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# Optimizing the Lead Page of CRM Logic

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## Abstract

We explored the usability of the CRM Logic application using various methods to improve usability and effectiveness of the Lead page. Our guiding principles were to evaluate accessibility, user satisfaction, and to improve the overall effectiveness of the CRM Logic Lead page. Our team conducted multiple evaluations including but not limited to, surveys and interviews, and chalkmark testing with two low-fi prototypes, and one mid-fi prototype with experienced CRM users.

When we conducted our interviews we found five common issues:

- Display of production
- Display of loan history
- Display of notes
- Display of text notifications
- Integration of social media

When we evaluated our low and mid-fi prototypes there were some statistical differences between tasks. In our low-fi prototype, Task 4 *“Click on the month with the highest loan production”* had a statistically significant difference between A and B. Our mid-fi prototype statistically significant difference also existed between Task 2 *“Please select a note regarding a previous call”* and Task 5 *“Click the link to the linked-in page”*.

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## Introduction

CRM Logic is a customer relationship management (CRM) system. Its primary functions include assisting users in managing and calling contacts, tracking activities, and reporting. One of our researchers, Tamara Jones, had previously used CRM Logic in her role as a Business Development Manager, and recalled significant frustrations using CRM Logic's interface. Her major pain point was working in CRM Logic while simultaneously using other external web resources to access information relevant to contacts managed in CRM Logic. We discussed this issue and agreed that other CRM Logic users may be frustrated with the CRM system and their process. We hypothesized that users would benefit if we upgraded CRM Logic's design and functionality. We created this study to test our hypothesis; we focused our efforts on the revision of the Lead Page of CRM Logic.

We wanted to exclusively target users of CRM Logic, but soon realized that we would run into challenges recruiting participants and should widen our audience. Therefore, we targeted English-speaking computer users 18 years or older.

The primary goal of our study was to analyze and improve the Lead Page of CRM Logic. Our guiding principles were to evaluate accessibility, user satisfaction, and to improve the overall effectiveness of the CRM Logic Lead page (Figure 4). Evaluating accessibility and user satisfaction were done by conducting literature and competitive reviews, surveys, live user research and evaluating prototypes respectively. Similar to CRM Logic, our revision was designed for desktop computer users to run in a web browser.

We did a competitive review of the following customer relationship management systems' contact pages: Salesforce, Monday.com, and Hubspot to compare differences and similarities to CRM Logic's contact page titled Lead Page (Appendix A for Competitive Review). Unlike CRM Logic, Salesforce and Monday.com did not allow users to call directly from the CRM. Therefore, user calls must be manually logged as an activity. Hubspot, however, is similar to CRM Logic, the system allows users to make calls from the CRM. Even though Hubspot shared similar functionality, there were some differences as well. Hubspot's contact page was split into 3 columns; the interface provided an easy solution for displaying and making information accessible to users. As a result, we were inspired to create one of our low-fi prototypes (Figure 9).

Next, we conducted a literature review of 3 articles during the creation of our project's proposal. We studied the article, *Using the Probe Methodology to Investigate the User Experience in a CRM System*, to inform our group of possible methods for understanding the users experience with CRM systems. The information helped our team gather data from participants during Live

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User Testing, in the form of surveys and interviews with experienced professionals. The article, *E- Service Quality, Ease of Use, Usability and Enjoyment as Antecedents of E-CRM Performance*, informed us of practical testing methods on CRM software users, along with the software's role in business services. The third article, *Impact of Usability Mechanisms: An Experiment on Efficiency, Effectiveness, and User Satisfaction*, informed us of methods to find effectiveness, efficiency, and satisfaction metrics of users during research.

We surveyed and interviewed participants who were also users of CRM Logic's platform to understand user satisfaction levels and evaluate the accessibility of pertinent information on the Lead Page of CRM Logic. The survey was conducted before the interviews. In the survey, participants ranked each metric using a 5-point Likert scale, ranging from Not Very Helpful (1) to Very Helpful (5). We averaged the participants levels of helpfulness and confirmed that participants thought CRM Logic was helpful.

Once the survey was completed, we interviewed participants following a protocol where we asked participants general questions about their familiarity with, and feelings about CRM systems. Second, we asked participants to discuss their specific experience with CRM systems. Third, we presented a scenario to participants, and then asked them to complete 2 scenario-based tasks. Our findings from the interviews included 5 common issues:

- Display of production
- Display of loan history
- Display of notes
- Display of text notifications
- Integration of social media

We constructed our low-fidelity prototypes by using two different overall designs: Tables vs Panels. Later, the mid-fi prototype was constructed using the more successful tasks from the low-fidelity prototypes. Our prototypes were evaluated using Chalkmark testing. The results showed that visually distinct elements made it easier for users to identify elements of the Lead page over less visually distinct tables.

## Goals

### Evaluate Accessibility

Our first goal was to evaluate accessibility of information on the Lead Page of CRM Logic. The original measure from our proposal read as follows: *Experienced users will interact with a screenshot of the Lead Page of CRM Logic. This will be done under our observation, allowing*

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*us to probe users on how they currently use the CRM Lead page, and hear their thoughts. These measurements will be examined to determine effectiveness of later solutions comparatively.*

This goal remained the same throughout the project's lifespan, but the measures to achieve this goal were altered. During the interview segment of our data collection, users of a CRM system (CRM Logic) were interviewed to further our understanding of the users' accessibility of the software. During these interviews, scenario-based tasks were given to interviewees. We asked if certain information was available on a screenshot of CRM Logic's Lead page.

Rather than constantly probing users to assess usability as originally planned, only two tasks were given to participants. This will be discussed further within the Methods section under Live User Research. Evaluation of the accessibility of the Lead Page on CRM Logic was done through two channels. We used two scenario tasks in addition to a full interview about user accessibility of CRM systems as a whole.

## Evaluate User Satisfaction

Our second goal was to evaluate user satisfaction regarding the Lead Page of CRM Logic. Our original measure from our proposal read as follows: *Experienced users will interact with a screenshot of the Lead Page of CRM Logic. After having completed a scripted sequence of interaction with the Lead Page, we would poll users' thoughts with a survey to gauge satisfactory levels of the experience.*

This goal has remained the same throughout the project's lifespan, but the measures to achieve this goal were altered. During Live User Research, interviewees were asked to answer a series of questions regarding their thoughts and desires regarding CRM systems as a whole. Rather than executing the scenario task first, we brought it to the end of the interview segment. We also asked general questions about each interviewee's particular CRM usage and their satisfaction with different mechanisms within the system.

We changed our measure by polling user thoughts about general CRM usability followed by utilizing a scenario for direct interaction with CRM Logic's Lead Page. We did this to further understand general CRM usability quirks. We used the data gathered to form design ideas for our low and mid-fi prototypes.

## Increase Overall Effectiveness

Our third goal was to increase the overall effectiveness of CRM Logic's Lead Page. We planned to compare the current system with a prototypical system by observing user behavior and

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thoughts. We wanted to adjust the system interface to increase usability and efficiency (display pertinent information front and center with limited scrolling and reduce errors, and the amount of time users need to attain a scripted goal).

We started with Live User Research in the form of interviews with experienced CRM users. Using the information from the interviews, we created two prototype sketches to test and compare in a Chalkmark first-click test. Finally, we achieved our goal to increase the overall effectiveness by integrating results from the low-fi prototype into the mid-fi prototype - which was the final iteration of our design.

To reduce errors, and increase usability and efficiency, we utilized feedback from prior interviews and tests. This was a more logical approach than utilizing two live user testing sessions. It was rather difficult to recruit many live users, so this measure was adjusted to fit our three testing sessions in order: First Live User Research, then Low-fi Evaluation, and finally Mid-fi Evaluation.

