
Project 2

Business Model

Group
– 04

Market Summary

A Growing Problem – Bad Posture & “Tech Neck”

With the average person working up to 2000 hours per year, as well as the growing demand in personal electronic devices, people have been more at risk in developing serious health issues such as musculoskeletal disorders. In fact according to the workplace safety and insurance board, MSD's represent over 40% of all lost-time compensation claims in Ontario. The combined direct and indirect costs are conservatively estimated to be \$19 billion from 1996 - 2006 (IHSA).

According to the Department of Labor — Occupational Safety and Health Administration. Some of the leading causes of work-related MSDs come from things such as awkward postures, static postures and repetition. (OSHA, 2000). In order for prevent such cases from happening, we plan on developing a device that better promotes healthy posture.



Market Summary – Cont’d

A Growing Problem – Bad Posture & “Tech Neck”

With many current day jobs requiring majority of an individual’s time at a desk or on a computer, the chances of developing a musculoskeletal disorder increases exponentially. Bad posture can lead to many negative health issues; respiratory problems, sore muscles, and in more serious cases spinal curvature. Poor posture can cause an individual’s respiratory system to not work and function at its fullest capability as the muscles require more energy to function, leading to fatigue. In many cases individuals have responsibilities such as work which would prevent them from sleeping or resting, requiring the body to work exclusively with little to no energy available. With the individual lacking in energy the muscles will become sore much quicker as they are constantly being strained, and in return can cause digestive issues.

Although there are many physical drawbacks and effects from bad posture, there are also mental issues that can be linked with poor posture. Poor posture (also known as hyperkyphosis) can also create mental

problems such as; lessened self respect, self expression and increased depression. A study conducted by Ohio State University on whether posture affected an individual mindset found that “the effect of the direction of thoughts (positive/negative) on self-related attitudes was significantly greater when participants wrote their thoughts in the confident than in the doubtful posture” (Brinol, 1). This proves posture can negatively impact one’s mental state. Further studies were conducted on what types of emotions or symptoms users showed. A study conducted by John H. Riskind and Carolyn C. Gotay found that over multiple scenarios where users were placed in slouched/slumped posture, the individuals “appeared to develop helplessness more readily, as assessed by their lack of persistence in a standard learned helplessness task, than did subjects who had been placed in an expansive, upright posture” (Riskind, 1).

Market Summary – Cont’d

A Growing Problem – Bad Posture & “Tech Neck”

From a simple look at the competitors in this field, it is easy to say that issues with one’s posture isn’t really perceived as a growing issue. It is viewed as an issue that elderly people deal with as they grow older, therefore the market is heavily leaning in the direction of helping older people deal with the back pain from their debilitating posture. The issue is that it is vastly on the rise that the age in which people have issues with their posture is considerably younger, affecting those who are in their mid teens, onwards. Early onset pain spurred by poor posture causes immense pain if not treated early. Most products on the market today are outdated cushions that people can place on their office chairs, but many aren’t very visually appealing, and have that elderly look to them. The issue of poor posture is a rising concern due to the amount of time we spend sitting in this day and age.

People have been slowly catching on to the problem of poor posture, and have been developing applications that remind users to correct their postures. Through qualitative research, we investigated a few of these applications, such as Nekoze, an application that watches users through their webcam, and when it finds that the user is slouching,

a cat face will appear on the screen to remind the user that they are beginning to slouch, correcting the behaviour.

We found this application to be useful, as well as appealing, but the concept of being watched through a webcam while online causes some security concerns, especially with rising concern in government corporations such as the NSA. As for qualitative data, low back pain is the single leading cause of disability worldwide, according to the Global Burden of Disease 2010, and one-half of all working Americans admit to having back pain symptoms each year.

Experts estimate that as much as 80% of the population will experience a back problem at some time in their lives, due to the work and productivity heavy lives we lead.

The market size at this time is not very large, due to the fact that it is not considered a large threat at this current moment in time, but more developers and designers are beginning to catch on, and are likely to shoot up the growth rate over the next few years, as well as the numbers that this condition effects.



