1. Describe your product/service concept. Include sketch or computer drawing.

Product Attribute Analysis:
Currently, the refrigerator is designed to be more than simply a computer mounted onto a refrigerator door, but acts as a gateway to the home. The refrigerator is 26 cubic feet, features a high-quality, 15.1 inch LCD display and a LAN port to enable high speed internet surfing and shopping with a touchscreen display. Users can access the internet, check and send email and pictures, download digital music, or watch TV. You are also able to leave video messages for family members, monitor grocery inventory without opening the door, create a calendar, and store nutritional information. The product features a titanium finish that resists fingerprints and is suggested to retail at $7,999. This is a higher price point by about $3-4,000 for a refrigerator of its quality but without smart capabilities.

We would like to improve this product by offering a larger screen for viewing movies, shows, and web-surfing. We also would like a home page that can direct you to recipes, grocery lists, online shopping, TV access, internet, email, and Smartphone access that can connect to all household members. The homepage is easily customized and features can be added or removed. We would also like to create apps for the refrigerator that can automatically order groceries on a weekly, daily, or other basis. This will be helpful with planning events and with basic groceries. Other apps can include recipe and nutritional information, step by step cooking guides, and others. We would like the interface to be more user-friendly, and able to be used by children. Also, to have complete control of the refrigerator and see what is in stock on your Smartphone. We also are increasing internet speed, and energy efficiency of the computer and refrigerator itself. We would like to focus more on the all around visual appearance of the screen as well as placement. Currently the screen is locate above the water dispenser allowing for access as well as size to be limited. By moving the screen to the opposite door, consumers will be able to access it with ease. We would also like to include a digital scanner in our technology to allow for grocery items to be scanned and information to be stored within our system. By having the capability to scan barcodes into our system, customers will be able to better track expiration dates, dietary concerns: calorie count, nutritional value, ingredients etc. We also plan to have add a direct app to at home grocery delivery service. Simply by partnering with online grocers like safeway.com and amazon.com our consumers will be able to order groceries directly from our smartfridge to their homes.
2. List and briefly describe potential target market segments.

Our target market is working and busy adults, upper-middle class ages 28-40 who are technologically dependent and savvy Smartphone users.

<table>
<thead>
<tr>
<th>Name of Market Segment</th>
<th>Upper/Middle Class Housewife</th>
<th>Tech Savvy Bachelor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Need</td>
<td>Features</td>
<td>Features</td>
</tr>
<tr>
<td>Second Need</td>
<td>Ease of learning</td>
<td>Overall appearance/efficiency</td>
</tr>
</tbody>
</table>

**Segment Characteristics**

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Suburbs, homes</th>
<th>Cities, apartments, condos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market growth rate</td>
<td>Medium to high</td>
<td>Medium to high</td>
</tr>
</tbody>
</table>

**Profile**

<table>
<thead>
<tr>
<th>Key Demo. Characteristics</th>
<th>educated, middle to upper class, well-informed, organized,</th>
<th>Young-middle aged, Hard-working, educated, busy, middle to upper class, demanding,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Geography</td>
<td>Suburbs, high end neighborhoods</td>
<td>Cities, high end neighborhoods</td>
</tr>
<tr>
<td>Key Personal</td>
<td>Looking for organization, ease of tracking and nutritional factors</td>
<td>computer savvy, looking to save time, looking for organization</td>
</tr>
<tr>
<td>Key Motivation</td>
<td>New, high-tech, useful</td>
<td>Ease of use, quality, high-tech</td>
</tr>
</tbody>
</table>

**Product Elements**

<table>
<thead>
<tr>
<th>Brand Image</th>
<th>Important- interested in durability, efficiency, quality</th>
<th>Important- interested in quality, advancement of technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyalty</td>
<td>Moderate-High, With continued quality and effectiveness</td>
<td>Moderate, can be strengthened with quality and customer service</td>
</tr>
<tr>
<td>Usage occasion</td>
<td>High once educated and in routine</td>
<td>Consistent then slowing down</td>
</tr>
</tbody>
</table>

**Comm. Elements**

| Awareness (Attitude/beliefs) | Word of mouth, advertisements(endorsements) home shows | Blogs, chat rooms, tech. conventions, |
3. List and briefly describe the top unmet needs (or problems) uncovered that are not being fulfilled by existing products/solutions, describe the benefit of fulfilling those needs (i.e. How serious is the problem? What gain for users would result from solving the problem(s)?)

