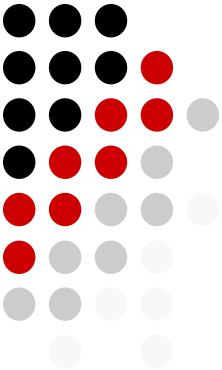
IPRO 497-310 Project Plan

The Opportunities and Challenges of Mobile Devices in the Corporate Communication Environment



Project Sponsor: Tellabs, Naperville, IL
Facility Advisor: Alon Friedman, Information Technology Management Program, School of Applied Technology

Project Team: David Clemente, Stephen Huang, Andrew Kitaka, Matthew Knippen, Marius Maries, Vinu Mohan, Michael Peterson, Marek Putylo, Michal Siuty, and Rachel Yanover

I. TEAM CHARTER

A. Team Information

Member Name	Strengths and Skill Set	Knowledge and Skills to Develop	Project Expectations	Contact Information
David Clemente	• Able to program in multiple CS languages • Mobile device knowledge	• Motivating others • Relying less on technology	• Making an app prototype that can be ported to all platforms	Phone: email: dclement@iit.edu
Stephen Huang	• Marketing • Sales • Entrepreneurship • Creative • Interpersonal skills	• App Development	• Create value for Tellabs through our project • Win IPRO day	Phone: email:shuang31@iit.edu
Andrew Kitaka	• IT Management • IT Security • Web Application Development	• App Development	• Get a decent App Security policy in place • Enjoy the IPRO • Build relationships with team mates • Win IPRO prize!	Phone: [redacted] email:akitaka@iit.edu
Matthew Knippen	• IPhone Developer • IPhone Security	• Understanding of how are mobile devices are being used in the business	• Develop an app.	Phone: [redacted] email:mknippen@iit.edu
Marius Maries	• Attention for detail • IT Management • Basic programming: C++, Java	• Team work • Communication • First-hand experience of a real-life project	• Satisfy Tellabs's requirements • Create strong basis for next semester	Phone: [redacted] email: mmaries@iit.edu mariuscm@gmail.com

Vinu Mohan	• Mgmt. Info Systems, Accounting, Strategy, Sales, Marketing • Business Plans • Chemistry	• App development	• Prototype app for certain group within Tellabs • Create value for Tellabs employees	Phone:[redacted] email:vmohan7@iit.edu
Michael Peterson	• IT Management • Advanced C++ and Intro Java Programming • Web Design • Networking and Infrastructure • Basic Mgmt Info	• More Mgmt skills	• Finish project and complete the IPRO for graduation	Phone:[redacted] email: mpeters5@iit.edu vet.mike@comcast.net
Marek Putylo	• Design • Leadership • Team Work • Motivation • IT Management • Communication	• Progress upon ITM • Develop major related communication skills	• To at least get the project ready for building a prototype. • Satisfy the following IPRO team	Phone:[redacted] email: marekputylo@gmail.com mputylo@iit.edu
Michal Siuty	• Organization • Information Technology and Management • Basic programming: C++	• Communications • Become more outspoken • Advanced Programming knowledge base	• Satisfy IPRO requirements	Phone:[redacted] email:msiuty@iit.edu
Rachel Yanover	• MS Office • Adobe Photoshop, Illustrator & Premiere • Writing, Organization & Communication	• Team Work • Leadership Skills	• Find and meet needs of sponsor, while creating a good basis for future ipros	Phone:[redacted] email:ryanover@iit.edu

B. Team Identity

i. **Name:** IPRO 310 - The Opportunities and Challenges of Mobile Devices in the Corporate Communication Environment

ii. **Logo:** To be developed as project details emerge and progress.

iii. **Motto:** *"Any, Any, Any."* To create an app where *any* employee can use it on *any* device at *any* time.

II. TEAM PURPOSE AND OBJECTIVES

A. Team Purpose

i. The goal of IPRO 310 is to aid Tellabs in embracing current mobile technology and applications so as to increase employee productivity. The IPRO 310 team is tasked with determining employee user groups, investigating current technology to tailor to each group, and researching security solutions.

B. Team Objectives

i. Categorize roles and responsibilities of an appropriate subset of Tellabs' employees into user groups with distinctive profiles for each group.

ii. Use insights about each Tellabs group to research the mobile devices and applications that would best suit their needs depending on whether the user is consuming and/or creating data.