## Methods

### Competitive Review

We conducted a competitive review of the following customer relationship management systems' contact pages: Salesforce, Monday.com, and Hubspot to compare differences and similarities to CRM Logic's contact page titled Lead Page (Appendix A for Competitive Review). Salesforce and Monday.com did not allow users to call contacts directly from the CRM. Therefore, calls were manually logged by users. Similar to CRM Logic, Salesforce displayed the contact's information front and center, however, unlike CRM Logic, both Salesforce and Monday.com had a sidebar that displayed activities related to the contact. In contrast to Salesforce, Monday.com's sidebar layout was less effective because users had to scroll to see all the contact information. Salesforce and Monday.com supported users sending emails directly from the CRM, another feature that was not available in CRM Logic. However, similar to CRM Logic, both Salesforce and Monday.com allowed users to manually input data, which increases errors, time to complete tasks, and the cognitive load on users.

Hubspot, similar to CRM Logic, allowed users to call contacts from the CRM; calls were automatically logged as an activity. However, compared to CRM Logic's Lead Page that displayed contact information front and center, Hubspot's contact page was split into 3 columns: contact information on the left, activities related to the contact in the center, and related company information on the right. Since users of CRM Logic need to access information about contacts quickly we thought the columns provided a logical solution for users. Therefore, we

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considered using columns in one of our low-fi prototypes showing a section with two columns. However, our interface solution differed from Hubspot's interface because the columns included 3 activity panels (Figure 9).

## Literature Review

The original goal of the Literature Review was to learn of existing research in the area that might help guide our own research. Our revised goal was to learn about techniques that other researchers used in order to achieve similar goals to our own. Initially, it was difficult to give purpose to the literature review other than a catch-all that helped 'guide our research.' Now, we understand that this review helped us understand and select appropriate testing measures prior to using them ourselves. By completing this review, we learned more about CRM (Customer Relationship Management) usability as a whole, since two of our members were completely unfamiliar with this type of software in the first stages of the project.

We researched a variety of topics in order to narrow down enough relevant articles to focus our review efforts. We considered articles about CRM software usability, technical software usability as a whole, and the performance of CRM software within businesses. Considering we had these criteria, we narrowed our findings down to three articles that each pertained to one of those categories.

## Procedure

We searched on Google Scholar for several articles pertaining to usability of software, usability testing, CRM performance, and any research related to these topics directly. After a few sessions of research, we found three articles that were properly distinguished from one another. Each article had synergy with our plans for this project.

### *1. Using the Probe Methodology to Investigate the User Experience in a CRM System*

This particular study diagnosed issues with a system through the Probe Methodology. For our project, we interviewed users estranged from the system, probed them to learn their thoughts, ideas, and rationale behind their actions with the system or a mock prototype of the system. One aspect of the methodology used to carry out the authors' study were a set of tools given to participants: A workbook, a Wish List, a Diary, and a Print-screen Tool. Similarly, our remote test environment involved participants utilizing a script to carry out actions, a questionnaire, and a medium for user feedback. (Junior, 2020)

### *2. E- Service Quality, Ease of Use, Usability and Enjoyment as Antecedents of E-CRM Performance*

CRM performance related to business performance in the case of this study on mobile phone services in Jordan. "Mobile phone service providers should strive to improve E-CRM performance in their efforts to attain higher levels of customer loyalty" (p. 59). The authors



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argued that evidence for relationship management is a driving force of marketing logic that may improve business relationships with customers. (Al-Momani, 2009)

### 3. *Impact of Usability Mechanisms: An Experiment on Efficiency, Effectiveness, and User Satisfaction*

This study defined three major usability variables: Efficiency, Effectiveness, and User Satisfaction. Effectiveness is the degree to which users achieve specified goals, efficiency is the resources (Clicks and Time for our case) expended by users to correctly and completely achieve specified goals, and satisfaction is the degree to which user needs are satisfied. The authors explained that making changes and adding mechanisms to a software may help users in each of these three usability domains. These domains and measurements also roughly coincided with our proposed methods. The Actionable Results Section states: “The impact of a usability mechanism on the efficiency, effectiveness, and satisfaction attributes is determined by the functionality proper to the mechanism”. (Ferreira, 2020)

## Surveys and Live User Research

We surveyed participants to evaluate their satisfaction using a CRM system. We interviewed participants to understand and evaluate the accessibility of pertinent information on the Lead Page of CRM Logic. We created an interview protocol that included both survey and interview questions. Our project targeted English-speaking computer users 18 years or older, but we decided to include participants that were users of CRM Logic to form a guideline for revisions of the Lead Page of CRM Logic.

## Participants

To recruit participants, we emailed CRM Logic users to ask them to participate in our study. We also opened our study to users of other CRM technologies in the DePaul participant pool and DePaul HCI group on Facebook. We failed to recruit participants in all 3 instances. So we incentivized participants by giving them a \$10 Starbucks gift card in exchange for their participation. Once participants agreed to be a part of the study, we emailed them the link to our survey. We used Qualtrics technology to create the survey, which also served as our pre-study questions for the interviews. We recruited and surveyed 8 adults (6 females, 2 males). Except for 1 Sales manager, all other participants worked as full time Business Development associates that regularly used CRM Logic.

Table 1: Participants

	<b>Pseud.</b>	<b>Occupation</b>	<b>Where?</b>	<b>How often?</b>	<b>How helpful?</b>
1	Hilary	Business Development Specialist	Work	Daily	Helpful
2	Amber	Business Development Specialist	Work	Daily	Somewhat Helpful

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3	Tina	Business Development Manager			
4	Susan	Business Development Manager	Work	Daily	Somewhat Helpful
5	Karen	Sales Manager	Work	Daily	Somewhat Helpful
6	Daniel	Business Development Manager	Work	Daily	Very Helpful
7	Richard	Business Development Manager	Work	4-6 times/wk	Very Helpful
8	Anne	Business Development Specialist	Home	Daily	Somewhat Helpful

## Procedure

The participants completed a survey about their satisfaction with CRM technology they used. The participants ranked each metric using a 5-point Likert scale, ranging from Not Very Helpful (1) to Very Helpful (5). We averaged the participants levels of helpfulness and confirmed that participants thought CRM Logic was helpful. Then, we asked participants what changes they would make to the CRM systems they used. Next, asked for their consent and their available dates and times to be interviewed. As a precaution, we also emailed participants a copy of the consent form and verbally asked for their consent before we began their interviews.

We conducted and recorded interviews remotely using Zoom video conferencing software with 5 of the 8 surveyed participants. We started with warm-up questions asking the participants what they know and how they feel about CRM technology. Then we asked participants about their experience with CRM systems, such as managing contacts, interacting with the contact page, and calling contacts from a CRM system. Following the warm-up, we asked participants to elaborate on their experience with calling contacts from CRM systems. Third, to understand how participants used the contact page to meet their goals, we asked participants to complete two scenario-based tasks using a screenshot of CRM Logic that was sent to them in the Zoom chat during their interview (See Appendix D, Figure 4 to view the Screenshot of CRM Logic's Lead Page). For both scenarios, we asked the participants to imagine their job was to manage and call contacts through a CRM system. To ensure participants had the screenshot displayed on their screen, we asked them to explain the information they saw displayed on the screenshot of the CRM. Once the participants described the screenshot in detail, we moved on to the first scenario where we asked participants to imagine they worked for a loan officer that wanted to meet with a realtor to understand if participants had access to sufficient information on the contact page to accomplish this goal. For the second task, the loan officer wanted to know how many properties the realtor had previously helped her clients buy or sell in the last twelve months, so we asked participants if they would be able to answer the question by reviewing the information displayed on the screenshot of the lead page of CRM Logic. (See Appendix C for the complete protocol).

Finally, during the wrap-up, we asked the participants to reflect on their past experiences with the CRM system they used, CRM Logic. Therefore, we asked what participants' thought could

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better prepare them to call someone from the CRM system? Before concluding the interview, we also asked if they had any other questions or comments.

## Synthesis of Data & Analysis

Post the interviews, to organize our findings, we took notes on our interview sessions and compiled the notes into 3 categories: design, use of external resources, and design outside of our scope. Later we wanted more detailed notes, so we transcribed each interview using Temi software.