According to our research, there are many benefits that are not being addressed by current standard refrigerators and also by the current LG model Internet Fridge. The FrigePad lacks the actual refrigerator and all computer functions; it is simply an iPod magnetic dock. Existing standard refrigerators do not have Internet access, food monitoring capabilities, LCD/TV/DVD, applications, automated grocery delivery, Smartphone capabilities or red scanner functions. The current LG model does not have DVD, red scanner, applications, automated grocery delivery, and user-friendly interface. All of these benefits are crucial to be addressed by the LG Internet fridge existing market and would certainly increase sales and customer satisfaction. These benefits are luxurious and unnecessary for “standard refrigerator” consumers, so they are not seen as “crucial”. However, currently technology is progressing at a rapid pace and the newest, most advanced systems are becoming increasingly popular. Therefore, bringing innovative convenience to the home is crucial in keeping up with technological advances. Consumers would benefit greatly from the product. For example, organization in the kitchen would increase; communication regarding food/dining/shopping would increase within the family and create a more interactive environment; grocery shopping would be made simpler and more efficient with notifications regarding food inventory, etc; internet access is at your fingertips – providing access to countless recipes, tutorials, emails, and more; the red scanner function allows for efficient inventory control, nutritional information database, and ingredient information to help mediate health concerns. Moreover, the product provides the user with a chic, advanced design that will set their kitchen ahead of the curve and be socially seen as an avant-garde innovator. Furthermore, installation and set-up will be included in the product price to ease the transition to the home. This product most of all will make life more convenient, organized, and connected. Once the transition has been made to revolutionizing your kitchen appliances, it will be difficult for the consumer to revert back to standard appliances.
B. Discuss any relevant trends

The average number of hours spent online is increasing worldwide. According to an article from *Variety*, Americans spend an average of 167 minutes online per day, an increase from 155 minutes last year. In Europe, an article from *The Scotsman* stated that two days of the average person’s week is spent online and the average user spends 50 hours per week online, an increase of 20 hours per week in just two years. Users are also increasingly depending on the Internet for tasks such as shopping, chatting, watching films and downloading music. According to the China Internet Network Information Centre, China’s internet population reached 505 million at the end of 2011 and has an Internet penetration rate of 37.7 percent. Because the world is becoming more dependent on Internet usage, we saw opportunity to connect household appliances with the internet as well.

As can be seen from the graph above, 40 percent of all mobile phones in the U.S. are Smartphones, with Android, Apple iPhones, and Blackberries being the most popular. Smartphones are beginning to become more of a necessity in every day life for many people. Because of the increase in Smartphone technology, they are becoming part of a lifestyle. Therefore, the opportunity to connect your refrigerator as well as other products to one’s Smartphone is a marketable opportunity with a large audience. Linking the home with the internet and being able to access your everyday tasks online is a concept that the public is ready for and is the next step in internet progression. This opportunity is urgent and high potential because the consumer is ready for product innovation and as technology is ever-changing, it is at the next step.

The LG internet fridge is keeping up with the technology trends of convenience for its customers. *The Atlantic* was quoted saying that the LG fridge is more of a revolution of convenience than a revolution of technology. With the technological advancement of
smartphones came the lifestyle of ease, convenience and efficiency which our consumers are used to. The LG fridge is able to bring news, music, recipes and photos to the kitchen, which is can be considered the center of family life and activity for millions of households.

Describe why your product/service will be superior to competing products or current solutions.

LG is an innovative technology and appliance company based in Korea which is one of the top countries accounted for high advancement of technology. LG also has a subsidiary in the U.K, whom has a strong relationship with American markets. LG is a “digital leader” in electronics and appliance products in the digital era and recorded a total sales of $11.2 billion in 2000. LG puts a strong emphasis on being eco-friendly and making their products energy efficient which is a main concern of educated consumers who are a part of our target market. The LG Electronics’ Home Appliance Division has a little over $3.8 million. LG also holds approximately 8.7 percent of the total U.S. appliance sales, making it a significantly large market holder. LG’s mission is to strive for greatness in what they have identified as their three core capabilities: Product Leadership, Market Leadership, and People Leadership – each strength a key part of realizing growth strategies for “fast innovation” and “fast growth”.