1. Create guidelines for each group that depict the types of applications that are suitable for various mobile devices including smart phones, tablets, laptops, etc. such as, but not limited to, iPad, iTouch, and Droid.
2. Investigate emerging trends in Graphical User Interface and the potential applications that could be created to empower each user group to perform more effectively

iii. Research the risks of putting confidential company data on mobile devices, provide a decision matrix of alternatives, and recommend solutions to secure the information on the different devices

1. Identify and characterize the range of scenarios that encompass security issues in current mobile devices and those anticipated with regard to emerging technologies
2. Draft a security policy for each device that includes where company data is stored on the mobile devices and how to secure the data if and when employees leave the company or in the case of a lost device

3. Identify and recommend technologies needed to implement security policies
4. Understand and characterize the usability implications of the policies being recommended

III. BACKGROUND

A. Tellabs, Inc. provides networking infrastructure for telecommunication companies and businesses. They offer mobile, optical, and business solutions as well as global services. Tellabs' corporate headquarters resides in Naperville, Illinois. Tellabs' clients include wireline, wireless, and cable TV companies and government agencies, such as Verizon Communications, BellSouth, Vodafone, and Telecom Italia.

B. Tellabs wants a mobile application that provides secure access to their corporate network for all mobile devices their employees use. Tellabs main target is growth of Blackberry, Android, and iPhone platforms in their corporate environment. They wish to implement an "Any-Any-Any" policy where anyone on any personal-use mobile device can connect securely to the corporate server network, anytime.Tellabs employees currently use Blackberry, Android, and iPhone mobile devices. Tellabs wishes to devise a way to administrate them by a technology known as Afaria, which is a technology developed using Sybase Unwired platform, a software development environment that allows one application to be ported to all platforms simultaneously, by converting all the source code to each appropriate programming language.

C. When a prototype is approved by Tellabs, the IPRO 310 team will attempt to develop an app for Blackberry, Android, and iPhone using the Afaria software development environment to make an app that will securely interface with the Tellabs corporate server. Tellabs has informed the IPRO 310 team about certain limitations of Afaria. Tellabs will use our experiences with Afaria and user interface to create an Application that fit their needs.To do this, the IPRO 310 team will need to use the respective development kits for Afaria.

D. Previously developed application did not rise up to the Telllabs' expectations. The User interface was poorly designed. Although the application worked well on Blackberry platforms, the iPhone devices proved too inefficient at the time, due to the lack of multitasking, requiring many authentication steps and use of VPN. Since the executives had to exit the app and get a VPN, which they had to write down and use on the app, it was deemed too cumbersome to use.

E. The IPRO team will possibly come in contact with corporate and personal information. The team will also possibly have access to Telllabs' company security policy and acceptable use policy. The phones that will access the company server will be the private phones of the Tellabs employees. Putting any sort of application on phones that will be used by individuals in a private setting can put both corporate and personal data at risk. Other problems may arise if the applications are made to store log in information on each device for easy log ins. If said device is lost or stolen, large amount of corporate data is now at risk and the IPRO 310 team will be responsible for haphazardly implementing such a feature.

F. Lack of security in the corporate environment can lead to sensitive personal information being easily intercepted and leaked to the public. Employees and customers can sue the company for not providing effective data protection. Lack of secure communications within the company can definitively tarnish the professional image of Tellabs in the business environment.

G. The IPRO team will conduct research and observations on current Tellabs employees in order to precisely formulate solution that best fits their needs. The team will analyze company's policies and, if available, source code of the previous faulty application. Then, the team will try to develop an application prototype, and if time permits, test the prototype in the corporate environment.

IV. TEAM VALUES STATEMENT

A. Desired Behaviors by IPRO 310 team members

- **i.** Be on time for all required IPRO meetings as well as sub group meetings
- **ii.** Communicate task delays and outside time obligations in at least 3 days in advance to the event
- **iii.** Be up to date on IPRO team and customer (Tellabs) info
- **iv.** Complete respect should be given to all team members and all customer representatives
- **v.** Respectful conflict resolution via team/instructor will take place for any conflicts among team members

B. Conflict resolution

- **i.** The IPRO team will follow a hierarchy for managing the team
- **ii.** Subgroups will have formal leaders who communicate to the whole IPRO team and instructor
- **iii.** All peer conflicts will try to be resolved first at the student level, then the team level, and lastly with the aid of the instructor

iv. IPRO 310 will not tolerate any disrespectful language or action towards any of its team members
v. During the IPRO 310 team meetings, all problems or concerns can be brought up in an open forum style

V. PROJECT METHODOLOGY

A. Process for Problem Solution

i. Identify major tasks
    1. Meet with contact
        a. Set up a meeting with the Tellabs point person on campus.
    2. Tour Site
        a. Much of this project is dependent on understanding the needs of Tellabs therefore it is important that the IPRO Team tours Tellabs and meets with some of the employees of Tellabs.
    3. Identify User Groups
    4. Interviews/User Observation
        a. During this part of the project the IPRO team will interview and shadow the employees to find out specifics about the order of business in order to better understand their needs.
    5. Analyze Data
        a. The IPRO team will evaluate the data collected and make judgments on how it will facilitate achieving goal of the project.
    6. Gather information from other Companies
        a. Use connections within other companies to know what other people are doing.
        b. The IPRO team will find out about what other people with this kind of implementation are doing; we don't want to reinvent the wheel!
    7. Get any required additional information from TELLABS
        a. The IPRO team will contact TELLABS with findings, suggestions and requisitions for any additional information that we require.
    8. Proposals of Possible Solutions
    9. Student/Faculty Testing of Proposals
    10. Identifying Security Issues for Specified Solutions and Drafting Security Policy

a. The IPRO team will research on the security implications of mobile devices and the specific App in consideration.

