ARI3216 Project
Web Data Mining

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This document contains the details for the **WebD-idea** project. Individuals are encouraged to work in teams of two or three. While discussions between individual groups are considered healthy, the final deliverables need to be your own and not plagiarised in any way. This project is worth 100% of the total, final mark for ARI3216 (Web Data Mining). Questions related to the problem that each team will be tackling should ideally be discussed with us. Other questions related to the general aspects of the project and/or questions related to the different technologies etc. should be posted in the projects VLE forum.

The **deadline** for this assignment is **12:00 pm Monday 13th January 2020**. Deliverables, with attached and signed plagiarism form, must be submitted on the VLE. Furthermore, a copy of the artifact has to be submitted separately to us on a CD or a pendrive (which will be returned). Late projects will be penalised.

1 Introduction

The overarching aim of the **WebD-idea** project is the ideation, design and implementation of an educational app or game that serves to educate Maltese citizens about personal financial capability and to help them make better-informed financial decisions.

The target audience for the developed solution may be one of two segments, namely:

i. Mid-primary to junior secondary students (7 to 12 years);

ii. Senior secondary to post-secondary students (13 to 18 years).

The developed solution needs to have the following characteristics:

i. Fun - it needs to be fun and engaging;

ii. Interactive - it needs to engage the user, set goals and provide rewards;

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iii. Educational - it needs to serve as an educational tool about personal financial capability.

1.1 Business Aspect

The proposed app/game must be validated by some market research that aims to show that:

- The problem actually exists (i.e. there are users that face such a problem);

- The solution will be used by these users.

For the scope of this project, teams are not expected to conduct an in-depth market research (which can include questionnaires, etc). However, teams are expected to:

- Clearly define the problem being tackled;

- Show that the problem exists (ideally by referencing some published information);

- Describe the proposed solution and how it solves the defined problem;

- Product/Market Fit:

  - Define the user groups/types for the proposed solution and how this solution impacts this class of users;

  - Identify the competing available solutions and describe why your solution should be used by the users for the defined problem;

  - Propose a plan on how you would test out your prototype to collect feedback from potential users.

- Technical Feasibility of the proposed solution:

  - What resources and inputs are required, whether they are available to you in the short-term or whether they would be available in the future, and how would you propose to obtain them;

  - Technical limitations and scalability issues - any issues that you foresee.

- Business Viability: need to answer the following questions:

  - How will the solution be used to educate the target audience and possibly change behaviour?

  - How would you test your solution to evaluate its success?

  - How would you extend your solution should it be successful?

1.2 Technological Aspect

You will need to develop a prototype that shows the potential of the proposed solution. Note that you are not expected to deliver a prototype that contains an implementation of the entire solution (or that can be considered a Beta version of the system to be released). However, you should produce a working prototype that is sufficiently developed such that it can be used to demonstrate the potential of your proposed solution. Further details about the specifications of the prototype are found in Section 2.2.

You should include with your prototype, a report in the form of a scientific paper as detailed in the deliverables Section 2.3.

2 Deliverables

The following is information about the deliverables that you will need to present at the end. Each component is individually marked.

2.1 D1: Pitching the idea

Each team will be expected to give a 5-minute lightening presentation mainly highlighting the business aspect problem. Every presentation will be followed by a 5 minute demo (see D2 below) and 10 minutes questions. The date for the pitching session will be announced later on in January 2020.

For the 5-minute presentation each group will need to produce 4 to 5 slides to explain:

   i. the problem being addressed;

  ii. the business aspect;

 iii. the technological aspect.

The pitching presentation will be graded based on the following criteria:

  a. novelty of the idea (20%);

  b. concreteness of the solution (20%);

  c. conducted research (20%);

  d. business viability (30%);

  e. timing, clarity, effectiveness of the pitch (10%).

The scoring criteria will be graded along three categories:

- awesome [8-10];

- thumbs up [5-7];

- getting there [1-4].

Marks allocated for this deliverable: **10 marks**.

2.2   D2: Working Prototype

Each team is expected to implement a solution that solves the identified problem. The solution could make use of any technologies and techniques that you think are suitable to address the solution.

The developed solution should exhibit the following characteristics:

i. must have an efficient intuitive user interface;

ii. must show progress and show correct answers during and/or throughout the game including positive reinforcement;

iii. must engage and motivate;

iv. must have flow leading to concentration, absorption and immersion;

v. must be fun and interactive with good graphics;

vi. must induce education and increased understanding and/or change in behaviour

Marks allocated for this deliverable: **60 marks**.

2.3   D3: Scientific Paper

The documentation should be formatted as a scientific paper using the ACM LaTeX class template[1]. The maximum page limit for this report is 6 pages, excluding figures, tables and references. Your paper should include the following sections (at least):

- Introduction

    - Motivation (problem description);
    - Main aim and objectives;
    - Market research.

- Related work and/or related systems;

- Business aspect;

- Technological aspect;

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[1]https://www.acm.org/publications/proceedings-template

- Design and Implementation of the solution

  - how your proposed solution works;

  - how the developed prototype fits into the proposed solution;

  - any technical problems and challenges faced and any 3rd party libraries/applications/APIs used.

- Testing and Evaluation;

- Conclusion and Future Work.

Marks allocated for this deliverable: **30 marks**.

2.4   Summary of deliverables

D1:	Pitching the idea (presentation)	10 marks
D2:	Working Prototype	60 marks
D3:	Scientific paper	30 marks

You will need to submit deliverables D1-D3 on the VLE together with a copy of D2 on a pendrive or some other medium. D3 needs to include a duly signed plagiarism form;

Final suggestion: if you have difficulties do not hesitate to contact us and/or post questions on the VLE Project forum.

Good luck!!