## Interview Findings

During our interviews we asked participants questions to understand how they used CRM technology to accomplish tasks such as managing contacts or making phone calls. Before using CRM Logic to make a call, users must have access to certain information about a contact that is not currently displayed or accessible on CRM Logic's Lead page. We wanted to understand the participants' past processes, experiences, and feelings when they previously interacted with CRM technology. During our interviews we found 5 common issues or areas of improvement for CRM Logic's Lead Page. CRM Logic should consider adding fields of more specific information about the contact on the Lead Page. The following include:

- Display of production
- Display of loan history
- Display of notes
- Display of text notifications
- Integration of social media

## Display Production

All the participants relied on external sources in addition to using CRM Logic to meet their goals and complete tasks they could not do in CRM Logic. Since participant's used CRM Logic to manage contacts who are real estate agents, participants needed to have access to the agent's production. Production refers to the realtor's past transactions where they helped their clients either buy or sell a home. When presented with the scenario, "Bill would like to know how many properties Sue has helped her clients buy or sell in the last twelve months. Reviewing the information displayed in the CRM, how would you proceed?" Richard said he would, "pull up our system Silver Swan and get their volume and their past transactions". And Anne said, "we have a separate database of production, but this isn't always accurate". In fact, all but 1 participant said they would research the realtor's production through external sites and systems. 3 participants specifically mentioned their internal company system. 2 participants referred to the realtors' website as a resource to locate the realtor's production. And Anne said she would use Zillow and Realtor.com to research this information. She said, "I would just have to Google

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Sue's name, and her office and utilize Zillow or Realtor.com... or broker's website, to see any information on listings that she has and try to estimate”.

## Display Loan History

Having the contact's loan history displayed on the contact page was important to 3 participants. Loan history refers to the history of the real estate contact's closed loans with loan officers. We asked, “In your past experiences before you called someone using a CRM, what information was important for you to know, see or access”? Daniel said, “if this is a totally new person, any loan information, and any type of like connection that they've had with a loan officer. I think having any sort of loan information, and any past relationship information, is helpful and sort of needed”. We also asked participants, “what important contact information is missing from the CRM that you use”? Amber said “if the agent is active or not active”. If Paige had access to the agent's loan history on the lead page, this may solve her problem.

Furthermore, the participants mentioned they have access to the realtor's loan history on external sites, but it would be helpful to access this information on the lead page of CRM Logic. In the interview, to access the contact's loan history, Richard informed us that he would “pull up their system called Silver Swan and copy the contact's name, Sue, and put it into the system, see their actions, and get their volume and past transactions”.

## Display Notes

All except 1 participant mentioned that having access to accurate notes and notifications would be an upgrade to CRM Logic. CRM Logic's notes and notifications are important to users because they are managing and calling contacts in the CRM to set a meeting. Because participants called contacts for a specific purpose, some participants said they needed access to contextual information about the contacts, so they wrote down and digitally kept manual notes. Based on our interviews, the specific task of the participant determined the type of notes the participants kept. Though CRM Logic currently supports notes, participants complained about availability, accessibility, and load times. Daniel said “it's nice to keep track of the things that you do for people or where you are in process. I think there are better CRMs out there than I use”. Other participants recalled instances where notes in CRM Logic were either not accessible or nonexistent to help participants manage or call a contact in the CRM. When asked, “how did you prepare for the call”? Anne said, “I prepared for the call by getting my notes together of any past conversations that they've had with my client, or that I've had with them.” “I'm a physical person. So, I take notes on a notepad”.

Moreover, when participants were asked, “What have you learned from using a CRM”? Anne said, “the importance of note taking in any conversation... just document every time you speak to someone”. Richard said, “When the technology is down, and the CRM is not opening, I write

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it down on post-it notes... I have about seven to 10 post-it notes with all this information written down. The other thing I have is a OneNote where I keep all the information. So just in case the CRM is down, and I need to make calls from my cell phone, ...then I'll keep my call log on OneNote. So that way, once the CRM does get back up and running, I can go ahead and import that information into their (the lead's) profile". Anne also mentioned that having a "section of notes all in one place of production displayed at top, lower notes of past dialogues, older client interaction, and any previous contact", could better prepare her to call someone using a CRM. About CRM Logic, Amber said, "I would like to have everything in one place essentially.... I can't look at ... who I called or who I've not called because it's kind of scattered. It doesn't give notes from today's date, it'll give me random dates of who I called or texted. I wish it was easier for us".

## Display Text Notifications

CRM Logic currently supports some notifications, but does not support displaying text notifications that 2 participants said would help them accomplish tasks better in CRM Logic. Currently, CRM Logic allows users to send and receive texts through the CRM, however, CRM Logic doesn't support text notifications such as "text sent" or "text failed to send". Amber mentioned that when she calls contacts in CRM Logic and they cannot hear her, she will text them. However, she doesn't know if the text message goes through, or if it failed to send. She said, "I don't know if it really sends, it's just a pain. I mean, I'm not gonna lie. It's not ideal". We asked, "What important contact information is missing from the CRM that you use or used"? Hilary said "I guess the notifications behind it, like whether or not a text message didn't deliver. I get on there sometimes, the text failed to send, but the CRM won't state that it failed to send". Hilary previously used another CRM system at a different company and discussed how their CRM technology displayed notifications. Hilary said she would like to change "the dashboard and the way that notifications come in. It's not quick enough, or it doesn't alert us right away, which doesn't help us. At my old job, we would get a text and up at the top, it would say new text message and you could click on it, and then it would show you the lead that texted you. And then you could click on the lead. Whereas this CRM tells you nothing. You just have to click on the lead and you may be like four hours late to a text message that came in".

## Integrate Social Media

Finally, 3 participants frequently used social media to accomplish tasks at work while using CRM Logic and thought integrating the contact's social media links would be an essential upgrade. When Hilary called real estate agents, she would have their website and Linked In windows open in addition to CRM Logic. She described her process for researching a contact that's a real estate agent online. She usually visits "the person's individual website, the company's website, followed by social media, if they have it... LinkedIn, Instagram and then Facebook". When updating the contact's information, Richard said "we have to use other resources, like Facebook

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and LinkedIn, to see what information” is available for the contact. Daniel said “if I could add something in the CRM as a note... like friends on Instagram...that would help when you call a realtor that you never talked to before”.

## Low-fi Prototype

Our original goal was to create a low-fi prototype based on the interview and survey. The revised goal was to establish our own two sketches of a hypothetical contact page on a CRM (Customer Relationship Management) software. We set out to create mockups of the Lead page, a page defining specific information about contacts on a CRM.

Initially, we were going to create one low-fi prototype to test on users as a step towards creating our final two mid-fi prototypes. Instead, we created two low-fi prototype sketches and compared their user data in order to influence the design decisions of a single mid-fi prototype. We felt that low-fi sketches lend themselves better to comparison tests, considering they can be created more easily and rapidly than mid-fi prototypes. This allowed multiple sketches to help us establish design patterns to use for our mid-fi prototype.

Two sketch prototypes were created to display adequate information for a CRM user to carry out various tasks. These prototypes were to be used in testing later on (Method: Low-fi Evaluation) to compare the two sketches with each other. Details on the criteria of each of these prototypes is listed under the first part of the Procedure section below.