11. Feedback Loop

a. Prototypes (Designs)

b. Testing Prototypes

c. Edit Prototypes

ii. Testing, Analysis and Documentation

1. The IPRO team will use several techniques to source for the information required to identify potential solutions including interviewing employees, shadowing field technicians, creating surveys and user reviews, as well as observing users. We also plan on using RAPID prototyping. Any progress will be documented weekly and compared to the estimated progress according to the Gantt chart during the IPRO team's weekly meetings. The work will be tested by the IPRO technical team along with the employees from Tellabs in order to get immediate feedback which will be documented. Feedback will be reviewed and decisions will be made by the IPRO team in order to determine the course of the project.

B. Team Structure

In order to address the requirements and needs of the project we have broken down into three primary Sub-teams. Each Sub-team is composed of a variety of majors and skill sets to encourage learning and cooperation amongst all team members. Additionally, so as to maintain communication channels we have created a Coordination Team composed of a representative from each Sub-team as well as created a role of Team Point of Contact for any interactions with Tellabs via phone or email.

i. Faculty Advisor: Alon Friedman

ii. Team Point of Contact: Vinu Mohan

iii. Coordination Team

1. David Clemente

2. Vinu Mohan

3. Rachel Yanover

iv. Sub-team "A Team"

1. Matthew Knippen

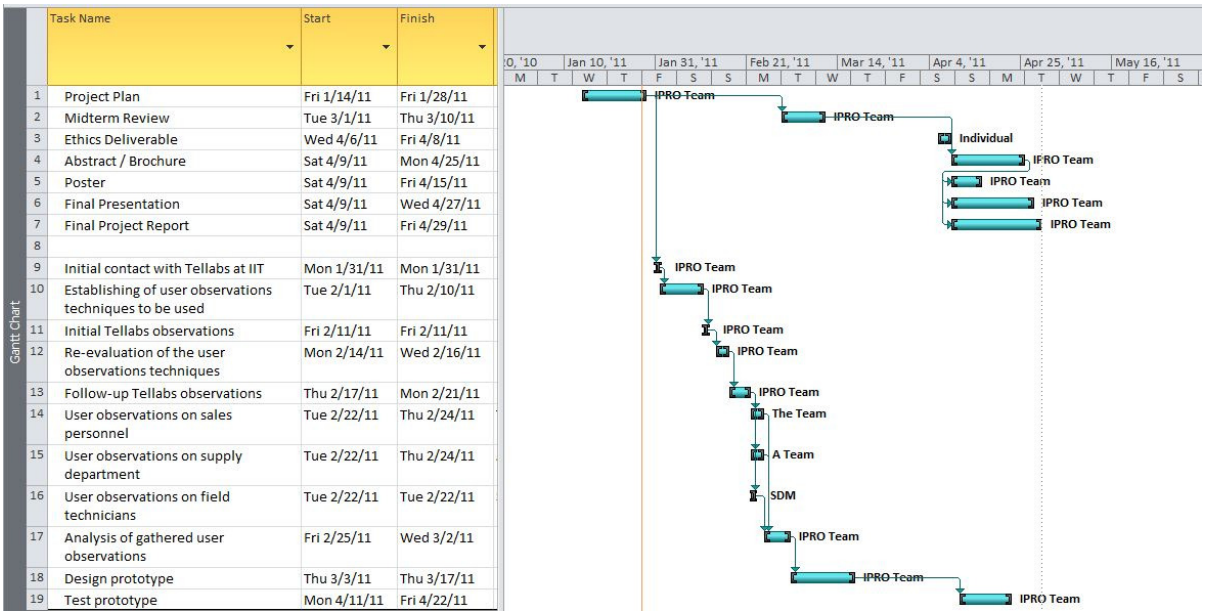
2. Vinu Mohan

3. Michael Peterson

v. Sub-team “SMD”
   1. David Clemente
   2. Steven Huang
   3. Michal Siuty

vi. Sub-team “The Team”
   1. Andrew Kitaka
   2. Marius Maries
   3. Marek Putylo
   4. Rachel Yanover

