INNOVATION PLAN
Unionville High School
201 Town Centre Blvd
Markham, ON L3R 8G5
Ryan Lam and Godwin Lewis
January 15, 2020

TABLE OF CONTENTS

I. | EXECUTIVE SUMMARY

Mission Statement
Pomelo aims to leverage emerging technologies to help individuals transition and maintain a healthy lifestyle.

Problem
Transitioning and maintaining a healthy lifestyle is a big challenge. Many different factors affect one's ability to living healthy:
- Individuals lose the urge to track their foods due to the inconvenience of required calorie calculations.
- Individuals don't have access to medical professionals hugely due to the cost. This may cause them to use inaccurate or non-credible health advice from the internet.
- Individuals quit due to their lack of accountability or due to their unrealistic expectations. This causes unhealthy habits and a lack of self-control.

Solution
Pomelo is a Healthy & Lifestyle app on iOS and Android devices. Pomelo uses a 3-panel user interface to provide users with a digital lifestyle coach, personalized health analyses, a habit tracker, health-related articles, and Nutri-Scan: a feature that allows users to attain nutritional data of various foods through a camera scan.

Unique Value Proposition
Pomelo's Nutri-Scan is the world's first program that leverages Artificial Intelligence (AI), Machine Learning (ML), and Augmented Reality (AR) to predict nutritional data of various foods with high accuracy. Nutri-Scan uses AR to determine a food's dimensions and later uses ML to predict its dietary data. Pomelo has also developed Nutri-Lyfe, an AI bot that analyzes the user's health, nutritional, and exercise data to provide analyses and to create personalized goals.

Customer Segment
Pomelo will be entering the North American market, with a primary market consisting of athletic male university graduates between 25-30 years old. Pomelo also plans to have a secondary market consisting of athletic high school students between 16-18 years old. Pomelo's corporate division will be working with health food stores, grocery stores, and supermarkets.

Feasibility
As the popularity of staying fit and eating healthy increases, there is a lot of potential for Pomelo in the marketplace since it satisfies the need for an "all-in-one" fitness app. Rather than just another health app for consumers, Pomelo represents a lifestyle.

Investment
Pomelo is in its Series A funding round, seeking an investment of $250,000 USD for an 8% equity stake in the company. Pomelo is projected to make $1.92 USD in revenue, with an estimated profit of $500,000 USD. Revenue is expected to grow at a rate between 20%-25% annually. According to present-day financial documents, the investment will break even within 6.5 years, but we anticipate that it will be earlier due to current growth rates.

Obesity & long-term dietary habits
Since 1975, worldwide obesity has nearly tripled. In 2016, more than 1.9 billion individuals aged 18 and above were overweight, with 650 million individuals categorized as obese. Obesity is the fifth leading cause of premature death, accounting for 4.7 million deaths per year. Researchers predict that global obesity will increase by 172%, reaching 1.12 billion individuals by 2030.

Obesity is a condition where an individual has a body-mass index (BMI) greater than or equal to 30, which is caused by a surplus of calories consumed. Unfortunately, this is proportional to the amount of nutrition education that the individual has received. According to a research paper from Yale University, nutritional education in schools has caused a BMI decrease of 1% in students, whereas students without nutritional knowledge had a BMI increase of 3-4%. Students were given meals that met the federal nutritional criteria, and their family would receive nutritional newsletters.

Unfortunately, nutritional education programs are unable to ensure long-term success. As individuals mature, they lose the urge to ensure that their foods meet their dietary requirements. Due to the calculations required, tracking nutrition and calorie intake becomes inconvenient.

No access to nutritional specialists
When it comes to health, fitness, and diets, research shows that health professionals such as dietitians and nutritionists are more useful for dieting, diabetes outcomes, weight loss, and limiting weight gain. Unfortunately, working with these professionals can cost an average of $100 per hour. These professionals are considered long-term investments since they require follow-up visits for personalization of the client's lifestyle.

Due to the cost associated with these professionals, individuals aren't unable to afford these services. This causes individuals to scour the internet for help and advice. This may be dangerous to the individual if the information found is inaccurate or non-creditable, and may even lead to illnesses and possibly death.

