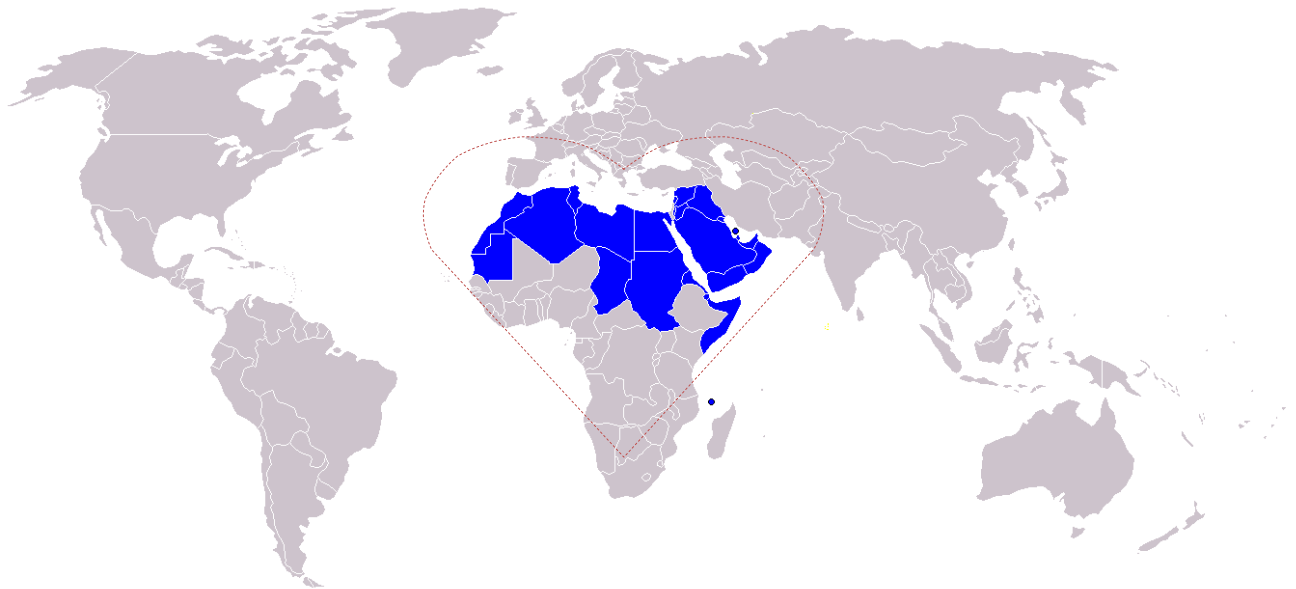


“The use of Communication Technology by Arab Couples who are in Long Distance Relationships”



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(This version is not identical to the canonical version submitted to the university archives; it has been modified to fix typos and formatting errors)

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ABSTRACT

This dissertation presents a study of the use of technology by couples who are in Long Distance Relationships (LDR) in a specific cultural context. It investigated how Arab couples who are currently in LDR use technology to communicate and express their emotions and feelings. Eleven Arab participants in LDR were recruited; some of them live in the Arab world and others live in Europe or the US. A qualitative approach was chosen for this study; a voice interview via the internet and a diary study followed by a second interview were used to collect data; this data was analyzed using grounded theory. The study found that participants use technology to fulfill some of their needs and overcome distance via daily routines and appropriation of technology. On the other hand, the use of technology is restricted by some problems in the infrastructure communication in the Arab world. The study identified some differences in problems faced by participants who live in the Arab world in comparison to who live in Europe or US. Moreover, Arab culture limited the use of technology by contributing to defining boundaries to what the “appropriate” behavior is. The study also highlighted that the use of technology is a reflection of the Arab society through an investigation of gender and power effects on the ways in which couples communicate. Finally, the study suggests that there is a bidirectional effect when studying technology and Arab culture: social shaping and social impact. For Western designers, this research highlights issues that should be considered when designing for Arab couples who are in LDR. It also motivates

designers to do similar research in Western cultural context to identify similar issues to consider for design.

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CHAPTER 1. INTRODUCTION

1.1 Motivation

In our modern life, being in a long distance relationship (LDR) is getting more common (Kirkpatrick, Duck, & Foley, 2006); annually, there are one million persons who report that they are currently in LDR in the US (Maines 1994). The dynamic life and more distributed workplaces contributed to this increase (Kirkpatrick, Duck, & Foley, 2006). Typically, a couple is considered in LDR if they are unable to regularly meet face to face due to geographical distance (Kirkpatrick et al., 2006). Maintaining a relationship over distance is much more challenging than in geographically collocated relationships (GCR) (Dainton & Aylor, 2002). These challenges are because relationships are usually associated with face to face interaction and intimacy (Kirkpatrick et al., 2006). In fact, closeness and intimacy are considered fundamental characteristics of relationships. Thus, distance is perceived as a barrier; couples who are in LDR often feel that they are in an unpleasant situation (Sahlstein, 2004).

