SleepBuddy™ : Your Sleep Information Manager

A conceptual captology design by

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Design Challenge

To . . . Get people to sleep more

Time limit: 14 hours per person

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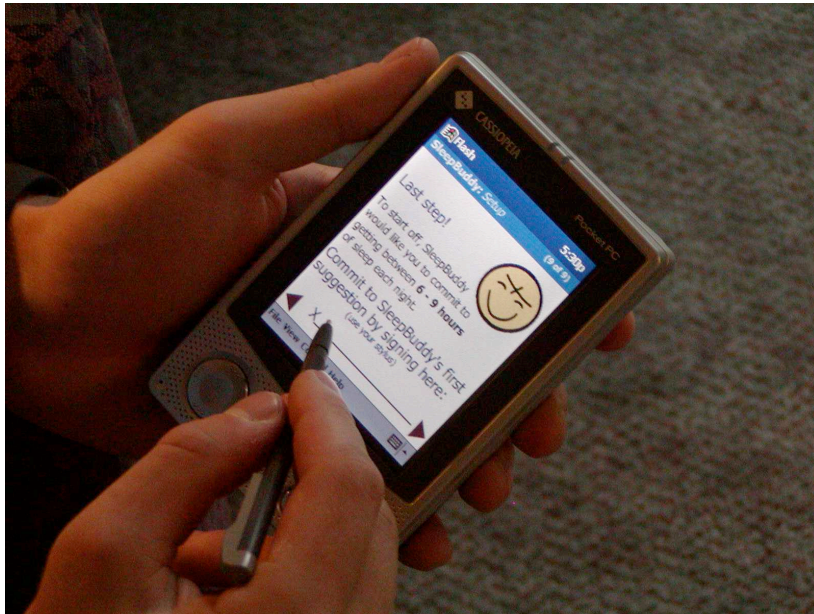*Slide #1*

SleepBuddy

Persuasive Purpose

To get young professionals who already regularly use their PDA for appointments, schedules, and to-do lists, to optimize and maintain their sleep schedule!

Industrial Design

An off-the-shelf software package for existing mobile devices (our prototype simulates operation on a Microsoft-based PDA)

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User Description

- The target user is a young professional, college-educated, preferably single.

- The target user works hard (*too* hard), and has kept his/her irregular sleeping habit from college, which is often ill-fitting for the less variable work week schedule.

- Our user is already comfortable with advanced cell phones & PDAs, and in fact lives and dies with their electronic PIM (e.g., Outlook)

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# SleepBuddy & my new life (Part I)

Matt is a young professional. He works hard, parties hard(er), and has been really tired recently: he already knows he needs to change all that, and decides to buy SleepBuddy™.

When he installs the software, he has to fill in a survey on his sleep behavior. Matt likes that the questions are easy to understand and that the overall content is reassuring.

At the end, Matt formally commits to changing his behavior according to SleepBuddy's™ advice, by signing on the screen. He begins to view himself as someone who cares about his sleeping behavior.
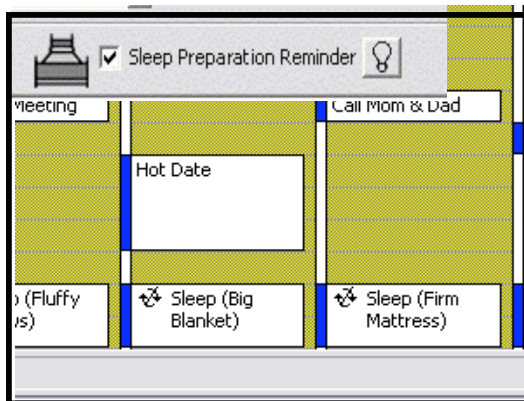
Based on Matt's input, SleepBuddy schedules a recurring sleep appointment every night in his calendar. Matt can also indicate the "sleep-sensitivity" of coming appointments by ticking a checkbox on the appointment setup screen..

That night, at 11pm, Matt receives a sleep reminder from SleepBuddy, along with an short inspirational quote.

Further, because Matt asked SleepBuddy to be aggressive during setup, SleepBuddy gradually dims the lights in his apartment.

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SleepBuddy & my new life (Part II)

In his now-dark room, Matt falls asleep

The next morning, when he opens his PDA, he is asked at when he fell asleep and woke. Matt is also asked to indicate how he feels. He feels happy, he got a good night's sleep for once!


