IPRO 350
Information Technology Solutions for Seamless Networks
PROJECT PLAN

Mission Statement
        Merging breakthrough telecommunication opportunities, Wildfire Wireless aims to provide users aboard commuter trains the ability to take full advantage of their commute by providing access to a cost-effective hardware/software solution allowing them access to real-time, seamless wireless communication channels.

Background
        This project began as a business plan in the first Kaplan Fellows EnPRO focusing on the development of wireless networks that offer seamless, high rate data transfers on mobile devices, as well as bridging the last mile to the consumer in un-served areas. These networks were designed to allow for the evolution of network technologies beginning with 802.11 (wi-fi) and 802.16 (WiMAX) IEEE wireless standards and utilizing all levels of technology to deliver information transfer capability to the consumer. In the past semester, the team has conducted considerable research into various service providers as well as alternate implementation models ranging from transportation companies to office buildings to personal devices. Initial market research has shown a considerable demand for seamless internet connection on trains and the business model has evolved in that regard.

Research methodology

Business
- Establish an initial contact with the RTA to make plans for research involving wireless access.
- Compile research completed regarding the general consumer statistics of the RTA in order to become aware of the demographics of their general consumer market.
- Establish a relationship with potential Service Providers/RTA and demonstrate a value proposition explaining how our services will not only be beneficia; to their customers, but also generate revenue for both parties.
- Conduct primary research on the psychographics of RTA consmers and potential customers towards having access to the internet on trains and discover if there is indeed a potential; market for our product.
- Compile research regarding "Hot Spots" and "Cell Phones" that provide services similar to ours in order to become more knowledgeable of their revenue models, as well as discovering how they maintain customer loyalty.
- Establish and develop various marketing strategies involving the pricing production, promotion and placement of our product, as well as completing research regarding the strategies of our competitors/potential competitors.
- Project a fiscal model through the combination of our technical achievements and market research.
- Integrate these components into a business plan.

- Establish a product definition and associated value proposition. (What are we offering?)

Technical
- Explore and test existing hardware and determine if a new unique solution needs to be developed.
  - Research into Cisco routers.
  - Research into similar service models.
  - Further hardware research.
- Design a model to get internet to the customers.
  - ISP Land line options
  - Study the train infrastructure in order to determine where the access points can be mounted.
  - Determine how to set up LAN wireless on trains
  - Research how towers work and are managed.
- Have a fair understanding of the underlying expenses to build our product/service and maintain it.
- Have a website which will be featured on the company business cards, brochures, etc.
- Acquire the required hardware components.
  - Contacting Rosetta wireless for equipment.
  - Contacting Center for Wireless Neighborhood Technology.
  - Working in alliance with the wireless group on campus.
  - Obtaining funding from Grants, etc.
- Build a working prototype and test it locally in a mobile vehicle
  - Test the prototype on state street in a car.
  - Test the prototype in alliance with the IPRO 305 team on segways.
  - Have a demo at various local and national Tech conferences.
- Determine various constrains in providing seamless internet on trains
  - Set up equipment on CTA and then Metra trains to monitor wireless interference. This will help determine the noise levels and population within the frequency bands used for transmitting data.
  - Study the RTA train model to determine physical constrains due to the thickness of individual cars or speed of the train.
  - Study the topography and the track layout of RTA routes to identity 'Line of Sight' issues.
- Sign an agreement with RTA allowing the group to test the prototype on the Metra train and conduct tests on one of its lines. Further, check on how our product can be made to adapt to developments in the RTA infrastructure with little or no change.
- Incorporate all the above information into a business plan.

Expected Results

After a successful fall semester, we expect to continue along our path toward establishing seamless mobility on Chicago land commuter trains. This will be accomplished through a prototype demonstration before the end of the semester and an exploration of the barriers to implement our solution. We will also complete a business plan and, in the process, develop contacts within the RTA and with service providers. This will put us in a position to offer service on the Metra while furthering our market research to solidify our value proposition to the RTA and service providers.

Goals and Milestones

Technical
- Research available technology
- Acquire necessary hardware
- Build a prototype and test it locally
- Measure wireless interference on RTA trains
- Test the product model on the RTA trains
- Write a Business plan

Business
- Getting in the door at RTA
- (Goals from meeting on 24th)
- Making an agreement with service providers
- Revenue model
- Working Business Plan
- Funding – First round Angel investors

Tentative Budget

It is expected that a prototype will not be paid for by us this semester, but if it were, approximations are listed here.

Description: Setting up access for a wireless device to connect to multiple routers (access points) seamlessly and simultaneously.

Devices Required:	Prices:
Four Wireless Routers	50*4=200
2 802.11a/g routers	100*2=200
4 wireless cards (802.11a/g)	75*4=300
Software Fees(Environment needs):	100
Other (wiring/connection)	20
Total estimated	**820**

Total Budget Required: 820$

4 Wireless Routers
http://www.pricegrabber.com/search_attrib.php?page_id=371&form_keyword=802.11+g+router&rd=1&skd=1
2 802.11a/g Wireless Routers:
http://www.amazon.com/exec/obidos/tg/detail/-/B00008WM9J/103-2798428-3490251?v=glance
Wireless Cards:
http://www.dealtime.com/xPC-DOUBLE_108MBPS_WRLS_USB_2_0_ADAPTER

Task Schedules
  Though the group is small, it was decided that we form two groups to tackle the two major sections of the project. to ensure that we are able to maintain a consistency between the two groups, meetings would be held at the same time and the team leader, Chris would serve as an information link between both sections. The teams are shown below:

Technical
1. Prajakta Damle
2. Andrei Pop
3. Chris Jones

Business
1. Marina Hartung
2. Jeremy Nixon
3. Karina Powell
4. Ayomide Fawole