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EECS 598 - Human Computer Interaction
Assignment 1: Requirements Gathering

Assignment Summary

I am interested in the circumstances where mobile device users input text with one hand. Through this Contextual Inquiry interview, my goal is to understand the context of one-handed text entry, probe its boundaries, and identify breakpoints in the current usage of mobile keyboards. These interpretations will inform the requirements of a design that will attempt to address any breakpoints that I discover. My interviewee is an undergraduate engineering student at the University of Michigan. He uses one hand to input text for a variety of reasons in various scenarios. He has strong opinions regarding past and existing features to optimize this focus. My particular interpretations are within the context of evening leisure time in the home environment but can be applied in other spaces that support brief leisure such as the bus. Time spaces that are conducive to this activity are usually concise time frames where there is some necessity for a free appendage.

Interview Interpretation

<p>T01-1</p> <p>Whether he is faster typing with one hand or two hands is based on context, but it is not something he usually pays attention to.</p>	<p>T01-2</p> <p>He often uses one hand when he is walking from place to place. As a college student, his walks between classes are when he generally has time to answer texts and emails.</p>
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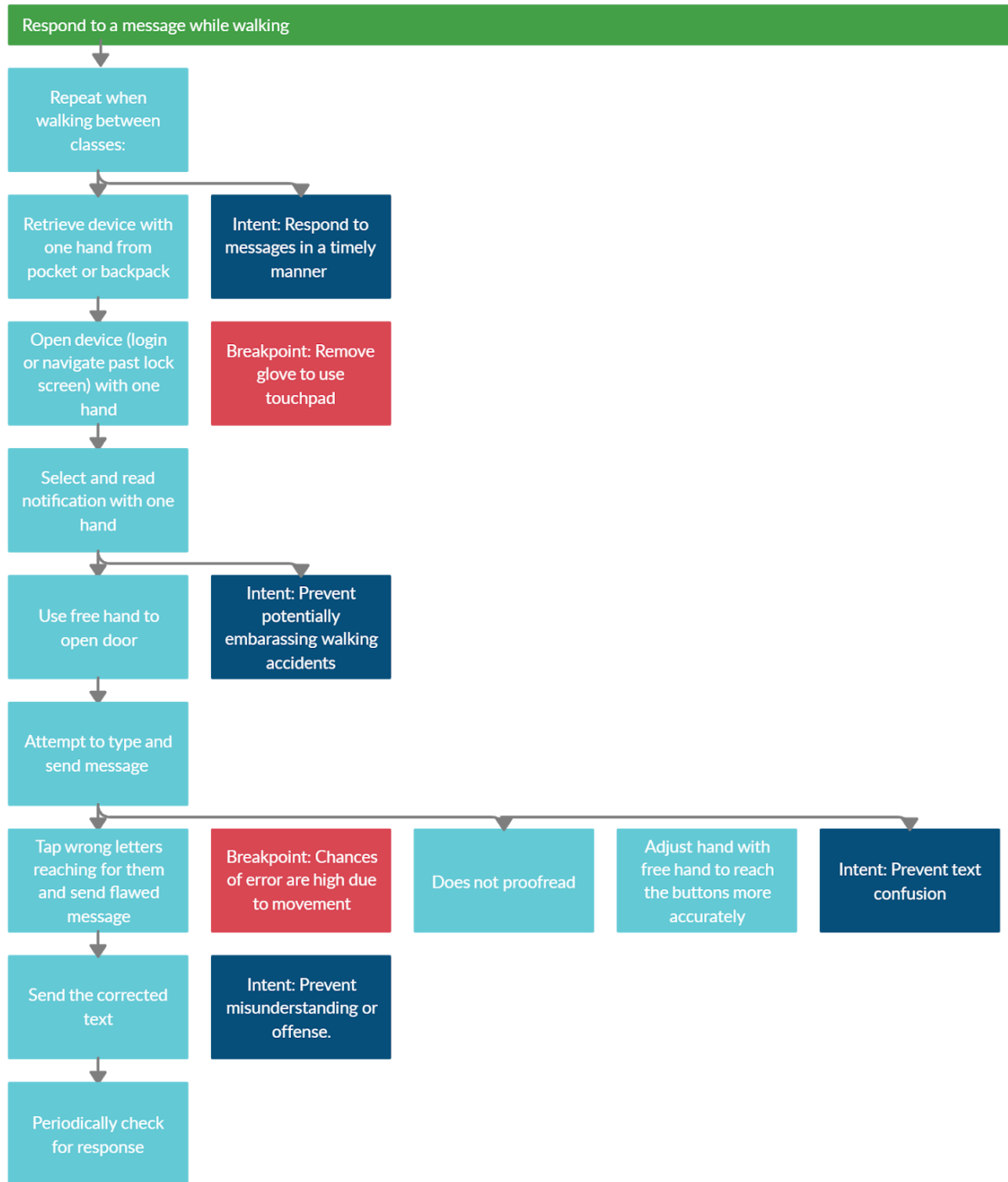
<p>T01-3</p> <p>One of his considerations for using one hand to type while walking was to keep a hand free to perform general tasks like opening doors.</p>	<p>T01-4</p> <p>When typing with one hand, it can sometimes be difficult to reach the top of the screen. (reach issue)</p>
<p>T01-5</p> <p>He feels the solution to the reach issue deployed on the iPhone (sliding the window down) was a little unwieldy. He didn't like it and didn't use it.</p>	<p>T01-6</p> <p>His solution to the reach issue is to generally grip it higher. He noted the use of a free hand to readjust his grip on the phone to reach anything, if necessary.</p>