02

Market Summary Solution

Our market summary research shows that there are a number of health issues correlated to poor posture. Correcting poor posture can directly correlate to improving one own's quality of life. However, after skimming the market for existing products, we found that there is an extreme lack of innovation in the field.

Our goal is to create a product that is non invasive, user friendly, comfortable, utilizes positive reinforcement and social dynamics to encourage people to practice healthy posture habits.

Poems Analysis

People

- Office workers
- Students
- Desk Workers
- Anyone sitting for long periods of time
- Working age
- Elderly
- Back pain sufferers
- Chiropractors
- Family members of people with poor posture
- People with disabilities (people with wheelchairs, muscular diseases, scoliosis, etc.)
- People with mental illness
- Manufacturers
 - Health product engineering companies
 - App design companies
- Distributors
 - Health & drug stores (Shoppers Drug Mart, etc.)
 - Big box stores (Walmart, etc.)
 - Business supply stores (Staples,)
 - Online stores (Amazon, Ali Express, etc.)
 - Sleep stores (Sleep Country, etc.)
 - App Stores (iTunes, Play Store, etc.)
- Delivery Services (UPS, business-specific delivery, Canada Post, etc.)
- Commercial hype
 - Health magazines
 - TV commercials
 - Internet ads
- Health associations (Canadian Physiotherapy Association, Canadian Chiropractic Association, Health Canada, etc.)
- Doctors
- Physiotherapists

Poems Analysis

Objects

- Web applications
- Phone applications
- Back braces
- Ergonomic desks
- Ergonomic tables
- Back support pillows
- Back support mattresses
- Reminders (pop-ups, vibrations, sounds, etc.)

Environment

- Offices
- Schools
- Workplaces
- Home offices
- Home relaxation (reading, watching movies, etc.)
- Bedroom
- Public seating (libraries, coffee shops, etc.)
- Gyms & other sporting locations (cycling, weight lifting, etc.)
- Medical (hospitals, etc.)
- Physiotherapy locations
- Seated positions

Poems Analysis

Messages

- Most current solutions are punishment-based
- People know bad posture isn't healthy, but continue to slouch
- People need constant reminders or they will forget to sit up straight
- Can be delivered through vibration or noise (through apps, etc.)
- Often message is only understood when damage is already done
- Current implications of issues are reactive, not proactive
- People view posture issues as something that happens to the elderly, though it affects younger generations
- The symptoms are better if treated early

Services

- Provides reminders to correct posture
- Prevents digestive issues
- Prevents respiratory issues
- Prevents depression & other mental health issues
- Prevents spinal injury
- Lessens fatigue and maximizing muscle performance
- Improves quality of life
- Most current solutions use punishment to achieve these items (loud noises, discomfort, etc.)
- Function over form; physical objects are often designed to perform their function, but without user's image considered (braces are bulky, invasive, etc.)

Steep Analysis

Social

- Pains and other signs of getting older are taboo to discuss
- People want to discuss their positive aspects, not their failures
- A brace or other physical object can mark one out as “different” from the norm, possibly inviting judgement and stigma from society
- Other than reminders from friends and family, the ownership for keeping up proper posture is put on the individual themselves
- Development of poor posture can encourage depression, thus hindering the sufferer’s view of others, and by extension their social life
- Good posture is seen as body language for a confident person, allowing the individual to appear a good potential friend or business partner

Technological

- Web applications
 - Using webcams to track movement
- Phone applications
 - Using vibration to remind individual
- Physical objects that are strapped to the body (braces, etc.)
 - Forces individual into correct posture
- Ergonomic physical objects (pillows, mattresses, chairs, etc.)
 - Corrects posture through guiding body into correct position
- Generally invasive (non-visually appealing brace, “Big Brother” effect of an application that watches one’s movements)
 - Would cause discomfort in both self-image as well as privacy issues
 - Perpetuates resistance to useage, and thus resistance to change

Steep Analysis

Economic

- Health solutions that are proven to work are the most sought after
 - Value is more important than cost-effectiveness
- Web and phone apps can be sold in a variety of manners
 - Freemium model
 - One-time-cost
 - Subscription
- Physical objects can be either rented or sold outright
- Physical objects can be broken, thus replacement and maintenance costs should be taken into account
- Increases in bad posture can lead to musculoskeletal disorders, resulting in workplace compensation and therefore costing the government large amounts of money
 - This sum can be lessened through regulation of proper posture