Because Matt answered right away, he gets 10 Pillow Points™. Every time he answers a question for his SleepBuddy™, he will gain PillowPoints™ no matter his actual sleep behavior.

At several random times throughout the day (making sure not to ask during scheduled appointments) he is asked how alert he feels.
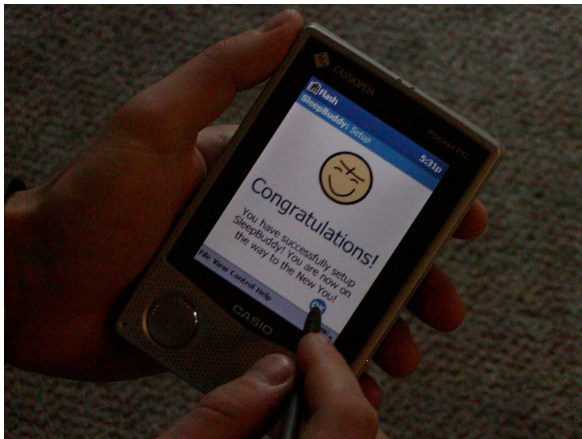

At all times, Matt can see his 'sleep battery' on his toolbar. He has an important meeting this Friday, SleepBuddy™ tells him 4 days before that he should sleep well before to prepare for it.
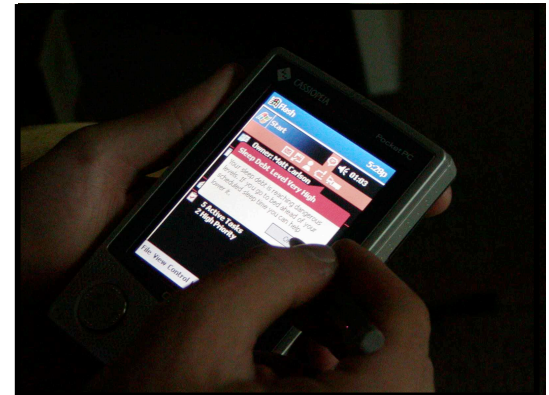
After 3 months, SleepBuddy knows Matt very well. He receives sleep insights: the SleepOptimizer™ tells him how many hours of sleep are necessary so that he'll stay alert.

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SleepBuddy & my new life (Part III)

Matt feels much better now, thanks to his everyday use of SleepBuddy ™. Those PillowPoints got him in the habit of journaling with SleepBuddy as routine in the morning as showering and brushing his teeth. He is rested and alert. He even got promoted yesterday at work!
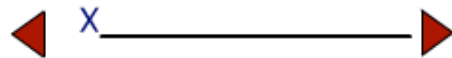
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SleepBuddy demo!