## Procedure

Before sketching mockups of a CRM Lead page, the results from the survey and interviews questions acted as our guide. Each researcher organized their own notes on their respective interviewees into design implications of varying degrees within Google Docs. These varying degrees were: ‘Implies design’, ‘implies use of external resources’, and ‘implies design outside of our scope’. The following are examples from the interview method which helped inform the design of our Low-fi Prototype sketches:

Implies Design:

- “...Need old conversations [with clients] at the ready”
- “[I use a CRM to] make calls for clients”
- “[I use a CRM to] track relevant meetings and events”
- “[I need] Phone [number], email, the dates and times of old calls, my notes, and client work info”
- “[I need] Past dialogues, old client interactions, any previous contacts we’ve had”

Implies use of external resource:

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- “[I would] Google a client’s phone number and usually find their website that way”
- “[My current CRM] has incorrect information on clients sometimes.”
- “I have to google for this client’s production [and] use Zillow or Realtor.com”
- “I would pull up our system Silver Swan”

Implies design outside of our scope:

- “The system isn’t responsive enough.”
- “[The number] wouldn’t dial properly”
- “Sometimes the software won’t work at all”

The following is a list of information we felt important to include in our prototype, according to user testing and interview data:

- Production - A history of recent deals the contact has closed
- Loan History - A recent history of loans this contact has been involved with
- Notes - A section of notes created by the user about the contact being displayed
- Notifications - An icon to display an alert in response to potential user actions
- Social Media Links - External information outside of the scope of the lead page itself that users found important

After this initial stage of data organization, our group created four sketches in total with the above criteria in mind. We held a Zoom meeting and discussed possible sketch designs on Slack as well. We felt that it was important to have distinguished differences between the information layout of the two sketches. This was decided so that our testing would have a higher impact on final design decisions. Each sketch was made by hand and scanned afterward. After reviewing our sketches, we decided to use two distinct design patterns: Tables and Panels. The Tables view displayed information nested inside of table blocks, while the Panels view displayed information as a mixture of table blocks and graphic panels. We finally decided on two sketches that will be used for our Low-fi Evaluation (See Appendix E).

## Low-fi Evaluation

Our original goal was to user test the low-fidelity prototype on professionals that currently use CRM Logic. Our revised goal was to evaluate the immediate usability of two low-fi prototype sketches by testing on any computer-using adults. Also, we wanted to use the data to influence design decisions of the Mid-fi Prototype. Our original idea for the Low-fi Prototype included one sketch to be tested on experienced users. Instead, we decided to use two sketches and test them externally on ambiguously-experienced participants. We also were going to perform A/B testing on a single task, but later decided that we would perform multivariate testing on five total

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tasks. In all tasks, participants randomly received either Sketch A (Figure 8) or Sketch B (Figure 9).

We felt that it was appropriate to include participants who had little CRM software experience since we wanted a wider user pool to test. In addition to more participants, we wanted a varying level of experience since that would be the case in a real world application of our system. In general, we wanted to understand the average user's perspective, rather than only the perspective of professionals who use a similar system every day.

We shifted from a single task to five tasks so that we could test our prototypes in more varying scenarios. Each task was a test of the sketch to see if it displayed the adequate information properly. We felt we wouldn't be content with only a single task's worth of data from testing.

Within Optimal Workshop, we created five total tasks for participants. This study is a Chalkmark test, which means participants will be told to "find" or "select" an item that may be available on a given image. Participants were randomly given one of our two low-fi sketches for each task. The user will then click somewhere on the image then proceed to the next task until all five are completed. Each task has an appropriate area on the sketch, and if the participant clicks the corresponding area, their task is considered 'Successful' by Optimal Workshop. Finally, once the study has concluded, our group evaluated the results of the Chalkmark test and compared Sketch A with Sketch B using a z-test.

## Participants

Our group individually sought out participants for this study (10) through social media channels and personal means. In addition to this, we created a Participant Pool study in order to recruit DePaul students externally. Unfortunately, we found out we had made a mistake when creating this study on the Participant Pool, and its results are null and void. No one was able to successfully find the study inside the Pool, since no time slots were selected beforehand. We were unaware of this issue until the time period was finished. Nearly all 10 participants visited the study from Facebook and all participants were from the United States, according to Optimal Workshop.

## Procedure

Given the list of qualities we created in order to imply the design of our two low-fi sketches, we created associated tasks with each quality. According to data gathered from user Interviews and Surveys, each of these qualities serves a necessary purpose on the Lead Page of a CRM. The following is a table of each required quality, followed by its associated task for our test:



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Table 2: Low-fi Evaluation Tasks

Sketch Requirement	Associated Task
(Contact) Production	Click on the month with the highest loan production
Loan History	Please select the most recent loan from this lead
User Notes	Please select a note regarding a previous telephone call
Notifications	Click on the indicator that shows a text message failure
Social Media Links	Click the link to the linked-in page

Participants are first greeted with a page stating a disclaimer, as follows:

*The activity shouldn't take longer than 10 to 15 minutes to complete.*

*You will be given 5 tasks, though each task will say 1 of 1*

Advancing to the next page shows the instructions for completing our Chalkmark test, as follows:

*All you need to do is click!*

1. *We'll give you a task to complete and an image of a web page to complete it on.*
2. *Imagining you were really carrying out the task, click where you would first look.*

*This is not a test of your ability — there are no right or wrong answers.*

*Let's get started!*

As stated earlier, each task has an appropriate area to indicate a successful click.

A hand-drawn sketch of a table with two columns. The first column is labeled 'Date' and the second column is labeled 'Loan History'. The first row is highlighted in green and contains the text 'October 2' and '300,000.00'. The second row contains the text 'September 28' and '1,670,000.00'.

Date	Loan History
October 2	300,000.00
September 28	1,670,000.00

Our testing period was one week in length, and spanned from February 4th to February 11th. We had 10 participants who completed the study. One major impediment we face during this evaluation is the fact that participants could have left during the middle of the testing process, since our tasks were cut up into five separate “studies” on Optimal Workshop. We had to make them five separate studies since it was the best way our group found to give participants a randomly chosen sketch. More about the volatility of our study designs will be found in our Discussion section.

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## Synthesis of Data & Analysis

Once our study was officially closed on February 11th, we performed a z-test comparing the successful completion of each task.

## Personas

The goal of creating personas was to establish common user groups and goals for latter design efforts. No revisions or adjustments were made to this method during the project's lifespan. Personas were created to act as mock users of our CRM system at hand. Each persona was created to represent a user of a unique skill level, with several extra factors to contribute towards their realism.

## Procedure

First, we highlighted important user feedback from our Live User Research in the Interview and Survey. A proper analysis and organization of these quotes can be found under the implications for design of the Low-fi Prototype Procedure section. We felt it was appropriate to split differences into three separate categories according to CRM skill. While we did not interview any CRM novices, we felt it was appropriate to include this skill level because the users testing our Low-fi and Mid-fi Prototypes were going to be of varying skill levels.

Each persona was given the following qualities:

- Demographics (Age, Education, Marital Status, Occupation, Location, and Tech Literacy)
- Activity Quote
- Relevant bio
- Core needs (with a CRM)
- Frustrations (with a CRM)

While each Persona is entirely fictional, we wanted to give them characteristics of real people. This was the reasoning for adding much more than just CRM experience, as we wanted to view these personas as potential users. We created 3 unique personas:

- Emily Samson, an experienced user who has worked with CRM software at prior professional occupations (Figure 5).
- Joshua Williams, a comfortable user who is content with his job's current CRM software, though it's the only one he has experience with (Figure 6).
- Leila Paria, a new employee within the field of finance (Figure 7).

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Each of the persona graphics were created in Figma, starting with a community-generated template design by Figma user Astrid Coenrad (<https://www.figma.com/community/file/1073991285448891882>).

## Mid-fi Prototype

Our original goal was to create two designs of the CRM Lead page in order to perform subsequent user tests. Our revised goal was to create a single design of the CRM Lead page in order to perform subsequent user tests. We decided that it was appropriate to create one mid-fi prototype instead of two. We preferred to use the comparative analysis of the Low-fi Evaluation to influence the design of our Mid-fi Prototype. This allowed for a more succinct summation of our low-fi results, rather than another split between two prototypes. After revision, we planned on testing this prototype on its own.

Our group discussed design implications that may be made with our results from prior methods. Combining several design patterns from Sketch A (Figure 8), Sketch B (Figure 9), and user testing quotes, we created a new Mid-fi Lead Page Prototype. The results from testing our sketches against each other also influenced the inclusion of certain aspects, such as the graph panel (Figure 1).

## Procedure

Before beginning the Mid-fi Prototype, we felt it necessary to decide on a governing design pattern based on the results of our Low-fi Evaluation. Though we had a low number of testing participants, design B (Figure 9) of the Low-fi Prototype performed better during three of the four tasks. We agreed, during our weekly Zoom meeting, that this was enough evidence to promote using similar panels for our Mid-fi Prototype design. With these results in mind, we understood that both design layouts from our sketches have potential to succeed in user testing. Our group decided on a mid-fi prototype as seen in Figure 1.

