

LIVING PROFILES

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Contents

Project description (original version from 2006)

RWJF goals

Discovery through cultural probes

Health related quality of life

Problem is well understood

Bold vision

The behaviors of our Teens show us how to work with them

LIVING PROFILES prototype

The Quality of Life Timeline (QLT)

Three discreet PHR modules

Mood Meter

Reminder Social Object

Video blogging and text messaging

Summary

Bibliography

Prototype development options

LIVING PROFILES

Project description (original version from 2006)

LIVING PROFILES is a transmedia design system to engage teens, 14- to 18-years-old, with their health and well-being. Throughout our project, we're seeking to understand what will capture and sustain teenagers' attention, to help them manage their health conditions and foster healthy lifestyles as they enter adulthood. As a personal tool, LIVING PROFILES is designed to empower teenagers with chronic health conditions. It provides teens with accessible, DIY technologies to support their needs and aspirations in the context of daily teen life. LIVING PROFILES demonstrates to teens the relationship between wellness and personal responsibility, while engaging them in activities that they like and would do normally. It works across a range of media including computers and mobile phones. It maintains user engagement by tapping into behaviors that teens already exhibit, as well as the media that teens like and are incorporating in their everyday world.

RWJF goals

In May 2006, the Robert Wood Johnson Foundation initiated funding of Project HealthDesign, a 2-phase design and prototype development project in which nine teams, selected from a national response of 170 proposals, set forth plans to create innovative personal health records applications. In May 2007, we reviewed progress to date. The challenge set forward by the National Advisory Committee (NAC) at that review was to determine the criteria for success of Project HealthDesign one year hence. The National Program Office posits that Project HealthDesign will be considered a success if:

1. Nine exemplars of innovative approaches to personal health records tell a compelling story
2. A few of these (3-4) are sufficiently developed and vetted through the prototyping activities to warrant expanded deployment
3. Specific architectural requirements of four target core components of personal health records (PHRs) including identity management; medication monitoring, presentation and documentation; capture observations in the course of daily living; calendaring and a computable representation of the sequencing of activities, observations & events
4. Further delineation of functional requirements of PHRs among different user populations is achieved

LIVING PROFILES

Discovery through cultural probes

LIVING PROFILES engages a design-based methodology to address this transition process facing teens with chronic health conditions. We utilized the “cultural probe” methodology in combination with in-person interviews. The cultural probes ranged from highly directed to very interpretative activities, including mobile phone photo blogging. Eight unique probes were distributed in varied combinations and designed to solicit responses that are difficult or impossible to obtain in an interview or clinic setting.

A total of 32 adolescents (14- to 18-years-old) subjects engaged with probes from 2 sites: the 15 participants from Children’s Hospital of Orange County’s Hematology Clinic included 6 females and 9 males, and the 16 participants from Stanford Pediatric Rheumatology Clinic included 11 females and 5 males. Eleven participated in in-home interviews (6 females and 5 males) and 8 invited a “healthy” friend to be interviewed with them for a total of 19 adolescents (11 females and 8 males).

A key finding was the rich and multi-dimensional perspective the probe exercises gave into the life of teen patients. Our results indicate teen-centric wellness is not disease-related, but involves a sense of well-being based on social networks, family support and healthy life style choices. In addition, music is a very important aspect of teen life and gives them a voice to express their health care concerns. Taking into account all of the personal data collected through the probes, their primary diagnosis was seldom mentioned, and often viewed as a negative. When asked to look ahead, their immediate future concerns involved completing schoolwork, getting into college, and having a good career- not health-related issues. (Figure 1.) Feedback from subjects strongly indicates their desire for health care providers to know about them, not just to focus on their disorder.

Importantly, health and wellness cultural probes empower adolescents in transition and provide a multi-dimensional perspective of a patient to health care providers that may not be evident in a time-constrained clinic setting. There is an opportunity to incorporate these powerful, patient-specific activities into electronic medical records to enrich the caregiver’s understanding of the patient’s perception of their health care needs.



Figure 1. Future Map Probe. A map created by a patient to illustrate his road from today to his 21st birthday.

