Developing a Web Application to Improve Corporate Health and Wellness

(Technical Paper)

The Social Construction of Wellness in Corporate America

(STS Paper)

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Audrey Fifer
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Technical Project Team Members
Aditi Takle
Bernice Wu
David Mehani
Grace Huang
Jackson Kennedy
James Hamil

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Signature _____ Date _____
          Audrey Fifer

Approved _____ Date _____
          Abraham Ibrahim, Department of Computer Science

Approved _____ Date _____
          Toluwalogo B. Odumosu, Department of Engineering and Society

Introduction

A large number of adults in the United States suffer from mental and physical health problems. Physical health problems include conditions such as diabetes, cardiovascular disease, heart disease, and obesity (Roeber, McClellan, & Woodward, 2016). In the time period ranging from 2017 to 2018, the Centers for Disease Control and Prevention (CDC) found that 42.4% of adults were obese and 9.2% were severely obese, with no significant differences in the prevalence of obesity based on age or gender found (Hales, 2020). The National Institute of Mental Health (NIMH) recorded that in 2017, 18.9% of adults had a mental illness (NIMH, 2019b). Mental illness includes conditions such as major depressive disorder, anxiety disorder, bipolar disorder, and obsessive-compulsive disorder. According to NIMH, 7.1% of adults suffered from major depressive disorder in 2017, and 19.1% suffered from anxiety from 2001 to 2003 (NIMH, 2017; NIMH, 2019a). Mental illness was found to be more prevalent in women compared to men, and more prevalent in the 18 to 25 age range compared to older adults.

With the prevalence of these health problems in American adults, and with the advancement of technology, there has been a surge in the number of wellness programs and wellness tracking applications that exist. The technical portion of my thesis will focus on developing a web application which has a goal of improving the health and wellness of employees in America using quizzes, blogs, and newsletters to inform employees about healthy habits. However, the idea of wellness is not defined in a singular manner by all relevant social groups such as employees, employers, mobile and web application designers, and insurance companies. Each group has different interpretations about the meaning and implications of wellness, and the interaction between each informs the design and implementation stages of

programs and applications. The STS portion of this thesis will look at the social construction of wellness in corporate America, and how this has informed the field of wellness technology.

Developing a Web Application to Improve Corporate Health and Wellness

We are helping Medella design a corporate wellness platform to help improve companies' employees' health. The goal is to provide educational content to employees and statistics to employers to indicate overall health in the company. A successful product will help employees control their health while giving businesses feedback on their overall health.

One existing workplace health product is a mobile-first platform called Limeade ONE. Limeade uses a gamified approach involving assessments and rewards (*Limeade*). While Limeade provides many services, these are complicated and result in a steep learning curve. It can take time to learn to navigate the various features (Desai & S, 2019). Furthermore, using Limeade requires knowledge of its file-sharing system, Sharepoint, which adds more complexity (Desai & S, 2019).

Our product will serve as a platform that employees, employers, and the Medella team interact with. Employee health will be tracked to provide personalized resources. The platform will include quizzes with questions like: "How many cups of water should you drink in a day?" Employers will see aggregated employee data to learn how Medella has impacted the company's overall healthcare costs. Medella employees will be able to use the application to create content. There will be forms within the application to create quizzes, upload videos and write newsletters.

Gathering system requirements is vital to the development process because it ensures the client and developers have the same expectations for the finished product. Below is a list of our system requirements.

Minimum Requirements

- Businesses, employees, and the Medella team should be able to securely login.

- Businesses should be able to view aggregate health data points of company employees.

- The Medella team should be able to create quizzes and blog posts.

- Employees should be able to click on quiz links, view questions, submit answers, and receive a score after submission.

- The Medella team should be able to view aggregate and individual results for each quiz

- Businesses should be able to view aggregated results for each quiz.

- The Medella team should be able to input YouTube links into a form to display them in users' content feeds.

- Employees should be able to watch videos through the platform.

- The Medella team should be able to send emails to employees to inform them of relevant content.

- Employees should be able to opt out of receiving all information from Medella.

- Users should be able to view a page with a mission statement and contact information when going to the webpage without a log-in.

Sample of Desired and Stretch Requirements

- The Medella team should be able to use a newsletter builder form to add text, images, and links to health-related topics to newsletters, as well as publish the newsletters to employees.

- Employees should be able to view previous quiz submissions.

- The Medella team should be able to track clicks by users and businesses on the website in order to monitor user engagement.

- The Medella team and businesses should be able to see a graph depicting how Medella has impacted healthcare costs.