<p>T01-7</p> <p>He dislikes the swipe typing feature (where you drag a digit from letter to letter to construct words), calling it clunky and gimmicky. Clunky meaning “unwieldy to use, tak[ing] more effort than time-saving” and gimmicky meaning “seems neat, [but] unpractical or unhelpful in reality”</p>	<p>T01-8</p> <p>He stated one can “[t]ype just as fast with good predictive test,” rather than swipe typing.</p>
<p>T01-9</p> <p>He feels the “[i]nitial hurdle of getting used to [swipe typing] and making it reliable was offputting.” He feels strongly against swipe typing: given the choice, he would not include the feature at all, even though it doesn’t impede him because he can turn it off.</p>	<p>T01-10</p> <p>Using one hand over two hands is not a conscious choice for him, but he believes he uses one more often. (He has no preference between using one or two hands but believes he uses one more.)</p>

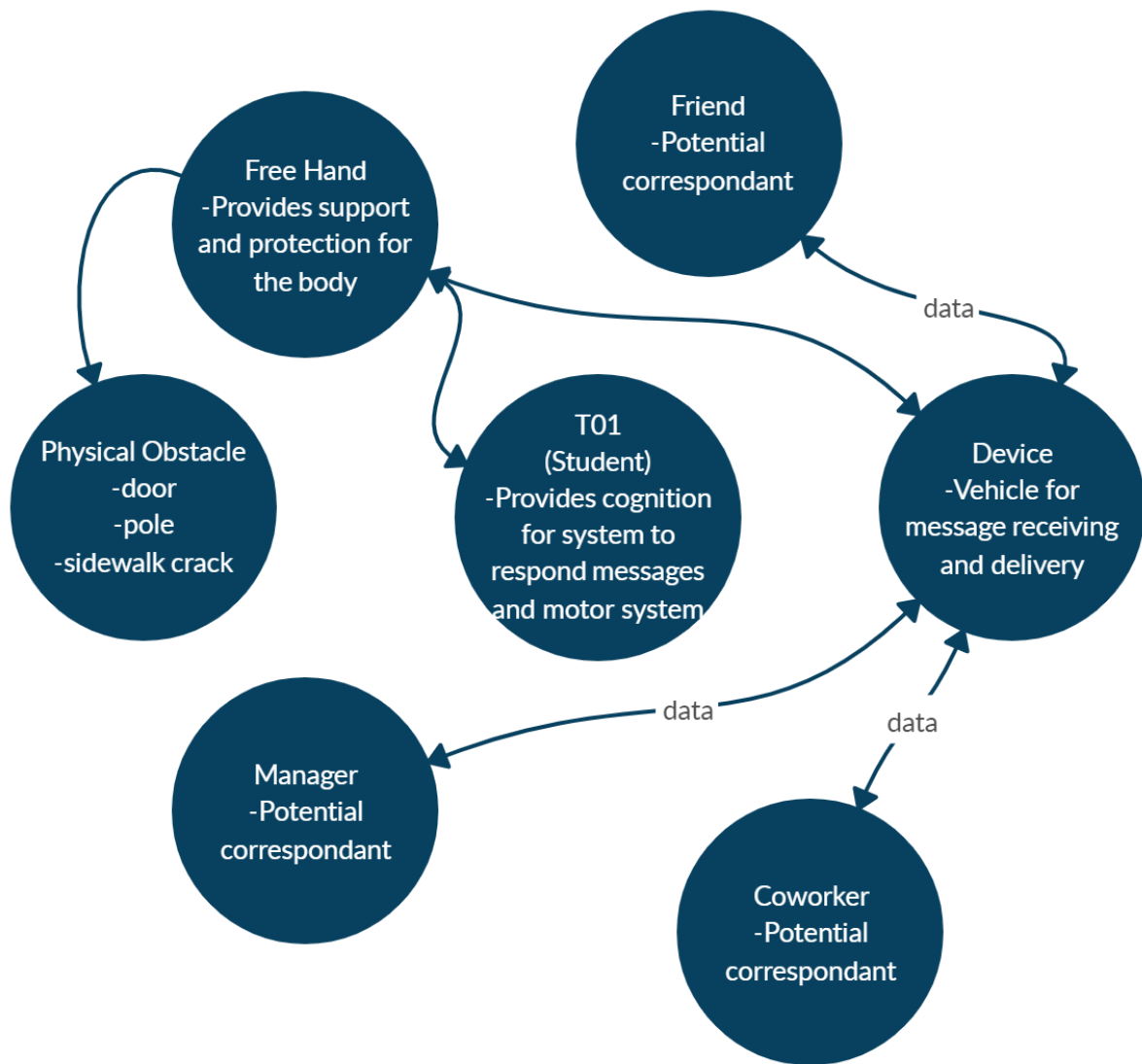
<p>T01-11</p> <p>His general effectiveness is the same for one hand versus two hands, but he believes he's faster using two hands.</p>	<p>T01-12</p> <p>Before "predictive text was good," using one hand for texting was difficult due to touching the wrong keys by mistake (fat fingers)</p>
<p>T01-13</p> <p>Common typos one-handed for him included tapping an unintended "g" between "t" and "h." He created keyboard shortcuts to work around this issue, but in doing so, he felt like going out of his way.</p>	<p>T01-14</p> <p>His motivation for adding keyboard shortcuts for his common one-handed typos was to reduce the number of mistakes he texted.</p>