4. Briefly summarize important feedback on your initial product/service idea/concept(s) from your interviews.

Following our initial interviews, our target market segment for likely consumers was reinforced. Students both male and female ages 18-22 reported that they could see their parents using the product and that they believed the Internet fridge was the next step in innovating the home. 100% of those interviewed reported they had never heard of the LG Internet Fridge, therefore, it is crucial that we implement an aggressive and visible marketing campaign for our target market. When asked how having the internet fridge would impact daily life in the home, the most common responses were as follows: It would make life more convenient, increase organization, and keeping track of food, and it would be “really cool!”.

In terms of the general refrigerator design, ample space, energy efficiency, and overall sleek design are most important to the consumer. A “reasonable cost” for the Internet fridge proved to be less expensive than its current retail price of $7,000-$8,000. The most common response was $6,000. However, with increased technology as economies of scale, the price is likely to decrease after our initial innovators have adopted the product. Our top customer needs for the improvements to the internet fridge are: nutritional information database, red scanner to track sell-by dates and inventory, and kid friendly interface with access to grocery stores. In addition to parents, our reports show that colleagues would likely purchase the product as well.

5. Propose a core benefit (value) proposition (i.e. statement of the unique benefits the product is to provide to customers).
The core benefit of the LG Internet refrigerator is: being able to use the internet to coordinate human and appliance interactions, create a more convenient, efficient, and interactive home environment, and be seen as a leader in technological advances.

8. Describe the main competitors. Study companies who are active (making and/or selling products) in your market area; visit these companies, call them or talk to well informed people; get their product and sales information including brochures and prices.

In terms of competition, General Electric is LG’s greatest threat because it holds the greatest percentage of the home appliance market. Currently General Electric advertises five at home refrigerators:

**Side-by-Side Refrigerator:** GE Profile™ side-by-side refrigerators lock in flavor and freshness using ClimateKeeper2™ advanced cooling technology that creates two separate climates for frozen and fresh foods.

- **Appearance** - Imagine a refrigerator as stylish as you are! The oh-so-modern look starts on the outside, with a high-tech control panel featuring backlit stainless buttons that display highly visible LCD readouts. Crown doors with hidden hinges and sculptured handles add sophistication. Open the doors and the beauty really pops, thanks to clean, crisp, angled ALL LED lighting that brings every inch of the fresh food and freezer compartments into perfect focus.

- **Convenience** - Simplify your life with a refrigerator designed for today's busy lifestyles. The Arctica® icemaker conveniently holds up to 10 lbs. of ice. Activating the Quick Ice™ feature speeds up the ice-making process by 50%. And a handy TurboCool™ setting compensates for frequent door openings, restoring proper temperatures quickly.

- **Food Preservation** - When it's all about keeping food fresh longer, count on innovative technology to make it happen. The ClimateKeeper2™ dual evaporator system maximizes flavor and freshness by creating two separate climates—one for the fresh food compartment and another for the freezer. The single-evaporator ClimateKeeper™ system maintains even, accurate temperatures to keep foods at their best.

**Counter-depth refrigerator:** The built-in look you've dreamed of without the built-in expense. A counter depth side-by-side refrigerator easily gives your kitchen a custom appearance. These refrigerators are loaded with innovative features designed to make every kitchen more functional...and more beautiful!

- **Why counter depth?** - The magic lies in counter depth styling, which allows GE refrigerators to blend in almost seamlessly with surrounding cabinetry. Counter depth refrigerator models come with panels or without, with choices of color, and handle style and many outstanding features. Dream on!
• Stylish Appearance- Counter-depth styling provides a sleek, stylish built-in look. A counter depth refrigerator blends in seamlessly with any kitchen without taking up extra space.

• Exceptional Food Preservation- ClimateKeeper2™ with two evaporators keeps fresh foods garden fresh longer and keeps frozen foods at their best.

• Ultimate Convenience- Easy-to-use PreciseFill technology provides fresh, filtered water in accurately measured amounts.