Lack of motivation and accountability
Nearly 50% of the individuals set News Year's resolutions for a healthy and active lifestyle. According to the Fitness Industry Association, 12% of individuals who sign up for a gym membership in January stop going within 24 weeks. This is not only for those with a gym membership but for almost all individuals with a fitness-related goal. Only 8% of all individuals complete their resolution and succeed.

The majority of individuals quit due to their lack of accountability or due to their unrealistic expectations. These individuals don't put their health before everything else, causing them to easily give up on their New Year's resolutions and any health-related goals. This contributes to a lack of self-control and the inability to create good habits in the future.

III. │ CUSTOMER SEGMENTS

To continue to scale and reach profitability, Pomelo must look into potential customers and convert them into paying customers. By focusing on specific groups of individuals, Pomelo can minimize and control the amount of risk. Pomelo will be able to adjust its services and adapt to customer needs. Pomelo will also be able to provide excellent customer service and create effective marketing campaigns, leading to good long-term customer relationships.

Primary Target Market
Our primary target market is athletic male university graduates ranging from 25-30 years old. We anticipate that they will be living in an urban area, holding a stable job with a salary between $55,000-$65,000. A study by Nuffield Health concluded that individuals who earned less than $30,000 per year tend to visit the gym for approximately an hour per week. Individuals who made more than $30,000 per year tended to spend upwards of 3 hours per week at the gym. The study concluded that there was a direct correlation between salaries and visits to the gym. We anticipate that this target market will visit the gym between 3-5 times per week.

We hope to capitalize on the social circumstances in which our primary target market is situated. Between ages 25-30, individuals are usually looking for a partner and are cautious of their appearance. A study found that 50% of individuals went to the gym to meet and find potential partners.

Research shows that the generation of our primary target market, millennials, are the most health-conscious generation. According to a study by Sanford Health, the second most important value to millennials is their wellbeing, with family being first. The millennials generation also has the lowest number of smokers and alcohol abusers. With such concern for living healthy, our primary target market, we believe that they would be willing to pay for the services that Pomelo offers.

Secondary Target Market
Our secondary target market is athletic high school students ranging from 16–18 years old. These students will be living in an urban area, studying full-time. We anticipate that approximately 75% of the students will be working part-time, earning $22,000 per year. We will be targeting the 51.1% high school students' percentile who work out three or more times per week as well as the 26.1% percentile who participate in physical activities every day. These students frequently visit the gym and participate in various sports teams within their school. Research shows that our secondary target market, teenagers between 16–18 years old, are increasingly becoming more health-conscious. Individuals within this age range typically focus on their health and studies. They hope to live and maintain a healthy lifestyle by consistently exercising.

As teenagers grow, their required nutritional intake continually changes. They must build the habit of consuming balanced and nutritious meals. Pomelo identifies a potential opportunity in this target market. With the growing desire to maintain a healthy lifestyle, we believe our secondary target market is willing and able to afford the services we offer.

Corporate B2B Target Market
Pomelo's B2B division also hopes to work with companies with a similar mission. Ideal business clients would include health food stores, grocery stores, and supermarkets. We would work with them to structure a contract to use our databases and Pomelo's API. Working with us and our extensive database would allow for them to optimize their physical stores and promotions. Pomelo's API would be able to help kiosks and employees detect items during customer checkout more quickly.

IV. │ UNIQUE VALUE PROPOSITION

Unique Selling Proposition
Pomelo leverages innovative technologies such as Augmented Reality (AR) and Machine Learning (ML) to provide Nutri-Scan, a leading-edge feature that allows users to easily attain nutritional data through a camera scan of their food(s). Currently, Nutri-Scan can identify foods with an accuracy rate of 86%, a 20% rate increase from current object detection ML models. Nutri-Scan is also able to predict the serving sizes of the user's food(s), which is later used to attain calorie data. These prediction models have accuracy rates of 91% and 82%, respectively. We are currently beta testing a new feature that predicts specific nutritional data such as carbohydrates, sodium, and protein of different foods.

Nutri-Scan uses many development tools from ARCore, TensorFlow, TensorFlow Lite, OpenCV, Unity, MongoDB, Android Studio, Xcode, and AWS to provide its service. It uses sequential programming, which is beneficial for fixing bugs and technical issues. The application infrastructure is very straight-forward and can be explained in 2 steps.