<p>T01-15</p> <p>He does not proofread texts but does proofread emails.</p>	<p>T01-16</p> <p>Besides walking, he uses one hand in leisure scenarios associated with bed or sleeping, such as evening to night, early mornings, or napping.</p>
<p>T01-17</p> <p>Sitting square in a seat, he uses two hands.</p>	<p>T01-18</p> <p>He never uses speech to text.</p>

Sequence Model



Flow Diagrams



Appendix A: Interview Notes

Miscellaneous:

- In this scenario, I am a consultant from a tech company that is looking to improve text entry, specifically on mobile devices
- A: writing alpha numeric is fine, text/email
- Few lines of python code, going back and forth between the character sets
- Q: something you do often?
- Actually yeah
- -web search chrome browser, straight into top bar, direct to google search
- Good
- -reddit, abysmal search feature, algorithm for relevance
- -discussion
- Home pages, favorited movies subreddit, open search, sort by flairs,

Topic of interest

- 2 thumbs, faster? hands? Contextually - not something I pay attention to
- 1 hand?
- 1 hand walking outside, cold, sending a message with emojis
- Context - on the go, between classes, generally when answers questions
- North campus at the university of Michigan, large portions that are connected, walking bus to building, between two buildings, some outdoor
- Walking, using one hand, one hand-free opening doors
- One hand, sometimes hard to reach stuff at the top of the screen
- (old iphones, shift text down, so you can reach the top), not compressed, but slid down, bottom - the only way to access the bottom is through that one mode
- His last phone had that feature
- Last phone
- That particular issue is a little unwieldy
- Generally held in a way, that I can reach anything == adaptation to not using it, maybe will/won't
- Seems reasonable, clean and useful gestures
- Free hand to adjust grip on the phone
- Not a fan of the swipe feature - not influenced by 1 or 2 hands
- Clunky and gimmicky
- Clunky -- unweidy to use, takes more effor than time saving
- Gimmicky -- seems neat, unpractical or unhelpful in reality
- "Type just as fast with good predictive test"
- A little unwieldy
- "Initial hurdle of getting used to it and making it reliable was offputting"
- Doesn't impede you because I can turn it off entirely
- If it were up to you, wouldn't include the feature at all == **strong feelings**
- Seemed difficult
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- No preference 1 - 2 hands
- Uses 1 hand more
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- More effective - impression makes less mistakes with 2 hands
 - Less mistakes than with one hand touching wrong keys by mistake, fat fingers
- Generally faster using 2 hands
- Generally effective with both
- Common typos - g-h, keyboard shortcuts to fix
- T to h, drag across the g - best guess
- Tgh shortcuts the, made these for self -- going out of my way, something people can't do on their own (beginning of high school)
- Used before the predictive text was good
- Motivation = Reduce the number of mistakes
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- Don't proofread, unless it's very important, uses phone for email
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- 1 hand in bed on your side - leisure scenario, evening to night or early mornings, or napping
- 2 hands sitting down

Miscellaneous Continued:

- Send a lot with emojis?
- Generally no, but when you do usually with text, than without
- 80-90% of emoji usage comes from 10 emojis
- Show me?
- Top 7, constitutes only emoji usage,
- Contextually recommend emojis/ erase
- Replace word in sentence with
- Predictive text in general
- Third word
- half way through word
- Feature always available?
- Not in chrome search bar
- Apple keyboard vs chrome url entry
- Keyboard Apple ? preference, but choosing one is too rigid
- Know the website,
- Autocomplete is good, links accurate
- Never uses voice to text