In order to overcome being distant, couples tend to rely heavily on technology to communicate (Stephen, 1986) and express intense emotions and feelings (Kirkpatrick et al., 2006). Technology plays a vital role in fulfilling some the needs of couples who are in LDRs. Couples use technology such as email, telephone and instant messaging to overcome distance as these communication means provide instant feedback which is, to some extent, similar to face to face interaction (Aylor,

2003). There have been several attempts to study technology and LDRs. Details of these attempts will be discussed in depth in the literature review chapter. Previous research has often studied LDR as “homogenous”, no attention has been given to some factors that largely affect the way couples communicate (Aylor, 2003). These factors could be the reason why couples are separated (Sahlstein, 1999), knowing whether they will live together again or not (Aylor, 2003) as well as how frequent they meet face to face (Dainton & Aylor, 2002). These factors change the way how couples who are in LDR use technology to communicate. Culture could be another factor that affects how couples who are in LDR use technology. Although culture is believed to have an effect on the way couples maintain relationships (Ballard-Reisch, Weigel, Zaguidouline, 2003; Yum & J.Canary 2003), there is a gap in studying the use of technology during LDRs in particular cultural context.

1.2 Research Question

The aim of this study is to contribute to making a first step towards filling the gap in studying the effect of culture on the use of technology during LDR; Arab culture was chosen to focus on a particular cultural context. Since this area of research is still new, an exploratory research question was chosen. The objective of this study is to answer the research question: How do Arab couples who are in LDR use technology to communicate and express their emotions and feelings? To answer this question, eleven Arab participants who are currently in LDR were voice-interviewed twice via the internet and asked to fill in a diary for a week. The results of this study contribute to helping designers to produce systems that are best targeted at Arab users in LDR. On the other hand, this study opens the door for

Western researchers to do similar studies to investigate the effect of the Western culture on LDR by offering a point of comparison between Arab and Western cultures. The next section gives a brief description of the main chapters of this dissertation.

1.3 Dissertation Outline

The dissertation is divided into the following chapters:

- Chapter 2 - Literature Review: This chapter gives an overview of previous research which studied technology and LDR. Also, it briefly reviews some relevant information regarding the Arab culture and language.
- Chapter 3 - Methods: This chapter discusses research approach, methods used to recruit participants, create rapport, as well as collect and analyze data.
- Chapter 4 – Data: This chapter presents the main themes that emerged from data analysis, with some quotes and examples given.
- Chapter 5 – Analysis: This chapter is to discuss the identified themes in the Data chapter as well as relate them to previous research and theory.
- Chapter 6 – Conclusion: This chapter presents main contributions of this study, limitations as well as future work.

CHAPTER 2. LITERATURE REVIEW

In order to understand the importance of studying communication of Arabs in long distance relationships, it is essential to review previous research in several areas. First, previous research within the HCI community about identifying needs, as well as, design ideas to support and facilitate communication of couples in LDR will be reviewed. Second, available research which is focused on studying design for target users who are within Islamic and Arabic countries is reviewed. Third, it is crucial for readers who are not familiar with the Arab world to understand relevant demographics and population of this area.

2.1 LDR and Technology

There are several researchers who investigated the needs of long distant couples in HCI. “Intimate Computing” in Ubicomp was the first meeting that focused on intimacy in design (Bell, Brooke, & Churchill, 2003). This workshop highlighted the need to study opportunities and problems of design for long distant couples; several researchers within the HCI community were inspired by this workshop. Kjeldskov et.al (2004) used culture probes for seven weeks to understand the role of intimacy in LDR. He highlighted that distant couples need a sense of presence and activity awareness for communication. On the other hand, Kaye et.al (2005) was one of the first researchers who highlighted the importance of minimal communication in LDR. Despite the existence of rich channels of communication such as phone, email and IM, couples found exchanging low bandwidth signals such

as single clicks meaningful. He developed a simple program that allows a user to click on a button on the desktop; once clicked, the button in his/her partner's program is turned on. The button slowly fades as time passes (Kaye, 2006). Testing of this program revealed that this simple way of communication stimulates and supports feeling of connectedness. Users liked this "one bit" of communication as they were able to interpret the meaning of each click based on context and mutual awareness of each others. This finding conforms to Gaver et al's concept of ambiguity in design which supports the notion that the more ambiguous communication is, the more creative the interpretation is (2003). Kaye's findings also highlighted the importance of studying context in LDR communication as couples tend to interpret each others' actions based on their awareness of situation and mood. Similarly, Eichhorn, Wettach, & Hornecker (2008) developed a device that support sending and receiving the physical gesture of stroking. This haptic device gives couples the opportunity of communicating gestures despite being non-collocated. Communicating such a simple gesture supports Kaye's findings about the importance of the minimal communication concept in long distance relationships.