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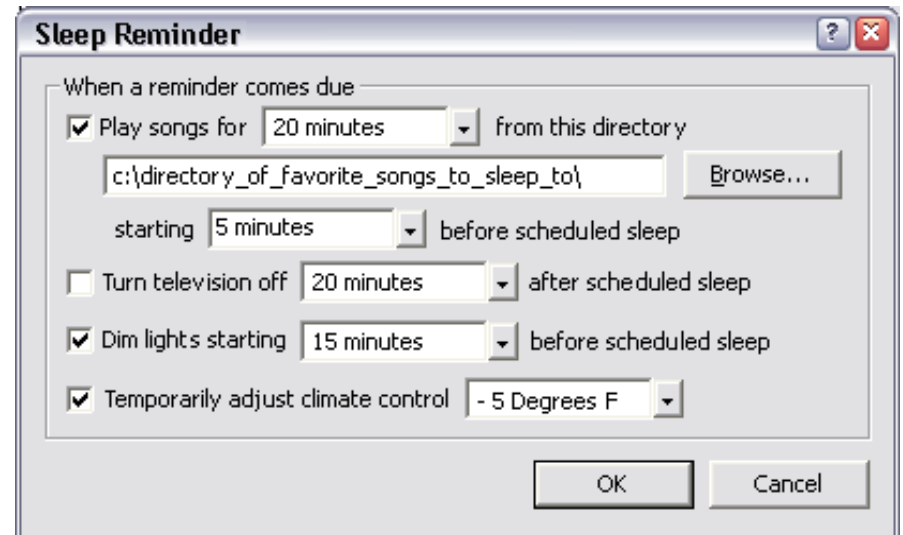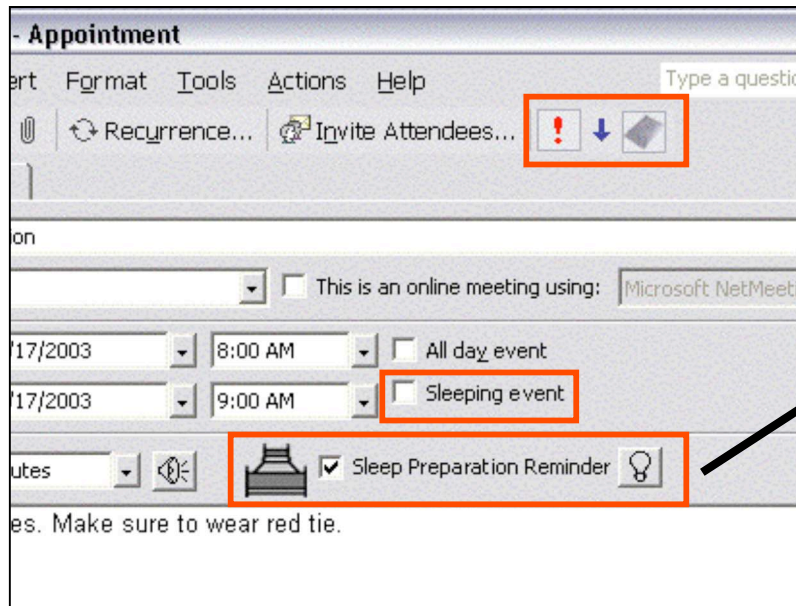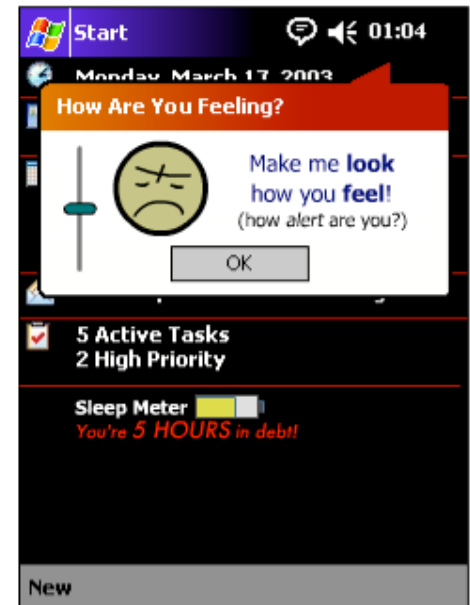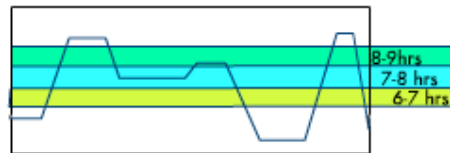
Features/Functionality
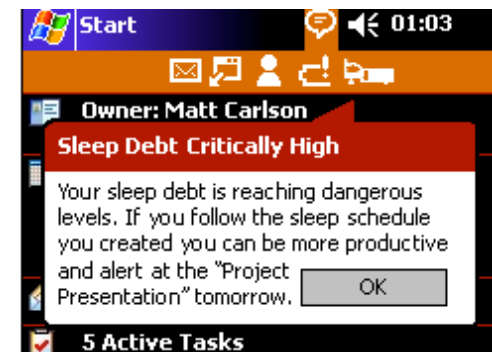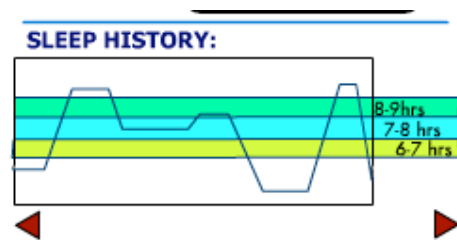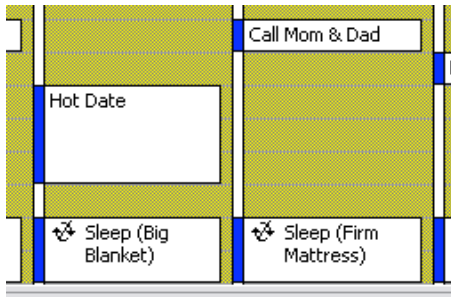
- **Daily sleep journaling**
- **Sleep history information: graphs, facts**
- **"Sleep Optimizer" system**
- **Targeted mood/alertness monitoring**
- **Seamless integration with your PIM (calendar, tasks)**
- **Integration with your electronic surroundings (e.g. lighting, television)**