As seen in Figure 1, there are design patterns present from both Low-fi sketches. Present from Sketch A (Figure 8) are the two sections labeled Calls and Texts and Loan History at the bottom of the page. We also brought over the design of text boxes for lead credentials, but included new information as well. Name and Phone Number were present in Sketch A, but neither sketch included Office Phone, Type of Partner, VPs, Description, Email, Company, and Assigned to fields. We used these new fields because of the design implications gathered from user interviews and surveys once again. Sketch B (Figure 9) influenced our use of larger-scale items, such as the Production and Links panels.

This design was created in Figma, which allowed for several usability improvements compared to hand-drawn sketches. Text is much more visible, due to using a single font while handwriting

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can lead to unique looking text throughout the page. In addition, the rectangle containers maintain a clean edge and symmetry throughout the page, unlike volatile sketched rectangles. Our group was content with the overall changes made between the Low-fi Prototype Sketches and this Mid-fi Prototype.

## Mid-fi Evaluation

The original goal for the Mid-fi Evaluation was to evaluate using A/B testing to determine which prototype performs the best. We originally sought out to measure time, click count (first-click test), and user satisfaction (using the same survey from the previous method).

Our revised goal was to evaluate the Mid-fi Prototype using Chalkmark testing. Measure time, task success, and user satisfaction. Originally, two Mid-fi Prototypes were going to be created to be compared against one another. After revision, only one Mid-fi Prototype would be created and tested. Initially we stated that user satisfaction would be measured using the same questions from the survey, however, we added post-test questions to allow for additional feedback and comments from the participants.

We wanted to understand the usability and user satisfaction metrics of a single final prototype. As mentioned in the Procedure section of the Mid-fi Prototype method, our Mid-fi Prototype design was based on both of our prior sketches (Figure 8, Figure 9). Considering we would be utilizing distinguishing factors from both Low-fi designs, we felt it necessary to only have one master design: the Mid-fi Prototype (Figure 1).

The Mid-fi Evaluation testing was an attempt to gather user data about our Mid-fi Prototype. This test was a Chalkmark test on Optimal Workshop, in which users clicked once for each task given. Users were given the prototypical Lead page design, and told to find certain information on the page. We sought out to find user success (accuracy per task) and time taken for each task.

## Participants

As opposed to the social recruitment utilized in the Low-fi Evaluation, we found it much more beneficial to try and aim for a larger number of participants. We also sought out to find more descriptive demographic information about each participant, rather than only their country residence. For recruitment, we utilized both the DePaul Participant Pool and the discussion forum of our own classmates in HCI 594. Our testing period was open for a full week (February 15th - 23rd), and received fifty-one total completed entries, with thirteen participants who abandoned the test. Of the test participants, all were from the United States. twenty-eight participants (55%) identified as female, 4 (8%) as non-binary, and fifteen (30%) as male, meaning 4 (7%) participants left this question unanswered. Twenty-nine of our participants were

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from Illinois, 6 participants were from California, and the others were from different, unique states within the U.S.

## Procedure

We decided that it was appropriate to use the same five tasks from our Low-fi Evaluation method (Table 2). Each task corresponds with experienced user feedback given during our Interview and Survey studies. As with the sketch testing, each task has an associated area that results in a ‘success’ of the task when clicked.

As opposed to using our workaround strategy with Optimal Workshop that split tasks into five separate ‘studies,’ we created a single study which gave all tasks to participants in sequence. We included a pre-test and post-test to the beginning and end of the study respectively.

Our test within Optimal Workshop followed a similar format to our Low-fi Evaluation Chalkmark test. Participants were greeted with a welcome message:

*Welcome to our study, and thank you for agreeing to participate! The activity shouldn't take longer than **3 to 10 minutes** to complete.*

Afterwards, participants were given the same brief instruction on how to carry out a Chalkmark test:

### ***All you need to do is click!***

- 1. We'll give you a task to complete and an image of a web page to complete it on.*
- 2. Imagining you were really carrying out the task, click where you would first look.*

*This is not a test of your ability — there are no right or wrong answers.*

This was the extent of instruction given to participants. Each user was given a pre-test, the five tasks, and the post-test in that order.

Table 3: Mid-fi Evaluation Pre-test

Question	Answer Format
What is your occupation?	Open
How old are you?	Open

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What gender do you identify as?	Open
Are you familiar with Customer Relationship Management (CRM) systems?	Multiple choice (Yes, No)
Where do you use CRM systems?	Multiple choice (Home, Work, School, Other)
How often do you use CRM software?	Multiple choice (Daily, 4-6 per Week, 2-3 per Week, 1 per Week, Rarely/Never)
How helpful is the CRM system that you currently use?	Multiple choice (Likert 1-5 Level of Helpfulness)
If you could change anything about the CRM system that you use, what would it be and why?	Open

Table 4: Mid-fi Evaluation Post-test

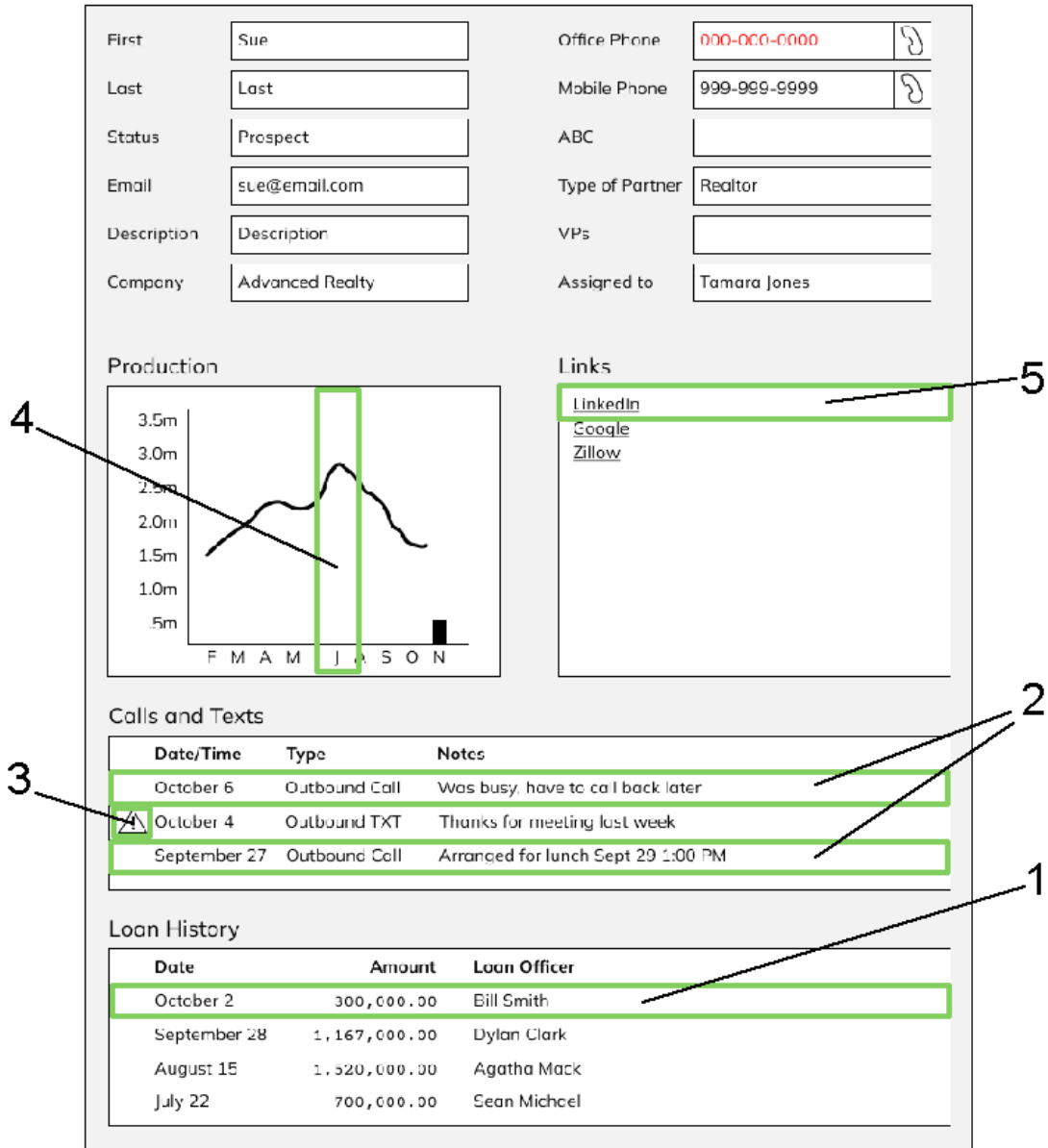
Question	Answer Format
What did you like most about the study (tasks, page layout, or design)	Open
What did you you [sic] like least about this study (tasks, page layout, or design)?*	Open
If you could change anything about the tasks, page layout or design, what would it be and why?	Open
Do you have any other comments?	Open