Step 1: Identifying foods and predict nutritional data
We currently use a 2-step process to identifying foods and predict dietary data. TensorFlow and OpenCV are used to detect and identify the food. Once the food is detected, Nutri-Scan uses ARCore and Unity to predict the serving size by measuring the food's dimensions and volume. Using this data and various search algorithms, Nutri-Scan provides an estimate of the nutritional values of the food. Nutri-Scan will run this in parallel to determine multiple foods at once and will obtain a copy of the data for further processing to improve its ML models.

Step 2: Training and processing user-collected data
From user collected data, we use TensorFlow and AWS to train and improve ML models. With the data, Pomelo and Nutri-Scan can expand its MongoDB database. This step allows Nutri-Scan to provide nutritional data to the user faster and more accurately since the food(s) would already exist in the database. Using the data would also allow Nutri-Scan to predict other nutritional data such as fats and vitamins.

Pomelo also provides Nutri-Lyfe, a digital lifestyle coach that personalizes your goals using Artificial Intelligence (AI) and Machine Learning (ML). Nutri-Lyfe uses ML to analyze data and identify the attributes of the user. AI is then used to personalize and execute decision-making tasks related to the user's goal(s). Nutri-Lyfe will help with creating healthy habits and recommend personalized diets and exercises. In medical situations, Nutri-Lyfe's data can be downloaded to view for health professionals to examine.

Product Development
Currently, Pomelo is working on an update that would improve Nutri-Scan's accuracy rate and allow it to predict data for different nutrients such as zinc, iron, and calcium. We anticipate these updates would be slowly released over the time of 6 months. We also hope to add a subfeature, "Split", which can take dishes and break down the main ingredients to do an analysis. We anticipate that the subfeature would one year to develop and 1.5 years to release.

V. │ SOLUTION

Business Opportunity
Pomelo is the world's first "all-in-one" mobile app that allows users to track, monitor, calculate, and analyze their health. Pomelo was developed for mobile devices that run on Apple's iOS and Google's Android operating systems. Using a 3-panel user interface, Pomelo provides users with personalized health analyses, a thread of health-related articles, and its exclusive features: Nutri-Scan and Nutri-Lyfe. Upon opening the app, users are prompted to sign up with their email, Facebook, or Google account(s). If the user is already logged in due to the previous session(s), opening the app would bring you to the "home" screen.

The "home" screen is where the user's data and analyses are displayed. Nutri-Lyfe resides here and provides goal personalization. If the user is operating on the free plan, they will be able to view all their data, have limited analyses, and no access to personalized diets and exercise. If the user is a paying user, they will have full access to all of the app's features.

Swiping left relative to the "home" screen will reveal Nutri-Scan, Pomelo's feature that allows users to attain nutritional data through a camera scan of their food(s). Using AI, ML, and AR, Nutri-Scan will look for foods within the scope of the camera. Once the food is detected, Nutri-Scan will scan it for approximately 5-7 seconds and return the food's nutritional value. This feature is free for all users, but if the user is using a free plan, Nutri-Scan will only display limited data.

Swiping right relative to the "home" screen will reveal a feed/newsstand of nutrition, health, and fitness articles. For all users, this feature is free and personalized based on your data. Articles will most likely be credible as it is required for all items to be filtered through an AI that detects false information. We have partnered with various newspaper companies to provide executive articles that are only available for paying users.

Nutri-Lyfe will help keep track and ensure that users are following through with their goals. The app will notify the user if they haven't tracked a meal during their regular meal times. When the user is hungry, the app will recommend snacks that adhere to their dietary needs. There is also an option to connect with friends to gamify nutrition and habit tracking. Studies have shown that by involving friends with personal goals, users will become more accountable and their success rate will increase. Once the user has successfully developed a healthy habit, they will be more likely to continue developing healthy habits. Over time, these habits will compound, causing the user to have a healthy lifestyle.

Business Model
There are many ways in which Pomelo plans to generate revenue. Pomelo will have a consumer division and a corporate division. The consumer division will be focused on the app, whereas the corporate division focuses on technological opportunities.