Built in side-by-side refrigerator:

• Fresh Food- Simplify your life with the ClimateKeeper™ dual evaporator system, designed to keep food garden fresh longer and reduce trips to the market.

• Custom Appearance- Choose the right look to fit your life, from smooth stainless steel with sculptured handles to customized panels and handles.

• Extra Convenience- Keep all of your favorite food within easy reach with deep freezer baskets and gallon door bins.

• Self-closing doors maintain food freshness and help eliminate worries of cold air loss.

Bottom freezer refrigerator: From top to bottom, the GE® bottom-freezer refrigerator offers you simple elegance and smart features. Our stylish options, including French door bottom-freezer refrigerators, transform any kitchen, while our convenient features meet the demands of your busy lifestyle.

• Slide-out freezer drawers provide ample storage and keep items organized and easily within reach.

• An external dispenser offers cubed/crushed ice and filtered water on demand.

• The ClimateKeeper™ system with dual evaporators provides better food preservation by chilling the freezer and fresh food compartments independently.

• And, full-width shelves are perfect for party trays and larger items.

French door refrigerator: The unique French door design with two freezer drawers and the sculptured, stainless handles provide a striking addition to any décor. Crisp, clean LED lighting ensures fresh foods are easy to see and easy to find. And the high-tech appearance of LCD controls adds a touch of style at first glance.

Samsung is currently the only other company who has models (ie. Internet capable fridges) comparable to ours in the market.

Samsung WiFi-enabled RF4289 fridge
- Google calendar
- Weatherbug forecasts
- Epicurious recipes
- AP news
- Pandora music
- Picasa photos
- You can also leave notes for the family
- Twitter
- The wireless touchscreen is available on both the RSG309 side-by-side and RF4289 four-door french door models.
- An 8-inch LCD touchscreen
- Suggested $3,499 retail price

The FridgePad, is basically a magnetic dock in which an iPad can attach to the fridge.
- It retails for $77.

Specs of IPAD 2
- Form factor Tablet
- Operating system iOS (5)
- Screen size 9.7 inches
- Storage type Internal storage (16 GB, Flash)
- Maximum battery life Up to 10 hours
- Dimensions 9.5 x 7.31 x 0.34 in
- Weight 1.3 lb
- Released 2011-03-11

10. Describe your marketing strategy in the following areas, and justify:

a. Product/Price – Single vs. line of products? Product(s) package (e.g. #/package)? What is the price(s)?

We will create a single product, with 3 color options: White, Black Titanium Finish, and
Silver Titanium Finish. The product, will be sold at retail for $7,000 and will feature a large interior, sleek design, and 15 inch LCD screen on the left door, the water/ice dispenser located on the right door. We will practice Just in Time production, so that our inventory does not stick in the warehouse. The refrigerator will be installed by an LG appliance professional, free of charge upon delivery to the home.

b. Advertising/Promotion – Show advertising copy example(s). Explain message and intended effects.

Our initial advertising campaign will be shown on the LG website, as a commercial upon entering the site. This will draw in current customers and inform them about the product and its features before its release to build anticipation. We will also show commercial advertising, and gain sponsorship from The Food Network, using indirect advertising on screen during shows. This will not only increase brand awareness, but increase awareness of the technology. According to our survey results, knowledge of the initial product was severely underestimated. By placing effective commercial advertisement during peak hours on channels focusing toward our demographic, we will gain interest from our target audience. The message will be first, what the innovative additions to the product are, when it will be released. We will also focus, and the technologically advanced, cool-factor consumers will receive upon purchase as the desire to be socially accepted and admired has a great effect on buying power of our target market.

We will get celebrity endorsement from Food Network chefs, such as Mario Batalli, Rachel Ray, and more to show how the product can be effectively used in the kitchen and household. With celebrity endorsement, it will show that it is a luxury item, that works well, and used by professionals. If professionals use a product, it will convince the consumer of its quality and increase their purchasing desire.