Our pre-test and post-test questionnaires were created after designing the Mid-fi Prototype. The tasks were presented one after another, with varying areas that lead to participant success. The following table represents the five tasks, and the graphic below represents areas associated with each task as labeled by number.

Table 5: Mid-fi Evaluation Tasks

No.	Task
1	Please select the most recent loan from this lead
2	Please select a note regarding a previous call
3	Click on the indicator that shows a text message failure
4	Click on the month with the highest loan production
5	Click the link to the linked-in page

Figure 1: Mid-fi Task Success Areas



We wanted to create sufficient areas that would allow for all users to successfully complete each task. Areas were usually extended to the full length or width of their given container, depending on the task. These areas were defined using Optimal Workshop's Chalkmark test.

## Analysis & Synthesis

Once our study was officially closed on February 23rd, we compiled a brief summary of the data and completed an ANOVA test with a post hoc Tukey test.

# Results

## Low-fi prototype Evaluation

To evaluate the low-fi prototypes, we used a simple z-test (n=10) to evaluate users' ability to complete general tasks with regard to the Lead page. Given the limited number of participants, only Task 4 "*Click on the month with the highest loan production*" had a statistically significant difference between A and B.

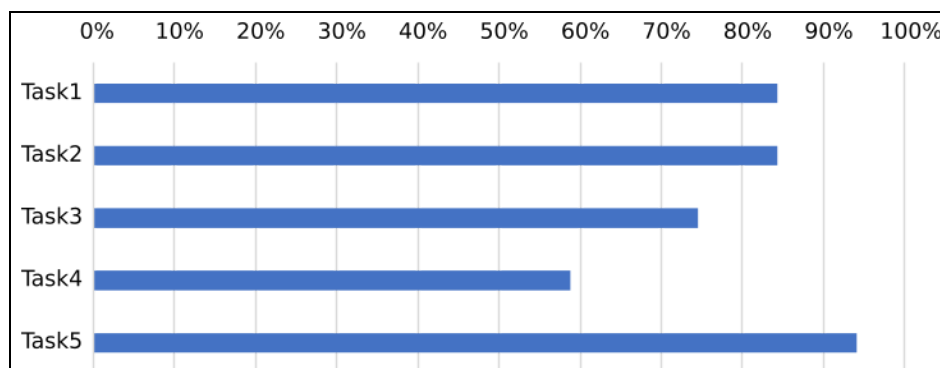
Table 6: Low-fi z-test

Task	Test	z-score	p
1	A > B	0.00	0.50
2	A > B	-1.19	0.12
3	B > A	-0.31	0.38
4	B > A	-3.46	0.00
5	B > A	-1.12	0.13

## Mid-fi prototype Evaluation

We had 51 participants successfully complete our mid-fi prototype Chalkmark test.

Figure 2: Mid-fi Task Success Rate





A one-way ANOVA was conducted to examine the successful task completion times between each of five tasks given to participants in seconds ( $F(4, 197) = 4.373, p = 0.002$ ). Afterward, we completed a post hoc Tukey test. The only statistically significant difference was between Task 2 “Please select a note regarding a previous call” and Task 5 “Click the link to the linked-in page” ( $p < 0.05$ ). This suggests that Task 2 should be first in line for future optimizations, may have been more difficult, or that the instructions for this task were confusing to participants.

Figure 3: Mid-fi Successful Task Completion Times (seconds)

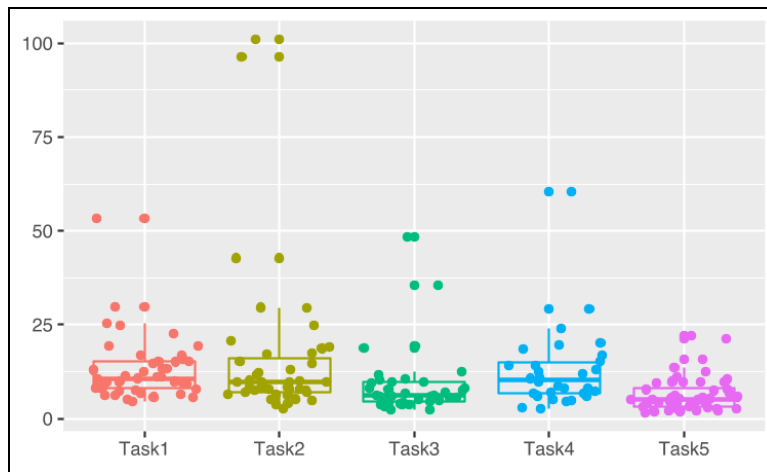


Table 7: Mid-fi Tukey Test

Tasks	diff	lwr	upr	p
Task5-Task2	-9.42	-16.27	-2.56	0.00
Task5-Task1	-6.72	-13.57	0.14	0.06
Task3-Task2	-6.89	-14.15	0.38	0.07
Task5-Task4	-6.47	-14.07	1.12	0.14
Task3-Task1	-4.18	-11.45	3.08	0.51
Task4-Task3	3.94	-4.03	11.91	0.65
Task2-Task1	2.70	-4.34	9.74	0.83
Task4-Task2	-2.94	-10.71	4.82	0.83
Task5-Task3	-2.53	-9.62	4.56	0.86
Task4-Task1	-0.24	-8.01	7.52	1.00

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## Discussion

In this study we evaluated user satisfaction, accessibility of important information, and overall effectiveness of CRM Logic's lead page. We were able to measure user satisfaction and the accessibility of important information through our interviews. What's interesting is that when participants were asked what they learned from using their CRM system, many of them said, "to be patient." One person said they learned to not rely on technology, which is ironic because the goal of technology is to help people accomplish tasks more effectively and efficiently. It also amazed us that almost all the users blamed themselves for their CRM system's errors and proactively tried to correct those errors by adjusting their processes to include preventative measures, such as "taking notes and having many external windows open."

During our low-fi prototype testing, we found that icons and graphs led to more successful task completion. We suspect this is because graphical elements are more easily distinguished than tabular data. Based on this testing, we utilized these graphical elements in our mid-fi prototype.

We determined the most failed task using the Mid-fi prototype was Task 4. We suspect this is due to conflation of Loans and Production. This task was domain-specific and our use of students without domain experience likely impacted this result.

During our mid-fi prototyping, we only found a single task completion time difference that was statistically significant. It's not clear if this is because of the difficulty understanding the instruction, the task complexity was different, or because of the method the data was presented.

## Limitations/Future Work

Our original goal was to optimize customer relationship management (CRM) system processes. However, given the timeframe and amount of limited resources available, we had to narrow our scope and focus on one page in CRM Logic. Our new goal was to optimize CRM Logic's Lead Page. Initially, our goal was to work with users of CRM Logic, but we broadened our scope of participants so that our requirements were more inclusive. As a result, we only required adult, english speaking participants that were computer users. Even though our scope was broader, we still worked with small sample sizes in our surveys, live user research, and low-fi usability tests.

