# Product Plan – Health Protect

## Product Overview

The Big Data software product our team has decided to envision focuses on the medical field. The name of the product is Health Protect and its main purpose is to project future health based on prior life habits and feature recommendations for lifestyle changes. Customers could potentially be anyone attending a doctor's appointment and is interested in their own health. Use of the product will mainly be applied to patients (end users) in a medical facility. The value in our business is in the results obtained by the science lab after the test is performed.

Functionality for our product is in the form of a swab patients can receive at medical clinics, hospitals, etc. This test can be completed through the nasal cavity or orally from a saliva sample. The product is then sent to a laboratory to be tested for results. Information on the patient will be gathered and recorded such as physical, mental, dental, and genealogy information. The software will determine risk percentage towards individual illnesses, diseases, and disorders the patient may be susceptible to. Projections will offer treatment recommendations such as prescriptions, dietary changes, and exercise. Turnaround time ranges from two weeks to one month for proper testing and handling. When the testing phase is complete, the information will be transferred to the patients file through a phone application customers will now be cleared to use. Swab results and software access are linked through the matching of social security numbers. Two-factor authentication may be useful for protecting private account information. Lost or stolen phones may be vulnerable if a fingerprint is not required to gain entry to the system.

The Big Data aspect of the deliverable relates to the amount of data collected from one swab. A customer may have substantial data based on their health conditions and family history illness. Organizing and maintaining this data will be the job of the developers in a manner that is readable and easy to understand for the customer.

Other features to the system include a suggested timeframe for using the product as every 2 years for maximizing accuracy and newly discovered unhealthy habits (example: patient started smoking after last swab). Product cost can be paid for outright or through the user's insurance. I am assuming that hospitals already having supplied swabs (bypassing our costs for supplying and shipping). I'd also like to note that this product is applicable to one person. If a parent gets tested, it is not to be expected their children would have similar results. Health Protect will also decreases time spent in the doctor's office because the communication of found symptoms are now given via the app. Clinic procedure is to come in once for testing and another to go over what was found. Having the Health Protect phone application and receiving a swab will bring the results straight to the customer.

## Estimate of Required Effort

As a group, we concluded this product could take up to two years to prepare before launch. To reduce this time in the project by at least half, I have hired more developers which will help limit the workload. Besides preparing the software, the swab itself must be scientifically tested to confirm it can do what we are promising.

1a. User Interface – 3 months, 4 developers

1b. Middleware – 3 months, 4 developers

2a. Data Modeling – 1 months, 4 developers

2b. Cloud Hosting and Virtualization – 1 months, 4 developers

3a. Product Implementation and Testing – 4 months, 4 developers

3b. Product Science Testing – 4 months, 2 scientists

4a. Malware Security – 4 months, 4 developers

4b. Additional Testing – 4 months, 4 developers

Total Number of days: 365 days; 1 year

## Estimate of Scheduling

Note: I chose to add additional testing and malware security to the scope/schedule for new ways of finding bugs/weaknesses in the code. This part of the schedule may prove to be extended if further testing is required or new features are implemented in the system. I also chose to have Data Modeling and Hosting as sections with the least amount of time since this should be straightforward and easy to accomplish.

1a. User Interface – January/February/March

1b. Middleware – January/February/March

2a. Data Modeling – April

2b. Cloud Hosting and Virtualization – April

3a. Product Implementation/Testing – May/June/July/August

3b. Product Science Testing – May/June/July/August

4a. Malware Security – September/October/November/December

4b. Additional Testing – September/October/November/December

## Estimate of Cost

Note: To limit costs on Facility Rental and Utilities, our development team has decided to operate remotely. However, Product Development Scientists will stay on the payroll after initial costs and will need access to a lab and equipment. The Facility Rental and Utilities tabs below will show a pricing structure for the laboratory.

We have voted against a subscription-based service because we feel selling swabs directly to hospitals and other facilities is the most marketable decision for potential revenue.

<u>Initial Costs</u>
Tools/License/Support: (4 developers * 1K) + (2 scientists * 1K) = 6K

Hardware/Equipment: (6 desktops * 2K/machine + 2 servers * 5K/machine) + 10K/medical supplies = 32K
Facility Rental and Utilities: 2K/month * 4 months = 8K
Salaries/Benefits (4 developers * 10K/month * 12 months) + (2 scientists * 7K/month * 4 months): 536K
Total Initial Cost: 582K

Ongoing Costs
Tools/License/Support: 3K/year
Cloud Hosting: 10K/year
Facility Rental and Utilities: 24K/year
Salaries/Benefits (2 half-time developers * 10K/month * 12 months) + (1 half-time scientists * 7K/month * 12 months): 162K/year
Total Annual Costs: 199K/year

Total Lifetime Cost (initial cost + annual cost * 5): 1577K

Annual Revenue
Sales: 450K/year
Customization/Consulting: 50K/year
Total Annual Revenue: 500K/year

Lifetime Revenue (assuming 5-year lifetime)
Total Lifetime Revenue (annual revenue * 5): 2500K

**Risks**

Like with most software products, the largest risk to our company is data leaks into our system which has access to customer's confidential information. Expending company time to address these vulnerabilities in the system may increase the estimates of scope, schedule, and budget. Another form of risk revolves around human error. When swabs are sent to the lab for analysis, it is out of our control if products are confused for one another. This scenario would provide the incorrect results to the wrong patient. Since our product recommends medications and food diets, this risk could potentially be fatal to a patient with certain allergies.

It can be determined from these two risks that additional staffing may be required to address each setback. New developer roles require new salaries, hardware, etc. which undoubtedly raises the budget. Scope may also change as the required effort may shift to those weaknesses for an unknown amount of time which could have been focused elsewhere on the project. Lastly, the schedule may change because the team may have to go to a previous completed section, such as the added Malware Security phase.