We will feature print advertisement in magazines such as Food and Wine, Sunset, and more household or technology-focused editorials. The two-four weeks leading up to the release of the product we will send out a wave of press releases for stories to be shown in newspapers such as USA Today, NY Times, The Korea Herald, and The Times (UK) to create global buzz. We will also increase online advertising through social media and the LG site and have a promotional interactive event at participating appliance shops that sell our product. Here they can custom order their refrigerator in-store, and even on the display refrigerator’s computer! By creating “hype” and “buzz” regarding the new product, it will increase its innovative factors and create anticipation for the product release. This will not only encourage people to attend the event, but keep consumers researching and looking into the product beforehand.

c. Distribution – How will the product be sold: retail, internet, mail order, sales reps,...?

The LG Internet Refrigerator will be sold through retail by way of appliance and technology shops located in ideal market settings (wealthy, suburban, and city areas). Customers can custom design their refrigerator in-store, or also through our website to create their ideal color/finish, and additional features. They may also buy models that are stored in retailers. We will hire a team of sales representatives to penetrate the corporate market, government organizations, and other business associates. The refrigerator will be delivered to the home or desired place.
11. Forecast and justify:

a. Forecast how many products you expect to sell in the first two years. Use data from articles, industry/trade reports, demographic reports, census info, as needed.

Our price will be highest during its first year – two years. We expect to sell to about 2% of our total market audience. These consumers will be the innovators, the ones that try to the product to be seen with it first and to test out the new technology. As we decrease our price, and reputation has been established, our early adoptive market will increase sales during the second year of sales. We aim to sell 50,000 units during our first year in the U.S. and our headquarters in Korea. After launching to U.K. and other parts of developed Asia, we will further increase our sales as well.

Our price will be highest during its first year – two years and we will implement a skimming price strategy. As we decrease our price, and reputation has been established, our early adoptive market will increase sales during the second year of sales. We intend to sell the product during our first year in the U.S. and our headquarters in Korea. After launching to U.K. and other parts of developed Asia, we will further increase our sales as well.

In 2008, according to LG Press Releases, LG sold 1.5 million refrigerators. We project that 5% of sales in the 2012 year will be from the LG Internet Refrigerator, due to sales of the innovator market. Therefore, we project in the first year to sell 75,000 units. With 75,000 units sold at $7,000 per unit, we project to earn $525,000,000 in Internet Refrigerator revenues for 2012. We plan to increase sales from 5% to 6% of total units in 2013 with enhanced awareness and competitive marketing strategy as described above, earning $630,000,000 in Internet Refrigerator revenue. In January of 2014, we plan to launch our 3rd edition of the LG Internet Refrigerator, with upgraded features including faster Internet connection, iPod adapter, improved speakers, and more that will be indicated from research and development. In 2014, we plan to capture the early adaptor audience in addition to the innovators, increasing our unit percentage of sales from 6%-10% modestly. With 10% of unit sales, we will earn 1,050,000,000 in revenue from the Internet fridge. We will also drop the price of the previous LG Internet Refrigerator from $7,000 to $5,000, earning revenues from that as well. 1 billion dollars in LG research was put toward the original Internet refrigerator’s development. With this amount of revenue, LG will be able to cover the costs of current and future research and development while continuing to run successful marketing/advertising and promotional campaigns to gain awareness and a larger market share.


b. What gross margin (net revenue – product costs) do you expect in the first two years?

Extensive research - over 1 billion dollars - was put toward this product’s development. If
50,000 units are sold in the first year, we will gain approximately 350,000,000 in revenue. Given that LG will increase its sales by about 15-20% each year for the next 5 years, we expect over that after 2 years, LG will break even in R&D costs and we will begin making profit.

12. Appendices – Completed questionnaires with respondent descriptions (e.g. name, title, occupation…), supporting market and competitor information that you refer to in the main body of the report.

[Link to survey results]

The following is our survey results from our 13 respondents from online. We chose to use online social media as our survey medium as this product is based off of Internet usage and dependability on the function of connecting your phone, home, and lifestyle with online interactions. Out of the 13 respondents, the responses shown in bold are ones that are most prominent. Names are anonymous for due to the survey method used. ( surveymonkey.com)

1. Do you use a Smartphone or tablet? If so, which brand do you use?

Apple 38.5%  5
Blackberry 23.1%  3
Google 7.7%  1
N/A 15.4%  2
Other (please specify) 15.4%  2

2. Please select your characteristics, any and all that apply.

Male 7.7%  1
Female 92.3%  12
Student 92.3%  12
Parent  0.0%  0
Working 7.7%  1
Tech-savvy 38.5%  5
Age: 18-22 92.3% 12
Age: 23-27 7.7%  1
Age: 28-40 0.0%  0
Age: 40-45+  0.0%  0
Other (please specify) 0.0%  0

3. Are you familiar with the LG Internet refrigerator? It is a smart refrigerator, with built in LCD computer screen, featuring wifi Internet access, email, DVD/TV, food monitoring and Smartphone Access.

