Title

Subtitle

Bjarke Thonsgaard Koldsø, Mads Rohde Guldbæk, Magnus Lindholm Rennekamp, Mikkel Tygesen, Oliver Viller Nielsen, Rasmus Præstegaard Pedersen, Sandra Norre Rosenbeck

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Participant(s):
Bjarke Thonsgaard Koldsø
Mads Rohde Guldbæk
Magnus Lindholm Rennekamp
Mikkel Tygesen
Oliver Viller Nielsen
Rasmus Præstegaard Pedersen
Sandra Norre Rosenbeck

Supervisor(s):
Gilberto Berardinelli

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Contents

Todo list

Chapter 1

Introduction

Chapter 2

Problem Analysis

2.1 Digital Learning

2.1.1 What is digital learning?

Digital learning is the use of technology, such as computers, the internet etc. to give education and aid learning. It allows students to learn at their own pace, from any location, and at any time, making education more accessible and flexible. This approach to learning can be beneficial for people with different needs and requirements. Digital learning enables increased access to education and there are multiple factors that has to be taken into consideration, but the main ones can be summed down to these points[1]:

- Pace: Digital learning offers a broader choice of instructional tools and materials than would be available in a traditional classroom. this can be any educational material that can be found on the internet.[1]
- Locatition: Digital learning allows students to access educational content from any location, as long as they have internet connection. This means that students do not need to attend a physical school if they cannot do so because of geographical boundaries or mobility issues. Digital learning also enables students to learn while being on the go.[1]
- Flexibility. Digital learning can be accessed anytime, anywhere. This allows students to work on their education around their own schedules, whether they are working, or pursuing other interests. Students can also choose to learn at their most productive times–early in the morning or late at night– which can be beneficial for those who does not have time for traditional school.[1]

However Digital learning is not only beneficial for students but can also benefit companies and organisations in giving new skills to their staff[5]

Digital Learning in work places

The increasing use of technology in Industry 4.0 is expected to bring about a range of impacts, including reduced labor costs, greater flexibility, and shorter delivery times. It also promises to automate dangerous tasks, promote productivity growth, and lead to higher quality products. Additionally, it is expected to result in safer surgeries, improved quality of life for the elderly and people with disabilities, and the creation of new products and services. However, these changes will also bring about new challenges in terms of employment and education, as well as changes in the way companies and organizations are structured. A survey conducted on this topic indicates a low level of positive correlation between perceived challenges faced by organizations and opportunities for new disruptive business and new trends of skills. It also shows a negative relationship between perceived challenges and organizational digital transformation. Overcoming these negative perceptions is necessary to adopt new trends in skill development and capitalize on new opportunities.[5]

2.1.2 Visual learning and its properties

Visual learning envolves using your visual senses to help recognize material better. Things such as graphs, maps, images, animations etc. makes the proces of learning and gathering information more straightforward compared to the traditional textbook. the benefits that come with visual learning depends from person to person, but visual learning has shown to help people retain information better[].

2.1.3 Spatial intelligence and awareness

The capacity to imagine and visualize different objects and patterns is one of the 9 intelligences, some people prefer a hands on approach, need to ask questions in order to learn, others need to write things down and most of us can gain a quicker understanding through visual learning.[4].

(Lohman 1996) states that spatial intelligence, or visuo-spatial ability, has been defined as “the ability to generate, retain, retrieve, and transform well-structured visual images’[2, p97], with that definition in mind this section will describe the importance of spatial intelligence in regards to visual learning and spatial reasoning.

2.1.4 The ability to visualize

We probably all have heard the saying “a picture is worth a thousand words’, this saying was originally invented by and advertising executive (Fred R. Barnard)[3], like in advertising the power of the retainability of the message is in focus.

There are many benefits to visual representation, some of these benefits will be reviewed in the next section.

2.1.5 Visual and text representation

2.2 Ethical obligations for machine learning

Digital learning What is machine learning Machine learning needed health care prob formulering program requirements modeling/server solution modeling/web solution testing/scenarios/results implementation/program structure discussion conclusion

2.3 What is machine learning

2.4 The moral landscape of visualization in machine learning

Chapter 3

Problem statement

Chapter 4

Program requirements

Chapter 5

Modeling for server and web solution

Chapter 6

Implementation

Chapter 7

Program testing

Chapter 8

Discussion

Chapter 9

Conclusion

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