LIVING PROFILES

Health related quality of life

As medical advances continue to save and prolong life, increased attention has been paid to the individual's quality of life during and after treatment. In this area of research, the quality of life refers to an individual's ability to participate in and enjoy normal life activities. Some medical treatments can seriously impair some elements of the quality of life without providing appreciable benefit, while others greatly enhance it. Given the importance of normal life activities to an individual's life, assessing and understanding the quality of life is an important part of medical care. In the conceptualization of quality of life, the important components of normal life activities include physical, psychological, social and spiritual well-being.

The assessment of quality of life has taken two different approaches. Global health-related quality of life tools look at overall quality of life without focusing on the evaluation of disease specific aspects. For instance, one measure utilized by the Centers for Disease Control and Prevention is Healthy Days (Moriarty, Zack & Kabu, 2003). This standardized measure given to representative samples of adults in the United States, asks individuals to determine how many "unhealthy" days they've had in the last month. They have found differences in perceived healthy days between individuals with chronic illnesses and those without. The EQ-5D is also a widely used global assessment of health-related quality of life, measuring 5 domains, mobility, self-care, usual activities, pain/discomfort, and anxiety/depression (Brooks, 1996). The SF-36 and SF-12, also widely used global assessments, measures 8 areas under two broad categories, physical and mental functioning. Pediatric versions based on the adult tools have been created to record adolescent responses as well as parent proxies (Varni, Burwinkle & Seid, 2005). (Figure 2.)

Disease specific health-related quality of life examines specific factors associated with different chronic illnesses. Thus, assessments for individuals with hemophilia have looked at the impact of prophylaxis (infusions with factor concentrate 2–3 times a week) versus on demand therapy (infusions with factor concentrate only when a bleed is occurring) and assessments of individuals with lupus and juvenile arthritis might look at severity of joint pain and its impact on functional abilities such as completing routine, daily tasks independently. Advantages of assessing disease specific health-related quality of life include the ability to help the individual determine what aspects of their disease most interfere with their quality of life and the opportunity to look at relationships between their specific symptoms and the specific treatments they use.

The problem with all these institutional approaches when working with teens is the radically different way teens define and measure their quality of life from the health care industry. Interestingly, findings using Healthy Days have suggested that adolescents view their quality of life differently than do adults (Zullig, Valos & Drane, 2005). One study of over 5,000 high school students found that mental health concerns were much more important in adolescents' self-rated health than physical concerns. The opposite pattern has been found for adults, suggesting that adolescents do have different views of health and quality of life—this result is echoed in our research. **One of the stunning findings of our research with teen patients was their consistent definition of their quality of life through engagement with their social networks and not by illness.** Teen participation within social networks includes things such as going to school, surf camp, "hanging out with friends," and the prom. (Figure 3.) Additionally the teens measured their mood in relationship to daily activities, friends, and family.

In the past **ONE** month, how much of a **problem** has this been for you ...

ABOUT MY HEALTH AND ACTIVITIES (problems with...)	Never	Almost Never	Some-times	Often	Almost Always
1. It is hard for me to walk more than one block	0	1	2	3	4
2. It is hard for me to run	0	1	2	3	4
3. It is hard for me to do sports activity or exercise	0	1	2	3	4
4. It is hard for me to lift something heavy	0	1	2	3	4
5. It is hard for me to do chores around the house	0	1	2	3	4

ABOUT MY FEELINGS (problems with...)	Never	Almost Never	Some-times	Often	Almost Always
1. I feel afraid or scared	0	1	2	3	4
2. I feel sad or blue	0	1	2	3	4
3. I feel angry	0	1	2	3	4
4. I worry about what will happen to me	0	1	2	3	4

HOW I GET ALONG WITH OTHERS (problems with...)	Never	Almost Never	Some-times	Often	Almost Always
1. I have trouble getting along with other teens	0	1	2	3	4
2. Other teens do not want to be my friend	0	1	2	3	4
3. Other teens tease me	0	1	2	3	4

ABOUT SCHOOL (problems with...)	Never	Almost Never	Some-times	Often	Almost Always
1. It is hard to pay attention in class	0	1	2	3	4
2. I forget things	0	1	2	3	4
3. I have trouble keeping up with my schoolwork	0	1	2	3	4

Figure 2. A healthcentric questionnaire: PedsQL, Pediatric Quality of Life Inventory, Teen Report (ages 13-18), Version 4.0 Short Form (SF-15). Also distributed to parents as a proxy for their child.