Yes 15%  2
4. Would you see the smart fridge as the next step in innovating the home?

**Yes 66.7% 8**
No 33.3% 4

5. How would having the Internet fridge impact your daily life? Select all that apply.

- It would make life easier 30.8% 4
- **It would help me keep track of the food on hand by notifying my smartphone 69.2% 9**
- **It would keep me organized 76.9% 10**
- It would make the home life more fun 23.1% 3
- **It would be cool! 76.9% 10**
- **It would keep my mom on top of her grocery shopping and soap opera watching 46.2% 6**
- Other (please specify) 0.0% 0

6. What features are most important to you in a refrigerator?

- **Lots of space 83.3% 10**
- Compact design 8.3% 1
- **Energy efficiency 75.0% 9**
- **Style/Design 75.0% 9**
- Internet access 0.0% 0
- Other (please specify) 0.0% 0

7. Would you want to buy the LG Internet Fridge?

**Yes 41.7% 5**
No 50.0% 6
Other (Maybe) 8.3% 1

8. What would you want to see most in the new edition of the Internet Fridge? Select all that apply.

- **Food Monitoring and smartphone notifications 58.3% 7**
- **Nutritional information available 75.0% 9**
- **Red scanner on screen to input foods and sell by dates 58.3% 7**
- 15 inch. LCD Display 8.3% 1
- **Kid-friendly access 50.0% 6**
- **Auto-orders/deliveries from Safeway, QFC, etc. (connected with online calendar) 33.3% 4**
- Other (please specify) 0.0% 0

9. Who do you know would be most likely to buy this product?

College friend 8.3% 1
Parent 91.7% 11
Me 0.0% 0
Grandparent 33.3% 4
Colleague 8.3% 1
Other (please specify) 0.0% 0

10. How much do you think is reasonable to spend on an Internet fridge?

$1,000-$2,000 41.7% 5
$2,000-$4,000 41.7% 5
$4,001-$6,000 16.7% 2
$6,001-$7,000 0.0% 0
$7,001-$10,000 8.3% 1

Executive Summary:

For our final project, we have chosen to market the improved-upon Internet Refrigerator, from LG. Currently the refrigerator had internet access and Smartphone capabilities, but after doing primary research we have improved and added the following aspects:

- 15 Inch LCD TouchScreen
- High Speed WiFi Capabilities
- TV/DVD
- User Friendly Interface
- Homepage with applications (email, grocery shopping, calendar, recipes, more)
- Red Scanner functions for nutritional information and grocery monitoring
- Energy efficient
- Updated selection of colors and finishes

There will be two target segments. First, well-informed and organized middle-upper class housewives who are middle aged from suburban areas and are health conscious and seeking ease of learning upon purchase. Our second target segment is young-middle aged, educated, tech-savvy bachelors from urban or suburban areas. This segment values features provided as well as overall style and design.

As dependence on Internet and Smartphones is increasing, we believe it is essential that the home life becomes technologically advanced. This refrigerator will create convenience and interaction in the home environment and keep consumers organized. Our research has shown that consumers would prefer to have more organization and technology in the home. This product will satisfy those needs.
LG is a leading brand in the appliance industry with high brand loyalty and will easily be able to penetrate the market. Though there are similar competitors in the industry, with the updated features, this product will differentiate itself in its features and appeal to the innovative and early adaptor market.

We developed a skimming market strategy and will focus our advertising efforts on commercial, online, and print magazines. With sufficient corporate capital, we will also work on partnerships with esteemed companies and celebrity endorsement.

In the following report, we indicate our findings from survey and observational research that has allowed us to make specific decisions of why and where to improve our product, who to target, and how to introduce and promote this product to the public.