<u>Pomelo Subscription Plan</u>
Potential customers can download and use Pomelo at no cost. For consumers, Pomelo operates with a freemium business model. Users may choose to use a free plan (free user) or a paid premium plan (paid user). Free users will have access to all areas of the app but will have limited nutritional data, analyses, and no recommended health and dietary goals. Paid users will have full unlimited access to the entire apps. This includes all articles in the feed/newsstand, all analyses, recommended health and dietary goals, "Split (beta testing), and all nutritional data. The premium plan will cost $11.99/month or $99.99/year, creating a source of recurring revenue.

<u>Targeted Advertising</u>
Pomelo collects data and will be displaying targeted and personalized ads within only the feed/newsstand section. Both paid and free users will see the ads but will see them at different rates. Paid users will see an average of 1 ad per 15 "content items/blocks" scrolled, whereas free users will see an average of 1 ad per 7-8 "content items/blocks" scrolled. We will be using a pay-per-click model to ensure effective advertising. We will only be advertising for companies within the health, nutrition, and fitness industries that share a similar mission with Pomelo.

<u>Data Monetization</u>
All the data collected from Pomelo will be used to make improvements to the app itself. Pomelo will be working with many companies and will be having a B2B section. Confidential data such as names, emails, and banking information will not be sold to other companies, but Pomelo will be selling data trends, predictions, and analyses. AI and ML training data will be sold mainly to educational institutions, grocery stores, supermarkets, and big tech companies. We believe that our data would provide beneficial innovations in various fields such as AR image-processing, CCTV surveillance optimization, and marketing psychology.

<u>Pomelo's API Access</u>
Pomelo's API is a branch of the data monetization business model. Companies who wish to implement Pomelo 's technologies and systems will be required to use our API. Pomelo's API allows companies to use Nutri-Scan, Nutri-Lyfe, and our analyses. The API is needed to integrate hardware with software systems such as checkout kiosks, security cameras, and sensors. Pomelo's API is open-source and free for personal use but will cost for corporations.

Industry Growth
Pomelo has the potential to reach industries of all sorts. We see Pomelo entering the intersection of multiple industries: Technology, Healthcare, and Health/Wellness industry.

<u>Technology</u>
As technology evolves, consumers are provided with various opportunities to connect. Augmented Reality (AR) is changing businesses as it transforms engagement within multiple brands. Through customer-centric based experiences, customers can enjoy experiences first-hand. We will also be entering the Artificial Intelligence (AI) subindustry. The two technologies will work simultaneously, enabling interaction with the physical environment in various multidimensional ways. We believe that by entering the technology industry, users will have the best possible experience(s) within the app. The two combined sectors are projected to be worth more than $450B USD in 2025, and we hope to own a proportion of the merging industry. By venturing into this industry, great achievements lay ahead for Pomelo.

Healthcare
Along with the consistent changes in the technology industry, we see potential disruption with the healthcare industry. Throughout history, technology advancements have disrupted the healthcare industry. Pomelo will lead individuals through a revolutionary change. The industry is worth $11.9T USD, and we believe that Pomelo will be able to take a small percentage of the industry. By recognizing trends in food intake, users are less likely to become ill, benefiting the healthcare industry. Pomelo will allow individuals to "become their doctor" through Nutri-Lyfe and data analyses.

Health & Wellness Industry
The Health & Wellness Industry is growing, and we believe Pomelo will help increase the growth of the industry. Currently, the industry is worth over $4.2T USD and has been growing by 6.4% annually, representing 5.3% of global economic output. The trend to eat healthily is also increasing. Statistics estimate the market for gluten-free products will grow to $12.5B USD in by 2024. Pomelo believes it is incredibly beneficial in the monitoring process involved with trending new diets. We plan to allow Pomelo to connect with various wearables such as Fitbit. Studies found that 21% of US individuals use and wear a wearable daily. We see Pomelo forming partnerships with multiple technology companies in the future. Possible partnerships may include Fitbit, Apple, and Samsung.

Trends & Scalability
- Between 2008 to 2018, gym/fitness club membership has grown by 36%, with an estimated 62.5M members who have a gym/fitness club membership. 81% of Millennials exercise as opposed to 61% of Baby Boomers.
- Wellness Tourism is growing and contributes to 14% of the $3.2T USD total global tourism revenue. It has shown an annual growth of 9%, twice the rate of global tourism.
- 65% of commercial respondents stated that cost was the most significant factor when choosing where to seek care regarding their health.