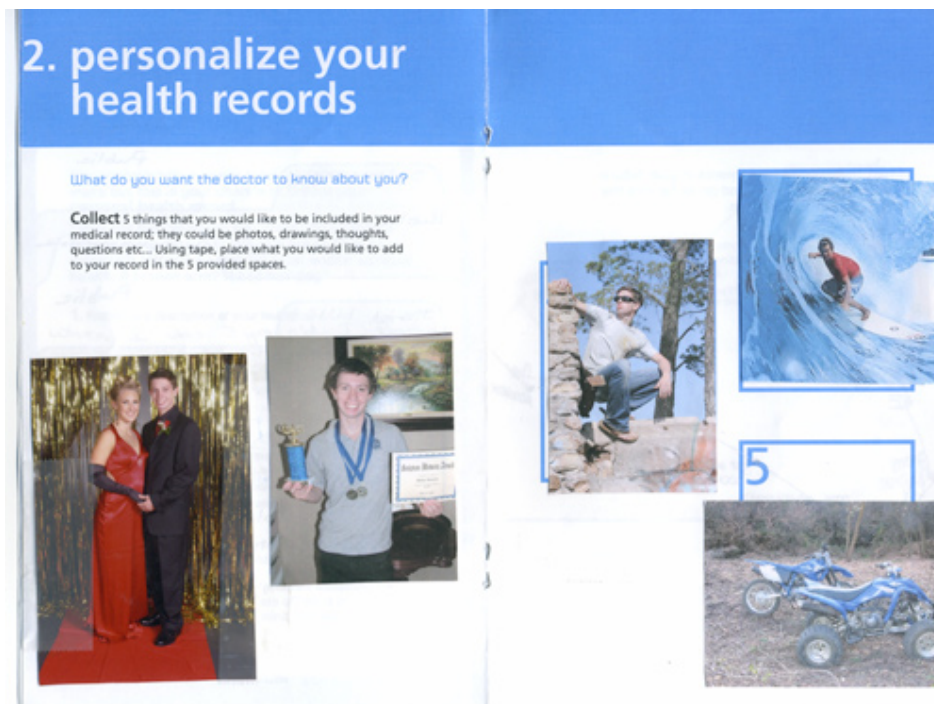


Figure 3. Where's My Info Probe. A teencentric personal health record showing 5 things that this patient would like to include in his medical record.

LIVING PROFILES

This study suggests that teens have the motivation to measure and improve their quality of life, but in teen-centric ways, not in traditional health-centric definitions. This is an opportunity for a PHR to truly reflect the needs of patients and in their own vocabulary that will facilitate meaningful dialogue between patient and doctor. When the entities involved in the health care provision (the adolescent, his or her parent, and the medical team) can have a more meaningful dialogue, it is likely that health care outcomes, both physical and quality of life, will also improve.

Problem is well understood

There are unique and challenging issues for adolescents with chronic health conditions that require we develop tools specifically for them as they are not adults nor are they like younger children. It is well documented that lapses of adolescent adherence in serious diseases can result in significant consequences such as losing organ transplants because of noncompliance (Dunn et al., 1990), diabetes complications due to poor control (Greening, Stoppelbein, & Reeves, 2006), and avoidable crises that negatively affect health quality as an adult.

Many who have attempted to work with teens have failed because simply applying adult methodologies to teens does not work (Greening, Stoppelbein & Reeves, 2006). Research clearly shows that individualized plans are critical for improving the adolescent's ability to be compliant and make the transition to adulthood safely. Our study reveals which things are important to an individual adolescent, so in contrast to the medical community making assumptions, we have a methodology to extract a more personalized solution. Health care providers and parents waste so much time, energy, money and health on trying to "fix" adolescents because they lack tools to understand and engage them, and customize their health care. Once our method is validated and streamlined not only will it produce better outcomes, but it will also fit the adolescents' viewpoint of what is important, resulting in more engaged care and treatment.

Our study included subjects who have serious medical conditions and yet their disease was peripheral to their assessment of their lives—their concept of wellness is not disease-related in the way that adults would assume or experience in their own quality of life. It became clear that teens and health care providers are speaking two very different languages about teen health and quality of life measurements. The study also revealed that teens are motivated and open to using and co-creating the tool(s) that can integrate their health care into their quality of life vision if they are the right tools at the right time.

