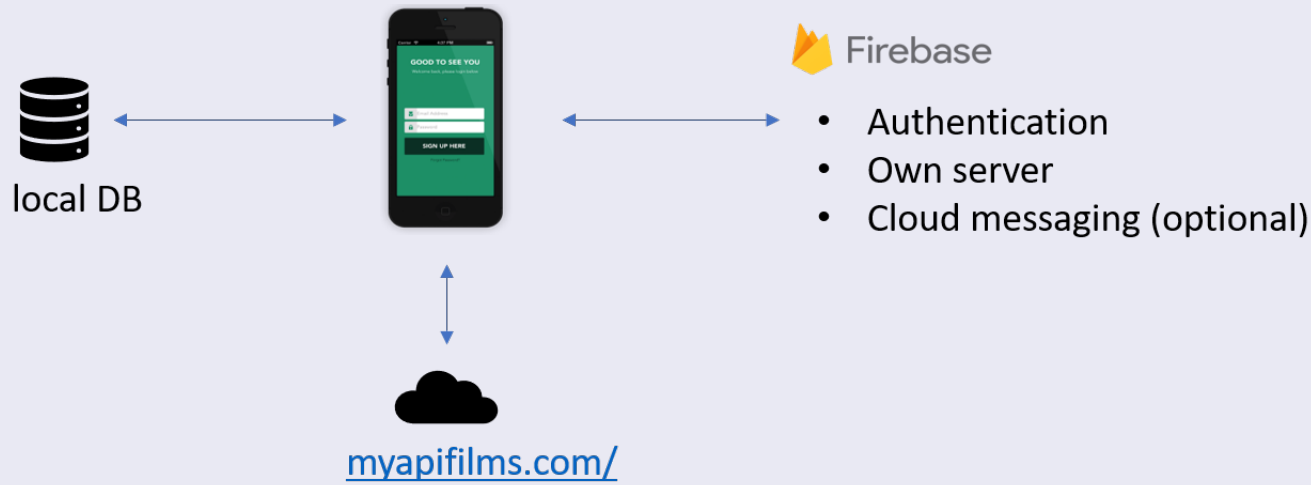
- Access battery level to disable some functionalities when battery is low. `https://www.npmjs.com/package/react-native-battery.(optionalfeature)`
- Use Firebase Cloud Messaging (FCM), it provides a reliable and battery-efficient connection between our server and the devices that allows to deliver and receive messages and notifications on iOS, Android, and the web at no cost. (optional feature)

Architecture

Software Design patterns

- Implement the Singleton design pattern for the connection to the database
- Implement the Command design pattern for API calls, to separate the objects calling an API service from the objects which are telling them when to call the API service.

App Architecture



Conclusions and perceived challenges

Conclusions and challenges:

- A challenge would be trying to select only precise locations, for example ‘Liverpool, England’ is too general instead ‘Trevi Fountain, Rome, Italy’ is a specific place.
- Map marker clustering should be implemented if too many locations need to be shown.
- May implement the possibility for the user to add new locations and contribute to the database

References

Connell, Joanne (Oct. 2012). “Film tourism – Evolution, progress and prospects”. en. In: *Tourism Management* 33.5, pp. 1007–1029. ISSN: 0261-5177. (Visited on 02/15/2020).

Rittichainuwat, Bongkosh and Suphaporn Rattanaphinanchai (Feb. 2015). “Applying a mixed method of quantitative and qualitative design in explaining the travel motivation of film tourists in visiting a film-shooting destination”. en. In: *Tourism Management* 46, pp. 136–147. ISSN: 0261-5177. DOI: 10.1016/j.tourman.2014.06.005. (Visited on 03/01/2020).

Discussion slides

- Most film tourists are incidental (i.e. just happen to be at the destination) but increasing evidence, especially from UK research (see OlsbergjSPI, 2007), implies that huge increases in visitors correspond with film and television showcasing, indicating that the importance of film as a tourism attractor should not be underestimated.

- Out of 1852 samples, the numbers of specific film tourists (10.5%) and general film tourists (19.5%) are less than serendipitous tourists (70%) - their presence in a film destination is unrelated to the film. Motivations based on social interaction and novelty;