In our efforts to be more inclusive, we created our survey and interview questions based on our audience being adult computer users. Therefore, our questions assumed nothing and asked questions to probe users to detail their experiences and thought processes. If we had more time and resources, we would narrow our scope to include only users of CRM Logic so that our

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efforts were exclusive, and our results would directly reflect and impact real users of the system. Though it wasn't entirely intentional, our interviewees were real users of CRM Logic and we used the data to create our low-fi and mid-fi usability tests.

As long as our participants were adults and active computer users we invited them to participate in our study. We broadened our participant pool, and as a result we increased our number of participants and the amount of data collected. If we had executive permission, more time, and excess to users of CRM Logic then we could have conducted more in depth research on the system itself, as opposed to limiting our research to a specific Lead page of CRM Logic.

During our low-fi prototype testing we discovered a few shortcomings of our sketches. First, some users had difficulty reading the handwriting; future work should have more legible labels to make reading easier. Second, one of our tables omitted the year from dates making selecting the correct area ambiguous. Third, multivariate testing was performed in sequence where each task resulted in a random variation. This may have led to participants being given the same variation each time, accelerating their ability to choose a 'correct' response.

Because of our high failure rate in Mid-fi Evaluation Task 4, future assessments that involve domain-specific tasks should use participants familiar with the domain. If such participants aren't available, the task should be modified to reduce its reliance on domain knowledge. Task 2 also used an inaccurate task-associated area that didn't cover all three notes, only two of them. The associated areas should be more carefully created in the future.

## Conclusion

We proposed that a revision of CRM Logic's Lead Page would increase accessibility of important information, user satisfaction, and overall effectiveness. We explored the usability of the CRM Logic application and used various methods to improve usability of the Lead page.

Our initial research suggested that the two primary causes of user frustration were missing information and difficulty quickly locating information on a page. To address these primary concerns, we integrated external data as hyperlinks or visible data in order to remove unnecessary context switching. We also changed some tabular information into more visually distinct elements like icons and graphs in an attempt to make it easier for users to identify elements on the page.

Future work should address the ambiguities in some of our testing procedures and our results as outlined in our discussions section.

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## Appendices: Supporting Material

### Appendix A: Competitive Review

Product	Strengths	Weaknesses	Opportunities
CRM.Logic	Contact information is displayed without having to scroll. Though you have to scroll to view, Activity sections are clearly labeled. Allows users to make calls directly from the CRM and the calls are automatically logged as an activity. Allows users to record activities in the CRM.	Missing pertinent information about the contact Sections are listed on the page and the user must scroll to see the different sections. Doesn't allow users to integrate their emails and users cannot email contacts directly from the CRM, nor are they automatically logged.	Display all pertinent information front and center. Activity/Action tabs would be a nice touch so users can view activity data without scrolling.
Hubspot CRM	The contact page is split into 3 columns: contact information on the left, activities related to the	The company section is a bit much but could be useful to some users but it may	Though some sections allow the user to rearrange the sections It would be

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	<p>lead in the center, and related company information on the right. The left section has quick links to information that may be useful to the user.</p> <p>The activity section displays tabs so users do not have to scroll to access information.</p> <p>Allows users to make calls directly from the CRM and the calls are automatically logged as an activity.</p> <p>Users can integrate their email and send emails directly from the CRM and emails are automatically logged in the system.</p>	<p>be distracting to other users.</p>	<p>nice for the user to be able to delete unnecessary sections as well.</p>
Salesforce	<p>Contact information is displayed without having to scroll.</p> <p>The activity section is displayed on the side. It displays tabs so users do not have to scroll to access information.</p> <p>Allows users to log call notes.</p> <p>Allows users to email contacts directly from Salesforce (email integration isn't necessary).</p>	<p>Calls are logged manually so the system is subject to human error. Doesn't allow users to make calls directly from the CRM so they're not automatically logged.</p>	
Monday.com	<p>Contact information is listed in a sidebar alongside activities.</p> <p>Users can integrate their Gmail and outlook email accounts and send emails directly from the CRM and emails are automatically logged in the system.</p> <p>Allows users to manually input and update activity data such as notes, calls, and meetings.</p>	<p>Sidebar doesn't effectively display information about the contact. The user must scroll to see all the available contact information.</p> <p>Manually inputting data causes more errors and takes more time.</p>	<p>This system could benefit the user by allowing users to make calls from the CRM and automatically log the activity when done.</p>

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## Appendix B: Informed Consent

### ADULT CONSENT TO PARTICIPATE IN RESEARCH

#### Optimizing Customer Relationship Management (CRM) System Process

Principal Investigator: Charlie Hayes, Joey Reyes, and Tamara Jones (graduate students)

Institution: DePaul University, Chicago, Illinois, USA

Department, School, College: College of Computing and Digital Media ("CDM")

Faculty Advisor: Hank Streeter - CDM, DePaul University

What is the purpose of this research?

In this study, we are trying to learn more about how CRM systems are used. Our goal is to determine if the CRM experience could be enhanced by revising the contact page to display more pertinent information. This study is being conducted by Charlie Hayes, Joey Reyes, and Tamara Jones, graduate students at DePaul University as a requirement to obtain their Master's degree. This research is being supervised by their faculty advisor, Hank Streeter. We hope to include at least 8 people in the research.

Why are you being asked to be in the research?

You are invited to participate in this study because you are either familiar with or currently using CRM systems and software. To be in this study, you must be 18 years of age or older and have access to a webcam.

What is involved in being in the research study?

Your participation in this study requires you to answer questions related to Customer Relationship Management (CRM) systems. We will ask you to express your opinions, discuss in detail past and current experiences with CRM systems. We will record the interview and transcribe your responses into written notes.

How much time will this take?

This study will take no more than 45 minutes to complete.

Are there any risks involved in participating in this study?

Being in this study does not involve any risks other than what you would encounter in daily life. You may feel uncomfortable or embarrassed about answering certain questions. You do not

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have to answer any questions you do not want to and can stop the session at any time, for any reason.

Are there any benefits to participating in this study?

You will not personally benefit from being in this study. However, we hope that what we learn will help people in the future by revising aspects of the CRM contact page.

Can you decide not to participate?

Your participation is voluntary, which means you can choose not to participate. You will not be penalized if you decide not to participate or change your mind later and withdraw from the research after you begin.

Who will see my study information and how will the confidentiality of the information collected for the research be protected?

The research records will be kept and stored securely, and we will make all efforts to prevent anyone who is not involved in this research from seeing your results. Your information will be combined with information from other people taking part in the study. When we write about the study or publish a paper to share the research with other researchers, we will write about the combined information we have gathered. We will not include your name or any information that will directly identify you. If our records are reviewed by individuals or institutions that ensure that we are following the required rules, laws, and regulations, your information will be kept confidential.

Who should be contacted for more information about the research?

Before you decide whether to accept this invitation to take part in the study, please ask any questions that you may have now. Later, if you have questions, suggestions, concerns, or complaints about the study or you want additional information, you may contact the researchers or their faculty advisor using the contact information listed below:

Charlie Hayes  
chayes21@depaul.edu

Joey Reyes  
jreyes81@depaul.edu

Tamara Jones  
Tjone100@depaul.edu

Hank Streeter,  
Faculty Advisor  
hstreeter@cdm.depaul.edu

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Statement of Consent from the Subject:

I have read the above information. I have had all my questions and concerns answered. By signing below, I indicate my consent to be in the research.

Signature: \_\_\_\_\_

Printed name: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix C: Interview Protocol

### Interview Protocol

#### Research Questions

What are the user needs for Customer Relationship Management (CRM) systems?

- What information needs to be accessible to call prospects on the contact page?
- What are user experiences with CRM systems?
- How do users feel about their CRM system experiences?