Bold vision

LIVING PROFILES envisions a PHR system that is an innovative restructuring of the personal health record to focus the adolescent, caregivers, and medical team to improve communication and ultimately their health care outcomes including increased quality of life, decreased disease morbidity and mortality, and ease transition into the adult health care system.

From the user perspective: teens are enabled to discuss what is relevant to them, first, their life and aspirations. Our re-envisioned PHR provides opportunities to do this in a way that is inclusive of their condition and treatment. They may do this with themselves, family, friends and health care providers. Encouraging them to participate in the management of their own care by sharing their unique PHR that visualizes and conveys the teen's perception of quality-of-life and wellness. Thus improving self-efficacy.

LIVING PROFILES

Teens are also at the forefront of using and advancing technology, always awaiting the next new trend and incorporating it into their everyday routine, and they will likely be the first “adopters” of this holistic PHR. Thus improving dissemination and user uptake.

From the medical perspective: the medical team is enabled to personalize treatment in a way that better integrates with teen’s goals and needs by the teen sharing personal information that has been captured in the PHR. Thus improving care and reducing costs.

The behaviors of our Teens show us how to work with them

Physicians understand that neither adults or teens will follow through on treatment regimens that negatively impact their lifestyle or livelihood. However, little to no time is spent in a busy clinic to understand or incorporate these personal priorities into the treatment plan due to inadequate tools to capture this information in a meaningful way.

The innovation for the prototype concept originates from the teens by their interest in sharing personal information with their caregivers. It’s also inspired from our medical partners in response to the multi-dimensional probe returns in that the returns provided them with new insights into their patients whom they have known for years and a way to treat patients more holistically. For example, it was surprising to the medical team that the teens defined wellness/ good health through the activities that are important to them, such as surfing, skateboarding, spending time with friends, etc., as opposed to feeling good or engaging in healthy behaviors. The importance of personal information, such as their friends, their personal characteristics, etc. being included in their medical chart was also of surprise to the medical teams. While the medical teams understood much of this information conceptually from working with teens, the depth of the information and the ability to enter into the teens’ world and understand what was important was surprising.

The healthcare team was struck by the impact that the pilot probes had on their patients. The mere act of asking these patients about their long term goals, attitudes regarding self care, and transition resulted in increased communication and independent decision making in a positive way.

Three examples:



Now more appreciative of the many demands described in his probe results, physicians and Brad, one of the study patients, could explore alternative approaches to treatment. Based on these discussions, Brad decided that he no longer needed his central catheter, preferring to get his medicine through a subcutaneous approach. He wanted to make a transition in his health care and despite previous encouragement to do so, was not willing to do it until he thought through his goals and engagement in his health. This freed him from hospital admissions and less dependence on the healthcare team to receive his medications.



Cate, a teen participant with lupus, is achieving some of her plans for the future, having just graduated high school and now heading off to college. She knows that she is limited by her disease but tries to do everything in her power to accomplish all of her significant life events (i.e. prom). While Cate is an effective communicator, elements of her life and the significance of them to her are often left unsaid in medical situations. Since participating in the LIVING PROFILES research process, she has learned to share more of her goals and aspirations with the medical team, such as describing her prom dress she planned on wearing and the fun activities surrounding graduation, to ensure that scheduling procedures such as dialysis and clinic appointments would not interfere

LIVING PROFILES

4. You wish you could have talked more about:

How fast do sprained ankles heal
How can I get my left stronger
How long does an ecogram take
Is it safe to use Whey protein
How tall do you think I'll be

with achieving her goals. The medical team knows how to adjust and modify its recommendations for care based on Cate's plans, such as starting a pain medicine for her bad hip to ensure she can dance all night at prom. Her case brings to light many concepts that a PHR needs to address.

Andre, a sickle cell anemia patient, who gauged his health on his ability to play basketball. His questions to his Health Care provider included "How long does an ankle sprain take to heal" and "How to make my left side stronger after suffering a stroke". When asked what drains him, he drew a picture of a basketball. He illustrated this importance of basketball in his timeline when his highest peak was going to a Los Angeles Clippers basketball game.