Environmental

- Solutions should be viable for a variety of locations (at home, work, the gym, etc.)
- Solutions used in public should not call attention of others to the individual's bad posture (no bulky design, loud noises, etc.)
- Using vibration, sound, etc. allow reminders to be delivered effectively without need for a specific language, allowing such solutions to be used in various countries without a need for translation
- Solution should be transportable
- Web and phone applications lessen material sourcing and consequent waste production, thus allowing these solutions to be more environmentally friendly
- Solutions should be usable in all types of weather (wet, hot, etc.)

Steep Analysis

Political

- Disputes arise over proper medical techniques
 - Chiropractic services are recommended by some doctors and dismissed by others
 - These disputes can cause confusion and mixed feelings about solutions
- Body language of slouching is timid, evasive
- Body language of good posture is confident and approachable
- Physical posture solutions can “other” individuals by making them stand out from appearance norms, causing people to possibly avoid and judge those with braces, etc.



04

Provocation

“Can we use social dynamics and positive reinforcement to encourage people to change their posture and improve their quality of life?”

Primary Research Results

For our primary research, we conducted a survey aimed at people of all ages and backgrounds. From our results, we found that a majority of our participants were 22 years old, but we had a significant range, from 19 year olds, to a 74 year old.

Majority of participants reported that they spend 1-3 hours seated at home, with 4-7 hours closely following. Comparing to participants seating habits at work, results reported that 46.2% of participants spend less than 1 hour seated at work, largely contrasting the second highest result, weighing in at 4-7 hours spent seated. These results are interesting, as it shows a large divide in behaviours between professions, as most of our participants had jobs which are physically demanding and involve standing most of the day, while the others have office jobs. 59.6% of our participants did believe that their work environment affects their posture as well. When asked how this affects them, most participants replied that they find themselves slouching at computers, or putting pressure on their back by lifting heavy objects and standing on uneven surfaces.

When asked to rate their posture, with 1 being the worst and 5 being the best, most participants rated themselves a 3 (46.2%).

Most participants did not have health conditions that affect their posture, but for those who did, results ranged from arthritis, degenerative discs, slipped discs, past injuries to neck/shoulders, and several participants said that they have back issues due to their poor posture.

We had some very interesting responses to how people recognize that their posture is poor. Most said they can tell that they have poor posture when their back/neck is sore, stiffness, and when they recognize they have been slouching. A couple participants responded that they catch their poor posture by see themselves in a mirror as well.