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Theoretical Justifications

- **Commitment Principle (setup process)**
- **Self-monitoring elements**
- ***Limited* scope operant conditioning elements (PillowPoints)**
- **Persistence/awareness elements**
- ***Kairos*: timely, schedule-aware intervention**

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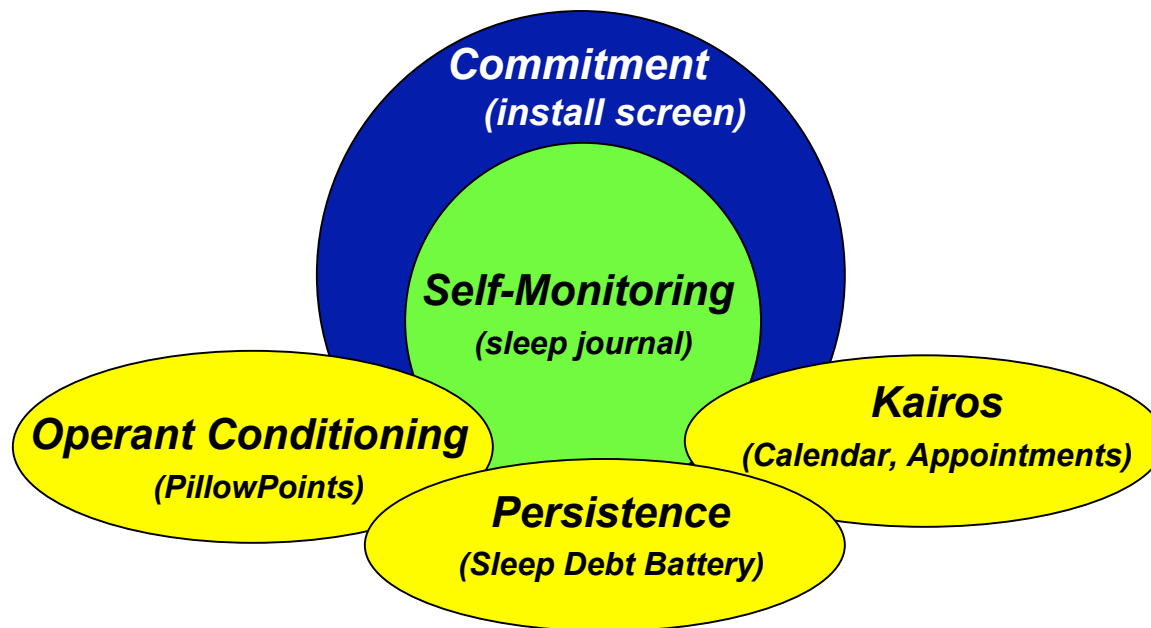
Results of User Testing

- **12 users tested: 64% Men, 36% Women**

- **Interviewed on:**
  - The interface
  - The content
  - Their overall impression of SleepBuddy as a product.

- **Consistent positive result on "user friendly," "clear" and "understandable" across gender**

- **Men found the product significantly more persuasive (and relevant) than women**

- **Overall, men found the product significantly more useful, more would recommend it, and MORE WOULD BUY IT**

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Shortcomings of Design

- Focuses on *behavior modification*, not *attitude change* -- users must already be willing

- No focus group before the design (e.g., no women's input in the design process)

- Assumes existing central importance and interaction style between user & PDA

- Does not leverage internet/community/competition opportunities

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Expansion - What else is possible?

- **Other form factors or ID possibilities**
  - Reduce reliance on calendaring features to make more phone-centric
    - Voice interface
    - "alerts via phone call"
  - Make SleepBuddy more of an overt social actor.
  - Use integrated digital camera for mood capture

- **Other features and interactions**
  - More active monitoring of user activity (e.g., a "motion sensor" in the PDA) to further ease/replace explicit journaling interactions
  - Friend/community data sharing & support
  - Integrated 'alarm clock' feature (or communication to existing clocks).
  - Subtle user reaction time testing to show effects of sleep deprivation.
  - External data collection of user behavior corresponded to sleep deprivation

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Next Steps in Design Process

- **Get journaling piece actually working**
- **User testing on working prototype**
- **Refinement of optimization strategy algorithm**
- **Exploration of "light dimming" feature**

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SleepBuddy says:

Have a nice day!

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