These types of revelations are much more possible when teens actively engage in the process of their health care contextualized into their lives. One of the purposes of the prototype is to have a way to encourage this process to happen.

Why had these conversations not occurred before? The hospital and clinic are not favorable environments to discuss the rich and diverse lives of patients due to: 1) inadequate time for the providers and teen to converse in depth and 2) the tension surrounding care which focuses on illness rather than wellness. In addition, teens may feel more comfortable with their questions in a non-medical setting and using communication that is more comfortable for them.

LIVING PROFILES prototype

We started with the assumption that a PHR system enabling teens to manage their own health can be more than an archive of medical information or reminders of upcoming office visits. Input from the teens showed us that a PHR if it's to be meaningful (and used) must live within the teen world and help to improve their quality of life as defined by the teens. In order to ensure that the prototype is meaningful to the adolescents, input from our participants throughout prototype development includes both feedback and co-creation for testing feasibility.

LIVING PROFILES concept prototype enables teens to define what health is for them and provides a way to share it with their doctors to effect treatment. It is a design system that collects multiple and diverse forms of data and visualizes that information within the context of a patient's short- and long-term goals. This interface is entitled the "Quality-of-Life Timeline" (QLT). Our objective for QLT is to facilitate meaningful conversations around health, self management for patients with caregiver, parent, and other teens by visualizing data from the user perspective that's compelling and informative.

To demonstrate the system we plan to explore 3-4 data flows that record meaningful data about a patient and come together in the QLT. Each of the proposed data flows are "stand-alone" modules and are designed to require minimal effort for the teen to increase the ease and usability. Each is archived and shareable either on its own or in context of the timeline, with the control and decision-making of what is private or shared lying entirely with the teen. Although many possible PHR modules such as excerpts from EMR, biometrics, and family health history would link into the system, these three emerged from the study as strong teen-centric candidates as particularly meaningful in regard to health and wellness:

- 1) Text messaging to track mood and social interaction
- 2) Medication adherence reminders through ambient-technology
- 3) Teleport medicine via multi-media messaging (MMS) on a mobile phone

LIVING PROFILES

We're seeking interchangeable or interoperable components for our prototype and look to add specificity in this area over September and October with the assistance of Walter Sujanski.

The Quality of Life Timeline (QLT)

The QLT, our primary innovation, is an aggregate of real-time data flows that are visualized in the context of a teen's life goals. This enables the patient and doctor to make informed decisions around medical care in a more holistic fashion. This holistic approach promotes the teen's ability to choose long-term or short-term goals that contribute to their perceived quality of life (i.e., attend the prom, skateboard, surf, etc.) and for the health care team to optimize the medical components necessary to achieve this goal.

The interface has particular features and functions in and of itself that are key to understanding the individual data flows or modules. These enable teens to personalize their PHRs according to their ever-changing interests, goals, and milestones. A powerful feature is its real time representation of data in combination with its historic and future views. Teens have the ability to turn modules on or off and have full control on which parts to share and to whom. The caregiver can also communicate medical advice, guidelines, or prescription information into a specific zone of the system that's reserved for doctor input. The teen and caregiver(s) can review the tracking information for any time period to identify patterns, facilitators, and barriers to reaching teen-determined goals.

QLT characteristics

- Teen inputs calendar of events and goals
- Captures discreet PHR modules and visualizes in QLT interface
- Timeline provides navigation of history as well as future aspirations
- Zone for MD input such as prescriptions (all MD input is also sent to EMR for archiving). Caregivers can send specific content by texting or attachments to the QLT. All input is time stamped.
- Each module's sharing feature can independently be turned on or off by the user
- Interface is viewable in a browser with access via the internet on any web-enabled device
- Some aspects of the QLT will be printable
- In the future mobile phones will have the capability to project high resolution, browser interfaces that allow for easy multi-user viewing which will allow the teen to easily share personal information via his own phone in the clinic without using a local PC
- QLT is open source technology that can receive a broad range of data flows including other open source technologies and conceivably from proprietary sources such as NIKE biometrics running device or other off-the-shelf products.

Three discreet PHR modules

Collectively these PHR modules provide the teen user with three distinct data flows: 1) mood shifts; 2) reminders from the teen's social network; 3) video record of health events and related communication with caregivers. This information will be interesting as stand alone data, however it will truly come to life when seen within the QLT. With the added context of

LIVING PROFILES

teen goals and timeline, patterns will become visible that will facilitate teen self awareness and aid health givers in personalizing treatment.