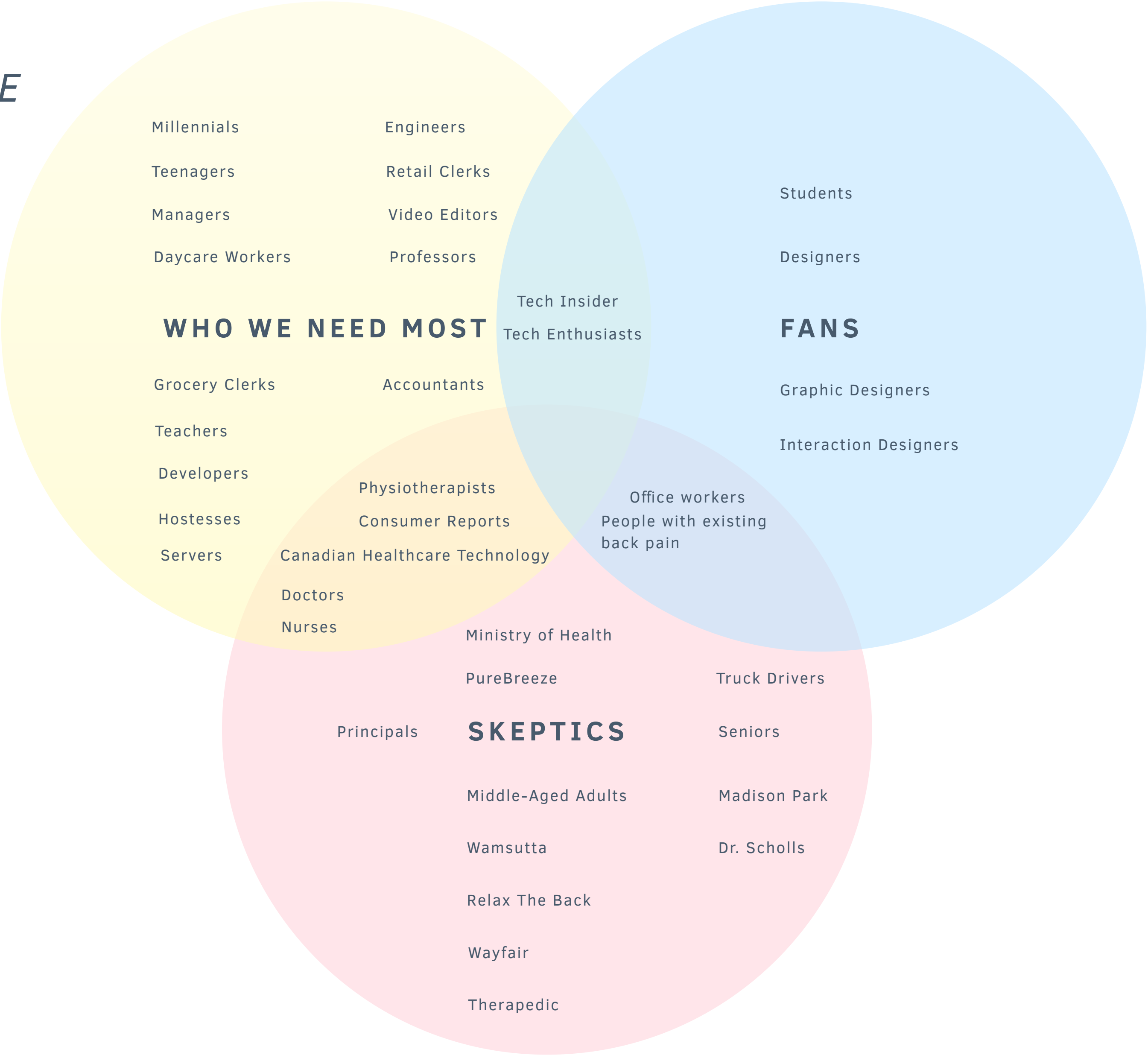
Solutions To Poor Posture ■ Symmetric Clustering Matrix

