Multimedia Project Technical Report

Which country of the world is the best for becoming a millionaire?

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Project Summary

This technical report presents an insight into management, prototyping, design, development and testing of a multimedia project on the theme of "*Which country of the world is the best for becoming a millionaire?*". This project uses various types of multimedia such as images, video, lists, charts and other interactive elements to support creating a rich digital publication that gives an extended insight into this seemingly simple question. It discusses factors such as average income and average cost of living per each country in the world, in order to arrive at determining best countries for reaching set goal of becoming a millionaire on average income.

I have identified certain number of target audience categories and user scenarios, that would aid the design and development process of the structure of the project, as well as technical and content design. The main target audience is an average person, that leads a normal life with average income and expenses, that might be interested in the concept of the website for the simple reason of not being millionaire. For second target audience, I have selected students, or more exactly fresh graduates, who might be interested in relocating after finishing their studies and would find useful the information on average income and cost of living per particular country. Third audience is a group of people, who enjoy reading interesting articles on the internet (with whom I connect on personal level in site introduction by mentioning Medium website) and who enjoy discovering interesting facts about anything. Last and smallest audience is defined for people with actual intention of becoming a millionaire, who would find this site most useful.

As a next step, I created a scenario for each of target audiences, which I will describe in this paragraph. First, an average person may arrive at the site with the question: "Could I actually become a millionaire?". Their task is clearly finding an answer to this question. As an action, they can either start reading content from the top, getting immersed in the topic before arriving at the answer, or they may use navigation to jump to **Final Results** section, where they would either find their answer or use the search form in following section to search for their country data. For the second audience, student would be interested in overall statistics for each country, thus will in this case find useful information in each section, whether that concerns average income, expenses, overall results or querying their country of interest in search form. They can freely navigate to each of these using the navigation bar, that would be constantly available at top of the screen. Third audience will be looking for interesting facts, thus specifically for them I create **Interesting Facts** section at the end of the essay, in order to extend already present content on the topic with additional value. Last audience is the one, that would benefit the most from reading the entire visual essay from the start to the end, with possibility of moving between sections using the navigation bar.

Now that I have defined my target audiences and user scenarios, it was time for executing first phase of user testing. Already at the start of project, I was aware of benefits of user-driven development, thus I have selected a certain number of people that would take part in each phase of testing throughout the design, prototyping and developing of the project. I have included people of different gender, ages (in range 18-45), with technical background as well as without, none of which had encountered similar topic before. The variety of testers ensured that results of testing would be most insightful and useful. First phase of testing consisted of simply introducing to them my topic and defined target audiences, while discussing any additions or improvements to be done. Then I have asked them, how they imagine an essay like that would look like, using the most insightful points in my prototyping process.

Project Management

Before moving to prototyping, I needed to be aware of technologies that I would be using in the development process, thus next step was to create a management system for my project, which would define these technologies, as well as how I would manage their functionality in terms of file and multimedia organisation. This is very important, as managing files such as stylesheets, scripts, images and others properly is also decisive factor in the design quality and performance of a website. By project requirements, I knew I was going to use MYSQL database for storage and management of my data, then HTML, CSS and Javascript for development of the website and finally PHP for accessing database and working with data in HTML. I have decided to use **Less** framework for writing CSS (Leaner Style Sheets), which allows to write CSS in a more sophisticated and convenient way, leading to cleaner code, smaller file size and thus faster performance. To mention one of its features LESS allows to write CSS in same hierarchical way as HTML. Secondly, I have used **Bootstrap** framework, that allows simple building of responsive layouts and base components such as navigation. Furthermore, I have used **Webpack** module to bundle all of project stylesheets and scripts into one single bundle file, that can be loaded by one request from index page, again, improving the speed of page loading. Two last frameworks I used were **AOS.js**, an animation library, that allowed me to easily animate elements on my webpage, and **Chart.js** library, that helped me create beautiful charts from my data. All these modules were installed via **NPM** (Node Package Manager), a **Node.js** library that allows you to manage all of external dependencies via command line.