Mood Meter

The Mood Meter is a widget that has two distinct ways of capturing information. The first capture concept comes from our participating teens who said they would like to convey how they feel on any particular day as a way to let their friends know when they need “extra space.” The idea of teens posting their moods on a social page (e.g. Facebook, Myspace) is not new, however this Mood Meter archives a teen’s intentional and public entries (text/image) into a private relational database that provides various filters such as, time of day, week, month, or year.

The second capture concept automatically collects data without any additional effort from the teen. There are many ways to do this and the one we plan to explore is using text messaging as a way to gauge mood. Data capture may include quantity of messages per day, length of messages, number of different people texted over a period, specific word capture, or time of day. The teen volunteers this private information to a private database that will on command show patterns of activity over time. We suspect that when a teen is depressed his texting behavior will change. Our objective is to visualize for the teen any mood swings that when seen within the QLT will shows if they were triggered by medication change, social interactions, or daily routines in-order to aid the teen and physician in identifying triggers and activities that may effect the teen physically and psychologically in achieving their goals weekly (prom) or long term (college basketball tryouts).

The two capturing methods will both be visible to the teen within the Mood Meter system and QLT.

Mood Meter characteristics

Capture A

- Establish mood for public/friends through API (Facebook or other social page)
- Intentional change mood through phone using emoticon or words
- Create custom emoticons
- Viewable on browser on any web-enabled device
- Archived historic view possible
- On/off sharing feature (for example friend can automatically receive shared mood)

Capture B

- Automatic capture of texting behavior
- Mobile phone texting (may be extended to include other texting modes)
- All is captured in a database that also populates the QLT database
- Interface that shows behavior in relationship to mood over time
- Viewable on browser on any web-enabled device

LIVING PROFILES

Reminder Social Object

Every teen interviewed appreciated a reminder from his/her Mom regarding compliance. No one likes to be nagged, but a reminder from someone who cares is highly valued and is psychologically significant for our teens. The reminder object is a device that uses ambient technology to address underlying fears of forgetting to take meds and, more importantly for the teen, being alone. This device is located in the teen's environment and communicates via Bluetooth. The public interaction is simple and meaningful to the teen, yet ambiguous to everyone else—similar to a string tied around a finger. It may also provide the means for a teen to observe his/her behavior over time.

Although it may seem counter intuitive to encourage parent involvement during a time when teens are transitioning to independence, the study shows evidence that teens highly respect their parents and experience healthy family ties that result in better adherence. This object will help facilitate a smooth behavioral transition while maintaining the emotional benefits of feeling connected to family and friends. These points are important because they illustrate what was uncovered in our research as well as what is unique about our intervention—it continues the user-centered perspective.

Reminder Social Object characteristics

- Teen inputs reminder
- Parent or someone in close social network inputs reminder
- Teen receives and acknowledges reminder through gesture (TBD)
- Reminders may be musical, text, or light
- All is captured in a database that also populates the QLT database

Video blogging and text messaging

Clinics are beginning to use teleport medicine with patients and MDs who are miles apart from each other. It's inevitable that mobile phone video streaming will provide a critical interface for emergency situations as well as a more ritualistic monitoring for rashes or swelling. Teens will be able to send video or still images to the clinic in the case of a health event or accident. Doctors will be able to respond via text and/or voice. All communication will be archived in the patients PHR and EMR.

Video Blogging and Text Messaging characteristics

- Trauma/event occurs and teen sends video/photo via mobile phone (time stamped and automatically is archived in EMR)
- Doctor/liaison responds via texting to teens mobile phone (time stamped and archived in EMR)
- All is captured in a private blog space that also populates the QLT database
- Teen blog input is viewable on a browser on any web-enabled device. Images/text also viewable on teen's mobile phone

LIVING PROFILES

Summary

Our predesign research phase, although it required extensive time to secure three IRBs and coordinate 32 teenagers with chronic health conditions to participate, was highly valuable in revealing how teens with chronic health conditions define their quality of life. These findings are key to the success of a PHR within this population and are the basis of our prototype design. We believe this adolescent perspective will add to the compelling story of Project HealthDesign as it showcases innovative approaches to personal health records.