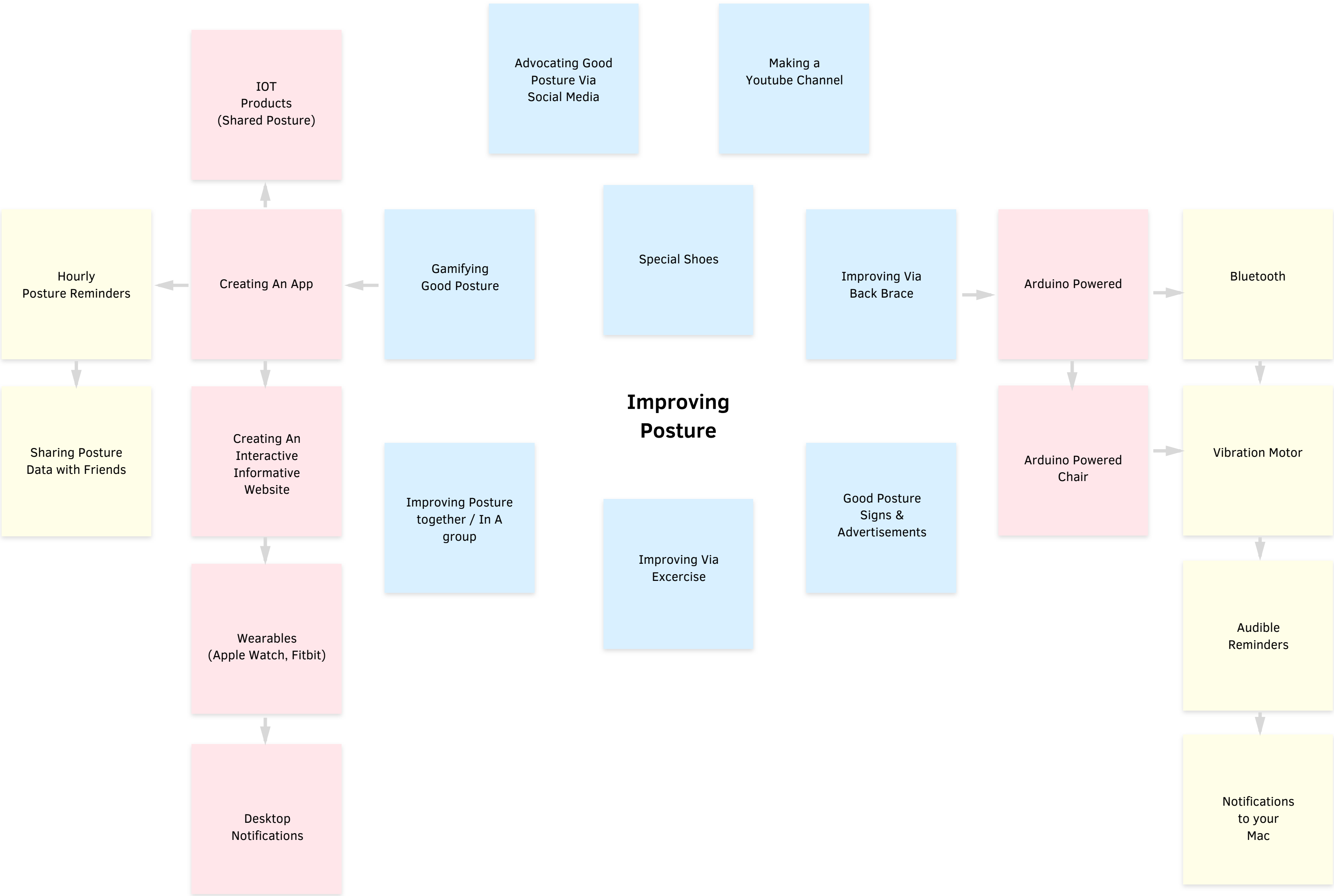


- 3 Very Related
- 2 Related
- 1 Somewhat Related
- 0 Not at all Related

- State of Living
- Lifestyle Differences
- Prolonged Use
- Appearance to Others

DEFINE
AUDIENCE





Poor Posture Industry Diagnostics



Business Model Canvas

The Business Model Canvas		Designed for:	Designed by:	Date:	Version:
Key Partners  Canadian Centre for Occupational Health and Safety Shoppers' Drug Mart Canadian Chiropractic Association Pharmaplus Rexall WalMart MEDEC Wellness Magazine Health & Wellness Magazine Men's Health Magazine Women's Health Magazine Canadian Physiotherapy Assoc	Key Activities  Marketing Sales/Distribution User Testing/Prototyping Product Engineering Class I Medical Device License Acquisition	Value Propositions  Health Benefits Improved quality of life Reward > Punishment Visually appealing Convenience Comfort	Customer Relationships  Self moderated Communities Ease of customer assistance Co-creation Social ranking system	Customer Segments  Mass market Working class Office workers Multi-sided platform (concerns health/social networking) Competitive users People with larger social groups Millennials Tech savvy Fashionable Instagram-"Lifestyle" community Parents of older children	
Key Resources  Ease of use (setup, upkeep) Visually appealing Comfortable/lightweight Waterproof Non-invasive Flexible		Spinal injury risk reduction Accessibility Performance	Channels  Awareness: Social media, advertising Evaluation: Reward system, social pressure Purchase: Online, in store Delivery: Onboarding, positive reinforcement After Sales: Chatbots, help services		
Cost Structure  Value driven Fixed costs Manufacturing Research/development - expensive		Ease of use - expensive Visually appealing - expensive Social media - low cost User Testing - low cost	Revenue Streams  Pricing mechanism: freemium Options: Basic (free) (tracking posture, adding friends, compare score to those around, reset stats after 3 weeks) Freenium: (tracking friends' progress, does not erase tracked data)		



DESIGNED BY: Strategyzer AG
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Appendix

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