Prototyping

The next step was creating a prototype for the website. I have decided to create low-fidelity prototype and design wireframes for the site layout, based on previous discussion in first phase of testing. After I finished wireframes, it was time for second phase of testing, discussing wireframes with my test group and making any suggested improvements. One of notable insights was to have big amount of white space on each side of the text (which resulted in side padding of around **20%**) in order to focus the user

on text, while highlighting data visualisations and charts by giving them less padding and thus more space on the width of the viewport. As the scope of the project was one page in this case, I have decided not to do more prototyping and move to development.

Project Structure / Content Design

In this section I would like to discuss how I divided site content into meaningful sections, as well as types of multimedia used within them and how they enhance the presentation of data. The **landing page** presents users with a header image, main title, sub-title and author, in order to give them clear idea of what the site is about, without any other visual distraction. Then users finds reasons for creating the project in **Introduction**, explained in form of a little story, as a way of connecting with users on a more personal level and making them curious about topic. Already in **Introduction**, there are links to wider knowledge, as well as first captivating statistics visualised with doughnut chart raising further the curiosity levels of users about the topic. **Introduction** is finished with a **thesis** that restates the topic question and invites users to read about results. Following, users read a **Preparation** section, that sets few necessary definitions and standards for understanding how data for this project was gathered and manipulated, before getting final results. After this section, users finally arrive at first section, where knowledge is presented about **Average Income** in every country, in form of list visualisation with country name, country flag (for clear visual indication of country), ranking and salary data. This is accompanied with text commentary on the data, where every mentioned country is also highlighted and presented with its flag. At the end of this section, we have use of video as a way of providing greater insight into situation of particular country (Venezuela). Next section, that discusses **Average Expenses** works essentially on the same principle as previous one. Throughout these sections, we have links available to move quickly to relevant tables. After introducing countries statistics on income and cost of living, users arrive at the climax point of the site - the announcement of best countries for earning a million in fastest time. Apart from textual commentary, I have used a podium visualisation for Top 3 countries along with little illustrations of gold, silver and bronze medal, because in human brain these work as extremely strong indicator of Top 3 ranking. In fact, this choice was a result of an insight during user testing throughout the development process. After Top 3 ranking, users get a further insight into strength of countries in this particular ranking, visualised with a bar chart. Following is a section about **Rest of the World**, aimed at users who didn't find their country in ranking or are interested in more content. This section presents discussion into which countries allow reaching set up goal in lifetime, along with a list visualisation that is enforced by use of colors (red, green) and a search form that allows users to look for all data relevant to particular country of their interest. As mentioned in Project Summary, there is **Interesting Facts** section for the last target audience, or anybody else, who would be curious about more facts on the topic. Lastly, users have an option of providing feedback on the site by sending email through a contact form in **Feedback** section. At the end of document, I list all references for sources used in the textual content throughout the document.

User Testing

As mentioned throughout this report, I have set up and executed several testing phases during the development process, first phase before prototyping, second after prototyping, third included user-driven development of the site and last one took place after completing first version of the website, prior to any additions based on user testing. The most resounding results from the last phase was the appreciation of multiple paths for exploring the content and links to wider knowledge throughout the text, few fixes executed on functionality of contact form and search engine and several modifications that improved execution of theoretical design principles (contrast, repetition, alignment, proximity).

Sources of data collected in the database

Most of the data was collected by **Numbeo**, the world's largest database of user-contributed data on costs and prices around the world.

1. **Numbeo** - The world's largest database of user contributed data
    Source: https://www.numbeo.com

2. **International Labour Organisation** - Global Wage Report 2018/19
    Source: https://www.numbeo.com

3. **The World Bank** - One of the largest sources of funding and knowledge for developing countries
    Source: https://data.worldbank.org

4. **The Wikipedia** - List of minimum wages by country
    Source: https://en.wikipedia.org/wiki/List_of_minimum_wages_by_country

5. **Jonathan Gregson** - The Richest Countries in The World
    Source: https://www.gfmag.com/global-data/economic-data/richest-countries-in-the-world

6. **Barbara Tasch** - The 23 poorest countries in the world
    Source: https://www.businessinsider.com/the-23-poorest-countries-in-the-world-2015-7?r=US&IR=T