Our goal for 2008 is to deliver a research report that highlights the numerous findings and insights into teen wellness as we believe they'll benefit other designers who are focused on adolescent health care. For example: teens had no questions for their doctors, but they had things they wanted to know more about. This is valuable because it shows that although teens may prioritize their goals and aspirations differently from adults they still were proactive in wanting to know more about their condition and it illustrates a language gap between teen and care giver. Another example: teens had little or no awareness of teen-centric wellness opportunities or activities. This illustrates both a lack of resources as well as a teen perception.

Our goal for the November workshop is to show a representation of our primary research, storyboard of the QLT system, Flash mock up of the QLT interface, along with paper prototypes of the three PHR modules including user testing. In addition, we'll bring an understanding of the specific architectural requirements and shared core components. We look to get confirmation of our goals during the upcoming site visit on September 28.

One of the most profound discoveries of this study thus far has been the specificity of the communication gap between teens and health givers. Our hope is that our PHR tools fill this gap with the social and emotional needs that teens have so aptly expressed, allowing them to not only manage their own health care but in turn begin to change the relationship between health givers and their patients.

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LIVING PROFILES

Prototype development options

Prototype 1: Web Based Content Creation and Sharing Widget/WebPage/Platform

Assumption is that in 2012 the web on a PC will still be a dominant universal paradigm for content creation and sharing. This prototype is to show the scenario of a user sharing their LIVING PROFILE with their doctor in a variety of scenarios:

- Office visit – sitting around a screen, projecting on a wall, etc.
- Remote Webmeeting – Shared session / presentation - Instant messaging, VOIP, WebEX like.
- Asynchronous presentation – user is not present when physician views the LIVING PROFILE. User creates a profile and sends a link, and gives permission for a one time viewing of the LIVING PROFILE. This would be analogous to the book.

Quality of Life Timeline / Moodmeter Widgets are primary components of the prototype.

Prototype description

- Storyboard of interaction, to support film.
- Screen shots of Platform and Widgets
- Flash demos integrating story board and interaction mock up

Opportunities to leverage existing services

- www.fidgt.com – visualizer, music, social network crosses web and phone boundaries.
- www.radar.net
- www.vimeo.com

Prototype 2: Mobile phone based LIVING PROFILE building, browsing, and community communication Tool

Assumption is that in 2012 the mobile communicator and social networking will still be a dominant paradigm. Nokia phone based prototype leveraging the success of phones with test subjects. Show use of video and photo, capture and publish to web, draw from web services.

Prototype description

- Storyboard of interaction
- Screen shoots to show on phone
- Flash demo to run on Flash player
- Nokia phone

Opportunities to leverage existing services

- www.fidgt.com – visualizer, music, social network crosses web and phone boundaries. Have Nokia phone application that is integrated-could be part of demo out of the box.
- www.radar.net
- www.vimeo.com

LIVING PROFILES

Prototype 3: Reminder Social Object

Assumption for 2012 is that the network will increasingly be inside new consumer electronic products enabling a variety of new forms of communication and ways to stay in contact with your social network.

Build a prototype Reminder Social Object as described.

The prototype is a combination of a hard model and an experience prototype. Combined together the hard model communicates a realistic size and use case, the experience prototype communicates that focuses on communicating the potential for this type of object.

Prototype Description

- Storyboard of interaction
- Hard model / Renderings of object
- Experience Prototype that enables interplay of private / blurry presence VS. High definition / high fidelity clear interpersonal communication.
- Working Concept – Reminder social object collects and displays ambient information to social network and display a variety of private and public information.

- + LCD driven by PC but packaged to not look like a PC.

- + Active glass on top of LCD that changes opacity under computer control. The overall effect is that the image on the screen can be shifted from clear to blurry.

- + Touch sensitive – when a person reaches out to touch the screen the interaction can shift.

- + Camera and motion sensor can be used to sense ambient information

- + Ambient sensors / displays send and receive health related information from to and from environment.

Opportunities to leverage existing services / resources

- Art Center - interface Flash to MOTO "Mote" hardware that controls screen, LEDs, touch screen input.

- Build assembly on top of the new IMac. This could simplify the integration and model making.

LIVING PROFILES

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