Table 8: Screener Questions

Question	Possible Responses	Disqualifiers
What is your occupation?	Open	None
Are you familiar with Customer Relationship Management (CRM) systems?	Yes, No	No
Have you ever used a CRM system?	Yes, No	None
Where do you use CRM systems or software?	Home, Work, School	None
What do you use CRM systems or software for?	Open	None



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How often do you use CRM systems or software?	Daily, 4-6 times a week, 2-3 times a week, Once a week, Never	None
How helpful is the CRM system that you currently use?	Very Helpful, Helpful, Somewhat Helpful, Not Helpful, Not Very Helpful	None
If you could change anything about the CRM system that you use, what would it be?	Open	None
Do you have access to a webcam?	Yes, No	No
Do you consent to a live recording of yourself via webcam?	Yes, No	No

### Introduction and Informed Consent

Hello, my name is [X]. Thank you for taking the time to meet with me. I'm part of a group of graduate students at DePaul University. We're trying to understand how people use Customer Relationship Management technology.

Today's interview should take no more than 45 minutes. I'll be taking notes throughout the interview and I may ask you some follow-up questions.

If you haven't, please review the Informed Consent document. Feel free to ask me any questions you may have about today's process or the future usage of this information. Also, know that you can stop me at any time during this process to ask questions or give comments.

Do you give your consent to be in our research project?

### Warm-Up

Great, I will begin recording now. Let's get started.

- What do you know about CRM software?
- How do you feel about CRM software?
  - What makes you feel that way? Can you elaborate?

Using a CRM

- What do you use a CRM system for?
- What do you like most about using a CRM?

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- Have you ever managed contacts in a CRM?
  - *If no, skip to Calling a Contact.*
- What information should be displayed on the contact page of a CRM?
- What challenges have you had using the contact information available in a CRM?
- If any, what important contact information is missing from the CRM that you used?
- Have you ever called someone using a CRM?
  - *If no, skip to Deep Focus Scenario.*

## Deep Focus

### Calling a contact using a CRM

- In your past experiences, before you called someone using a CRM, what information was important for you to know, see, or access?
- In your past experiences, before you called someone using a CRM, what challenges have you had accessing important information?
- When was the most recent time you called someone from a CRM?
  - How did you prepare for your call?
    - What resources did you use?
    - Can you walk me through or explain your process?
    - How did you feel about the resources that you used?
  - How did you feel about your preparation process?
  - If you could change anything about your process, the software, resources, or other tools you use, what would you change?
- What have you learned from using a CRM?
- In regards to the CRM that you used, what advice would you give to someone using the CRM for the first time?

## Scenario

### Calling someone through the CRM

I'm going to send you a link to a screenshot of a page in a CRM system. (send link)

Please pull up the screenshot now. Let me know when you have it displayed on your screen.  
Ok, great.

I'm going to read a scenario to you and ask you to complete a few tasks using the information from the screenshot. Please let me know if you have any trouble completing the task based on the information displayed in the screenshot from the CRM.

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Imagine your job is to manage and call contacts through a CRM system. The CRM is your helpful companion; it assists you in making calls by displaying pertinent information to help you meet your goals. Please take a look at the screenshot displayed in front of you.

- What information do you see displayed in the CRM?

Your client Bill is a loan officer. Bill would like to meet with a realtor, Sue. Bill has given you the task of organizing a meeting with Sue.

Start thinking about how you may complete this task.

- With the given information in the CRM, would you be able to set a day and time to meet?
  - If yes, how would you do this?
  - If no:
    - How would you go about completing this task?
    - What information do you need to complete this task?

Next, Bill would like to know how many properties Sue has helped her clients buy or sell in the last 12 months. Reviewing the information displayed in the CRM, how would you proceed?

### **Wrap-Up**

Thanks for completing the main part of our interview. You may close the screenshot now. I have some final questions to ask.

- What do you think could better prepare you to call someone using a CRM?
- Do you have any comments or questions for me at this time?

## Appendix D: CRM Logic Screenshot

Figure 4: Screenshot of CRM Logic's Lead Page

The screenshot displays the CRM Logic interface for a lead named Sue L. The top navigation bar includes options like VPS, LEADS, CALLS, EVENTS, MEETINGS, CALENDAR, NOTES, TASKS, TEXT MESSAGES, REPORTING, and MORE. A search bar and user profile (Tamar J) are also visible.

The lead profile section includes the following details:

- First Name:** Sue
- Last Name:** L
- Status:** Prospect
- Office Phone:** 000-000-0000
- Mobile Phone:** 999-999-9999
- ABC:** ABC
- Email Address:** sue@email.com (Primary)
- Description:** (Empty field)
- Company:** Advance Realty, 123 Main st, Chicago IL 60601
- Type of Partner:** Realtor
- VPs:** Bill B
- Assigned to:** Tamar J

Below the profile is a 'HISTORY' table with the following data:

Subject	Status	Contact	Date Modified	Date Created	Due Date	Assigned To
Outbound_Zip	Held	Tammy Scarlett	01/30/2017 11:12am	01/30/2017 11:09am	01/30/2017 11:09am	Zip

Below the history table are several empty activity tables:


- ACTIVITIES:** No results found.
- EVENTS:** No results found.
- TASKS:** No results found.
- NOTES:** No results found.
- MEETINGS:** No results found.
- TEXT MESSAGES:** No results found.
- REFERRALS:** No results found.

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## Appendix E: Personas

Figure 5: Persona - Emily Samson

### Emily Samson



AGE	28
EDUCATION	BS in Finance
STATUS	Single
OCCUPATION	Business Development Specialist
LOCATION	Texas
TECH LITERACY	Very High

**Bio**

She recently moved to Austin Texas to begin a new job. She lives alone in a studio apartment, along with one pet cat. Her job allows her to work remotely every day of the week.

**Core needs**

- View a detailed account of past conversations with clients
- Gather a lot of information on a client in a short amount of time
- Keep track of time between communication with specific clients

**Frustrations**


- Receives notifications too late for them to be useful
- Finds the current CRM software to have an unresponsive user interface
- There's no easy way to verify if the phone number or other credentials are even correct

**“** I've got some experience using some different software for business relations.

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Figure 6: Persona - Joshua Williams

### Joshua Williams



AGE	24
EDUCATION	BS in Business
STATUS	Single
OCCUPATION	Marketing Consultant
LOCATION	New York
TECH LITERACY	High

**Bio**

He's been working comfortably at the same firm for a little over a year now. He's content with his current locale, and works remote around half the time. He lives in an apartment with a friend from college.

**Core needs**

- Manage a list of contacts for necessary calls
- Schedule meetings with clients in advance
- View a history of loans

**Frustrations**


- It's difficult to keep track of client info without other resources
- In general, lots of external resources are used for taking notes or finding production values on clients

**“** I'm comfortable at my job, and the software we use seems to get the job done well.

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Figure 7: Persona - Leila Paria

### Leila Paria



AGE	21
EDUCATION	AAS in Financial Management
STATUS	Single
OCCUPATION	Junior Financial Manager
LOCATION	Spain
TECH LITERACY	High

#### Bio

She recently moved to Madrid to work for an international banking company. Most often, she works in office under a few supervisors. She lives with her significant other in a comfortable apartment.

#### Core needs

- View incoming requests from clients and agencies
- Respond to the needs of her supervisors
- View recently closed deals and loans of clients and officers

#### Frustrations

- It feels like there's a wealth of resources used for only a few tasks
- More notes on clients are stacking, leaving her unsure of how they should be organized

**“** I'm excited to work for this firm. They've been on my radar for a little over a year now.

# Appendix F: Low-fi Sketches

Figure 8: Low-fi Sketch A (Tables)

First name:

Last name:

Cell phone:

📞 Call Log

Date	Type	Vites
October 6	Outbound	Was busy, have to call back later
September 27	Outbound	Arranged for lunch sept 21 1:00pm

💬 Text Log

Date	Type	Content	Status
October 4	Outbound	Thanks for meeting last week	Error

💰 Production

Month	Amount
current	300,000.00
September	1,670,000.00
August	1,520,000.00
July	2,000,000.00

📉 Loan History

Date	Amount
October 2	300,000.00
September 28	1,670,000.00
August 15	1,520,000.00
July 22	700,000.00



Figure 9: Low-fi Sketch B (Panels)