Scaling a business comprises of various aspects. An aspect on which we plan to focus on is effective marketing. We plan to market through multiple influencers and digital advertisers. Appealing to the interests of our target market will draw individuals towards our product. Ads placed in gyms and supermarkets are common locations that our target market will visit. Information we advertise will be short, as our target market has a short attention span. Within the next six months, we plan to implement promotional activities to bring our product into the market. Over time, we see Pomelo expanding and surpassing our expectations.

VI. │ CONCLUSION

Pomelo is currently in Series A funding and is looking for an investment of $250,000 USD for an exchange of an 8% equity stake. Pomelo is predicted to make a profit of approximately $500,000 USD this year. According to the current financials, you will see a return on your investment after 6.5 years, but we believe it will be sooner due to the speed and aggressiveness of Pomelo 's growth.

Feasibility
Due to the rising popularity of living a healthy lifestyle, we believe Pomelo has a very high demand in the market. The need for staying fit and eating healthy is growing will continue to grow. Although competition such as MyFitnessPal, Apple Health, and Google Health exists, we

believe that our unique selling proposition will differentiate us. As a small startup, Pomelo can make pivotal changes quickly and adapt to emerging trends. As the industries grow, we expect to see a steady increase of Pomelo users and community participation. We believe that our company is feasible, as we have an accurate market, a unique selling point, excellent financials, innovative technology, and robust plans.

Future Expansion
As Pomelo heads into the future, Pomelo hopes to sell to new audiences and expand into new regions. Currently, Pomelo is looking to sell to medically obese and overweight individuals. We believe doing so will help lead these individuals towards a healthy lifestyle. Pomelo allows them to track and monitor their progress easily. The analyses will be beneficial when they seek a medical professional. Pomelo also hopes to expand into the European market. The European health and wellness market generates over $30B USB, contains over 62M consumers, and has grown by 72% within the last ten years. Health and fitness is becoming more mainstream within the youth, as 9.2% of Europeans over 15 years old participate in physical activity. We plan to enter the European market within two years when we've released "Split" and control a decent percentage of the market in North America.

Projected Revenue & Costs
We expect an approximate annual revenue of $1.92M USD through all our revenue streams. From our corporate division, we predict we will be generating a total of $347,500 USD annually: $60,000 via data monetization, $37,500 USD via targeted advertising, and $250,000 USD via Pomelo's API. In our consumer division, we anticipate a total of $1,575,000 USD in revenue from our paid users. We expect 11,250 users to purchase a year-long subscription and 3,750 users to purchase the monthly subscription. If all milestones are adequately achieved, our revenue is expected to grow by 20%-25% per year.

Our projected annual costs is approximately $1.1M USD. This includes $10,000 USD for AWS, $1,200,000 USD for employees, $148,600 USD for Apple fees, $1,000 USD for software, $5,000 USD for hardware, and $10,000 USD for marketing. We believe our costs will increase by 8%-10% per year.

Company Valuation & Roadmap
The future is exciting. Pomelo will disrupt multiple industries and change the lifestyle of many individuals. Using profit multiple valuation, we are valuing our company at $3.125M USD. We believe Pomelo's valuation will dramatically increase based on profit, technological, and industry growth factors. As we head into the future, we hope to accomplish our ambitious goals as shown:

Media Partnerships (½ year)	We plan to partner with influencers from various media platforms to promote Pomelo to our primary and secondary target markets
Partnerships (1 year)	We hope to create partnerships with many health technology companies such as Fitbit to create hardware-software compatibility
Online Platform (1 year)	We aim to complete our online platform to allow users to access their data and read summarized analyses through other devices
"Split" Feature Release (1.5 years)	We believe the "Split" feature will be released into beta testing. "Split" is predicted to increase Pomelo 's valuation

<u>Entering European</u> <u>Market</u> (2 years)	We will enter the European market with the "Split" feature. We wish to promote a healthy lifestyle in the region.
<u>Acquisition</u> (3-4 years)	We anticipate lots of competition and believe an acquisition will be the best for Pomelo. We hope to be acquired by a resource-heavy company such as Google, Amazon, or Apple

VII. | BIBLIOGRAPHY

Boseley, Sarah. "250 Million Children Worldwide Forecast to Be Obese by 2030." The Guardian, Guardian News and Media, 2 Oct. 2019, www.theguardian.com/society/2019/oct/02/250-million-children-worldwide-forecast-to-be-obese-by-2030.