- Employees should be able to opt out of receiving only one type of content (quizzes, blogs, videos, etc.)

- The Medella team should be able to limit content to specific users.

- Businesses should be able to view the dashboard data broken down by department.

The Social Construction of Wellness in Corporate America

My STS thesis will be using the SCOT framework introduced by Pinch and Bijker in order to analyze the major social groups in corporate America regarding the idea of wellness, the meanings they associate with it, how these social groups interact in order to influence their own meanings, and how the development of wellness programs and applications is involved. I will place the most emphasis on employers and employees in corporate America, and also involve the designers of the wellness programs and technology.

In 2017, around half of all worksites in America were found to have health and wellness programs implemented (CDC). There are several significant motivating factors which could have influenced this development, among which could include improving performance, reducing cost, and following current trends. Performance numbers can be affected by employee absenteeism, decreased productivity, distraction, and stress. Studies have linked these performance issues to mental and physical problems, such as being overweight, having depression, or having anxiety. Increased health problems results in increased insurance costs, and mistakes made on the job resulting from these health problems also contribute to company

costs. In this instance, wellness can be defined as the absence of health conditions negatively impacting the company.

Implementing a wellness program also helps to put a positive light on a company by suggesting that the company actually cares about their employees. This helps to promote the company as a good place to work, and can help recruit talented individuals. Since about half of American worksites have wellness programs, not having one can be viewed negatively. From the perspective of implementing wellness programs to follow trends, wellness can be defined as a method to improve the company's image to outsiders and employees, and help retain workers.

For the employee perspective, I will delve into the significant factors which can affect how individuals in this social group define the concept of wellness. Around 21% of adults wear fitness trackers or smart watches, and a similar number use health tracking mobile applications (Vogel, 2020; McCarthy, 2020). This action demonstrates that this subgroup wishes to monitor their health or fitness, and that they are willing to allow the app or device's company to store their health data. Individuals who do not own or use these technologies include those who can't afford them, those who don't want their information being tracked, and those who don't find it necessary to track their information. This introduces the idea that wellness is relative for each employee, and can include monitoring and maintaining a healthy lifestyle, maintaining a healthy lifestyle but not finding it necessary to be actively involved in monitoring it, and not thinking about health in general. And among these options exist varying degrees of technology use to monitor health.

When a company implements a wellness program, privacy and coercion are important factors in employee opinion (Brin, 2019). Employees may be okay with using personal fitness trackers, but may not be as inclined to allow employers to see their personal information. Laws

like HIPAA help alleviate some privacy concerns, but only if the program is part of the health plan. Coercion plays a role if the employees are essentially forced to join wellness programs by the company offering benefits for joining. If their information is seen and if they choose not to join, employees might be negatively impacted. In this context the definition of wellness introduced by the programs becomes a forced sharing of personal information. Among those that willingly use the features of wellness programs, wellness can mean the promotion of healthy lifestyles paid for by the company. Wellness can also mean something that the employee had never considered before it was promoted at work.

The goal of health tracking devices and software is to be used, which forces the companies designing them to generate a meaning of wellness during development which will lend itself to more users. Some mobile applications seem to track multiple items like weight, height, run distance, food intake, and things of that nature, while others are more focused on one particular category like food intake. Tracking devices tend to measure heart rate, running distance, and temperature. In the technology company perspective, wellness seems to be a changing concept based on the changing needs and wants of their consumers, and is not entirely stable. Their approach to creating a wellness app or device is by interpreting what a user would find most important regarding the idea of wellness.

I will then evaluate how the social groups interact with each other, and how the implementation of wellness programs is affected. Employers take multiple paths during and after the process of implementing a wellness plan – some may collect employee and expert input to create a custom program, some may implement a standardized program, some may alter the program after implementation based on employee initial reactions, and some may not alter it at all afterwards. I will examine case studies from wellness programs implemented at various

companies, as well as the wellness technology used by employees – either personally or through the company.

Conclusion

The goal of my group's technical thesis is to create a web application for Medella which will help employees to be slowly guided into a path of healthier living. The application will feature weekly content so as not to be a burden for a working individual. By not focusing on numbers like weight and activity level tracking, we hope to create a product which will result in employees making long-term healthy life choices.

The goal of my STS thesis is to fully flesh out the social construction of the idea of wellness in the workforce by focusing on the major social groups. I will highlight the major contributing factors involved in their view of wellness, as well as how their views interact and inform one another. I will examine how the different views of wellness as a concept have come to inform the creation and use of wellness programs and trackers, as well as how the users and non-users of these programs and trackers have helped to inform the definition of wellness by each social group.

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