Web application HTML5 & CSS3

Assignment C: Flickr Photo Browser

## Introduction:

The Mash-up is a Flickr Photo Puzzler Game. You can puzzle images from Flickr of different difficulties and share your high score with friends on Facebook. The web application can be accessed by this link: http://asbp.frwaw.itu.dk/assignmentC/

Compatibility of browsers: (Recommended: Chrome or Safari)
- Chrome, Safari and Firefox has 100% functionality of the web application.
- Safari and Firefox still has some different visual design outcome.

| The technology | Brief reason of choice: |
|---|---|
| CSS3 Animation | The animations enhance the user experience, providing the knowledge of the browser loading while pictures from Flickr are being collected. |
| HTML5 Geolocation | Gives the Flickr API a Geo Location of the users position. This is used to collect photos, which ensures different pictures for puzzling. Ultimately this could perhaps give the user a home-front advantage. |
| HTML5 Local Storage | Gives the user the ability to save the highest score of points from the Photo Flickr Puzzle, even after closing the browser closes, and to get notified every time a new high score is reached. |
| The <canvas> element | The canvas enables the capture of a Flickr picture and to initialize a puzzle on it. The puzzle keeps track of every element (boxes) shuffled and the completed state for the entire photo. |
| Drag and Drop | The Drag and Drop have been done on both the puzzle photo, to enable the user to complete the photo again, and the listed Flickr photo collection. |
| Facebook API | The Google Maps API has been changed to the Facebook API instead. It was more in favour of this web application to share your high score with other via Facebook, rather than altering your location on a Google Map. |

**Other minor implementation has also been done and can be read on the next page along with the source used.*

## Minor Objectives implemented:

- Obtain information on which browser the user is using
  - Firefox, Internet Explore and Safari
- Design platform/structure:
  - Pictures collected showed as Apple-style-icons (look-alike)
  - Linear-gradient background.
- Responsive layout: mobile/tablet/web view
  - Web Version: Enabled PuzzleGame and Disabled ImagesView.
  - Table Version: Disabled PuzzleGame and Enabled ImagesView
  - Mobile Version: Disabled PuzzleGame and Enabled ImagesView

- Collect current location via browser.
- Collect Flickr pictures from API:
  - On browser load: Location (LatLng API).
  - On search load: Location + Search (phrase).
- Flickr pictures have click-function, which shows image in main-Image-container.
- Drag and Drop implementation on Flickr pictures collected.

- CSS loading (rotation) while collecting API images from Flickr.
- FadeIn and FadeOut animations:
  - CSS loading (fast).
  - Flickr pictures (slow).
  - Main Image Container (slow).

- Puzzled Image change by OnClick in flickr collection
- Puzzled Image divides into pieces and can be drag/drop until completed.
- Puzzled Image has time count between puzzleStart and puzzleComplete.
- Display score and number of puzzles done on the browser after puzzleComplete.
- Select difficulty easy/medium/hard (determines #pieces in the puzzle and reset score)

- Local storage of your high score and total puzzles done.

- Facebook API implementation to share your high score with friends.
- Alert to provide user knowledge if Facebook-post has been successful or not.

## Point algorithm:

$$Score = \Big((10 \cdot puzzleDone) - \big(time \cdot (0.5 \cdot moves)\big)\Big) + (difficulty \cdot (0.5 \cdot puzzleDone)$$

“puzzleDone” = The total number of puzzles done (same difficulty).
“time” = The time used from current puzzle-start till puzzle-complete.
“moves” = The total moves used in current puzzle until completed.
“difficulty” = The difficulty selected easy/medium/hard with the values 150/700/1500

## Sources

Web application structure:
- https://www.sitepoint.com/creating-image-gallery-using-flickr-api-requirements-markup/
- https://github.com/ilcfloran/Photo-Gallery

Flickr API:
- https://www.flickr.com/services/api/

Facebook API:
- https://developers.facebook.com/

Puzzle structure:
- http://code.tutsplus.com/tutorials/create-an-html5-canvas-tile-swapping-puzzle--active-10747

Picture upload:
- http://imgur.com