Buchholz, Katharina, and Felix Richter. "Infographic: America's Top New Year's Resolutions for 2020." Statista Infographics, Statista, 16 Dec. 2019, www.statista.com/chart/20309/us-new-years-resolutions-2020/.

"Canadian Industry Statistics - Innovation, Science And Economic Development Canada". Ic.Gc.Ca, 2020, https://www.ic.gc.ca/app/scr/app/cis/search-recherche?lang=eng.

"CDC." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 9 Apr. 2018, www.cdc.gov/healthyschools/physicalactivity/facts.htm.

Follow us on Twitter @globemoney Opens in a new window, and Follow us on Twitter. "Does It Pay off to Hire a Dietitian?" The Globe and Mail, 9 May 2018, www.theglobeandmail.com/globe-investor/personal-finance/does-it-pay-off-to-hire-a-dietitian/article1358605/.

"Healthy Eating for Teenagers." Nidirect, 30 Sept. 2019, www.nidirect.gov.uk/articles/healthy-eating-teenagers.

Kelly, T, et al. "Global Burden of Obesity in 2005 and Projections to 2030." Nature News, Nature Publishing Group, 8 July 2008, www.nature.com/articles/ijo2008102.

Mejia, Tatiana. "AI Meets AR." Adobe Blog, 13 Dec. 2018, theblog.adobe.com/ai-meets-ar/.

Minds, Brand. "The Health & Wellness Industry Is Now Worth $4.2 Trillion." Medium, Manager Mint Media, 23 Aug. 2019, medium.com/manager-mint/the-health-wellness-industry-is-now-worth-4-2-trillion-866bf4703b3c.

Mitchell LJ, et al. "Effectiveness Of Dietetic Consultations In Primary Health Care: A Systematic Review Of Randomized Controlled Trials. - Pubmed - NCBI "Ncbi.Nlm.Nih.Gov, 2020, https://www.ncbi.nlm.nih.gov/pubmed/28826840. Accessed 15 Jan 2020.

"More People, More Active, More Often." EuropeActive, www.europeactive.eu/.

Nath, Trevir. "The Economic Cost Of An Obese Society." Investopedia, Investopedia, 5 Jan. 2020, www.investopedia.com/articles/personal-finance/041715/economic-cost-obese-society.asp.

Nermoe, Katie. "Millennials: The 'Wellness Generation'." Sanford Health News, 15 Apr. 2019, news.sanfordhealth.org/sanford-health-plan/millennials-wellness-generation/.

Nwazor, Toby. "4 Reasons People Quit On Fitness Goals (And How To Solve Them)." HuffPost, HuffPost, 7 Dec. 2017, www.huffpost.com/entry/4-reasons-people-quit-on-_b_10396016.

"Obesity and Overweight." World Health Organization, World Health Organization, 16 Feb. 2018, www.who.int/news-room/fact-sheets/detail/obesity-and-overweight.

Ritchie, Hannah, and Max Roser. "Obesity." Our World in Data, 11 Aug. 2017, ourworldindata.org/obesity.

Russey, Cathy. "New PwC Study Reveals Consumers Use Wearables to Stay Fit and Live Longer." Wearable Technologies, 13 Dec. 2018, www.wearable-technologies.com/2018/12/new-pwc-study-reveals-consumers-use-wearables-to-stay-fit-and-live-longer/.

Russey, Cathy. "Wearables Market to Grow to $27 Billion with 137 Million Units Sold in 2022." Wearable Technologies, 16 Nov. 2018, www.wearable-technologies.com/2018/11/wearables-market-to-grow-to-27-billion-with-137-million-units-sold-in-2022/.

"School-Based Nutritional Programs Reduce Student Obesity." ScienceDaily, ScienceDaily, 17 Dec. 2018, www.sciencedaily.com/releases/2018/12/181217101814.htm.