C. Work Breakdown Structure, Gantt Chart



	Task Name	Start	Finish
1	Project Plan	Fri 1/14/11	Fri 1/28/11
2	Midterm Review	Tue 3/1/11	Thu 3/10/11
3	Ethics Deliverable	Wed 4/6/11	Fri 4/8/11
4	Abstract / Brochure	Sat 4/9/11	Mon 4/25/11
5	Poster	Sat 4/9/11	Fri 4/15/11
6	Final Presentation	Sat 4/9/11	Wed 4/27/11
7	Final Project Report	Sat 4/9/11	Fri 4/29/11
8			
9	Initial contact with Tellabs at IIT	Mon 1/31/11	Mon 1/31/11
10	Establishing of user observations techniques to be used	Tue 2/1/11	Thu 2/10/11
11	Initial Tellabs observations	Fri 2/11/11	Fri 2/11/11
12	Re-evaluation of the user observations techniques	Mon 2/14/11	Wed 2/16/11
13	Follow-up Tellabs observations	Thu 2/17/11	Mon 2/21/11
14	User observations on sales personnel	Tue 2/22/11	Thu 2/24/11
15	User observations on supply department	Tue 2/22/11	Thu 2/24/11
16	User observations on field technicians	Tue 2/22/11	Tue 2/22/11
17	Analysis of gathered user observations	Fri 2/25/11	Wed 3/2/11
18	Design prototype	Thu 3/3/11	Thu 3/17/11
19	Test prototype	Mon 4/11/11	Fri 4/22/11

D. Expected Results

i. Expected Activities
   1. Meet with Tellabs Director of IT applications and Chief Information Officer
   2. Create IPRO 310 goals from customer expectations
   3. Create a routine communication time and medium with Tellabs personnel
   4. Create weekly meeting times for sub groups
   5. Conduct observational research of Tellabs personnel of interest
   6. Meet all IPRO requirements

ii. Expected data from research

1. IPRO 310 will a uniform method for conducting observational at Tellabs
2. Specific areas within the Tellabs organization which have the potential for increasing productivity or quality via mobile devices will be observed
3. Tasks of employees or departments need to be mapped out
4. Difficulties or hurdles that employees have to face need to be noted
5. Technical capabilities of employees feedback
6. All data should be standardized and clear, i.e. tables and graphs

iii. Potential products resulting from research and testing.

1. A prototype for an application they can be used on a mobile device for a certain class of employees or department
2. A prototype for an application for a Tellabs executive that will enhance productivity
3. The existing technology at Tellabs and future ideal technology in the market will be kept in mind
4. Apple iPad iOS, Android, and Blackberry platforms are currently being utilized by the Tellabs organization

iv. Define potential outputs to be produced through

1. Research data showing “how” and “why” tasks are executed by Tellabs employees
2. Research data showing employee hurdles, inefficient operations, and shortcomings that are present at Tellabs
3. Solutions created by IPRO 310 team via mobile device apps

v. Deliverables

1. Data from user research and observations conducted at Tellabs.
2. The team can expect to provide prototypes of mobile applications that would best fit the Tellabs employees’ needs.
3. Prototypes will be tested for feedback on their ease of use.
4. That feedback will be used to refine the prototypes to better meet the needs of Tellabs employees.
5. Our aim is for an application design that is feasible, practical, and satisfies Tellabs as completely as possible.

vi. Challenges, risks, and assumptions

1. To design an application that is both intuitive and meets the Tellabs security requirements.

2. App should be able to work on all platforms Tellabs employees use (iPhone/iPad, Blackberry, and Android, etc.).
3. Limits of the software development kit from Sybas
4. Security issues from viruses or bugs
5. IPRO 310 is on the assumption that Tellabs will be completely cooperative in giving us the information needed to complete this project.
6. Tellabs may not be willing to divulge certain information to our team.

vii. By thorough analysis of the Telllabs' corporate environment and its employees, the IPRO team will draw upon these observations to create a mobile application that will provide reliable security for accessing Tellabs networks as well as possess friendly user interface. The team distributed surveys and face-to-face discussion will determine the needs of the Tellabs employees regarding a feasible mobile application. Tellabs IT policies and source code of the previous application will provide a foundation for at least creating the prototype application for securing work related tasks

VI. Project Budget

	Cost	***Notes***
+Materials & Supplies	$650.00	Printing, Notes, Poster
*Equipment	$950	Image editing software, cameras
+Travel	$480	Fuel for trips to visit Tellabs
Prototyping	$1,075	Test equipment, programming software
Total =	**$3,155.00**	***If everything has to be bought***

+ Cost may change

** Possible supply already exists*

****Total =***	***$2,205.00***	***If school agrees to borrow existing equipment***

VII. Designation of Roles

A. **Minute Takers:** Vinu Mohan and Rachel Yanover
B. **Agenda Makers:** David Clemente and Steve Huang
C. **Time Keeper:** Andrew Kitaka
D. **iGroups Moderator:** Marius Maries