Researchers such as Kaye et.al and Eichhorn et.al did not take into consideration other factors that might affect communication of distant couples such as communication of complex issues. King and Forlizzi (2007) explored the needs of LDR couples through studying communication patters, time, space, complex issues handling and presence in absence support. They created a system to send text messages to partners when they are physically in a certain place or a shared touch

screen to share schedule, pictures and voice messages. These ideas support some needs of distant couples that researchers highlighted such as shared experience and situational awareness (Bhandari & Bardzell, 2008). On the other hand, Kaye and Goulding (2004) did not only call for designing systems that support shared experience and situational awareness but also to build systems especially for each couple. They differentiated between mass vs. personal communication; they argue that there should be a “customized” design of communication systems for each couple as they tend to give special meanings to the devices/systems that they use to communicate with their partner.

In addition to studying the needs of non-located couples, there has been considerable amount of research in the HCI community about designing and testing actual design ideas. There are several devices that are designed in pairs, each partner gets one. The main purpose of these devices is basically to support physical link, connectedness and sense of sharing through synchronous communication (Brave & Dahley, 1997). LumiTouch is a picture frame that has a light which lights up when the remote partner touches it (Chung et. al, 2001). Tug n'Talk consist of a pair of belts through which someone can tug his/her partner's shirt to give the feeling of physical touch (Adcock et al, 2007). Furthermore, some researchers built prototypes of pillows that become warmer when hugged (Dey & De Guzman, 2006) or a mattress that becomes warmer when the remote partner is lying on his mattress (Goodman & Misilim, 2003). A similar device is the Lover's cups which vibrate when partners use these cups at the same time. Each person can know the liquid level of his/her distant partner through an indicator (Chung, Lee, and Selker, 2006).

ComSlipper is another example which supports awareness and availability via tangible objects (Chen , Forlizzi and Jennings, 2006). These slippers convey the mood of users through the sense of pressure. “Keep in touch” is another intimate interface that provides for each partner a projected blurred image of his lover. A part of the blurred image gets into focus when touched. This device is intended to support communication through gestures and body language (Motamedi, 2007)

These types of systems use different forms of tangible objects to communicate intimate and physical actions. Although these technologies seem very creative and received positive feedback when tested as prototypes, most of them have not been tested in a real life context. It is not possible to get the sense of whether these devices will become part of the couples’ lives to support closeness and shared experience. Also, these technologies do not take into consideration time zone differences; they should support asynchronous communication as it is a key issue when dealing with time zone differences (Olson & Olson, 2000). Additionally, all the above research is generally concerned about studying technology and LDR. Yet, there are very few researchers in the HCI community that studied technology and communication in a cultural context. Most of the research either study communication and LDR with no particular culture in mind or designed for the Western culture. There is a gap in exploring the use of technology in LDR in a non-Western cultural context.

2.2 LDR and the Eastern culture

In the HCI community, there are very limited attempts to study communication in an Eastern cultural context. Wyche *et al* (2009) designed and evaluated a mobile phone application to be used as a reminder of daily prayer times for Muslims. They explored the notion of designing a system which goes beyond its main functionality as an alarm to support a spiritual experience. This research is considered one of the very few of its kind in the HCI community that explored designing for the Muslim culture. On the other hand, Williams *et al* (2008) studied the effect of the Thai culture on the use of mobile technology. The aim of this study is to identify how the meaning of communication and culture is formed in practice. This research emphasizes that users who belong to a specific culture might associate different meanings to communication and consequently requires different design implications. On the other hand, Culture is vital in studying romantic relationships. Ballard-Reisch, Weigel and Zaguidouline (2003) showed that the Russian culture has an impact on how married couples maintain romantic relationships. Similarly, Yum & J.Canary (2003) showed that there are some characteristics of the Korean culture that change how couples maintain romantic relationships.

As discussed above, there is a gap in studying communication technology in LDR in a cultural context. This area is still unexplored in the HCI community. Previous research, suggests that a specific culture does matter when studying technology. On the other hand, relationships are highly influenced by culture specific characteristics. Thus, studying how couples who are in LDRs use

technology to communicate is needed. In this study, the Arab culture is chosen to study the effect of this culture on the use of communication technology in LDR. The Arab culture is selected in particular as it is a culture in which family is highly influenced by traditions and norms (Hourani, 1999).

2.3 The Arab world

In order to study communication of co-located Arab couples, it is essential to give a brief overview of the Arab world and language. Arab countries are located in both Asia and Africa (Rizk, 1955); there are approximately 240M. The majority of Arab countries are Muslims; Christianity and Judaism are the second and third major religions respectively in the region (Barakat, 1993). The official language is Arabic. There are several dialects of the Arabic language (Procházka, 2006). The major dialects are Iraqi and the Arabic gulf countries [Kuwait, Saudi Arabia, Bahrain, Qatar, Oman and Yemen], Sham [Lebanon, Syria, Jordan, and Palestine], Egyptian and Moroccan [Morocco, Tunisia, Libya and Mauritania] dialects (Procházka, 2006) 1980). Classic Arabic is the conventional version of Arabic that is used in writing using the Arabic alphabet (Al-Wer, 2006). Table 1 shows the standard Arabic alphabet script that is used in writing.

ر	ذ	د	خ	ح	ج	ث	ت	ب	ا
ف	غ	ع	ظ	ط	ض	ص	ش	س	ز
		ي	و	ه	ن	م	ل	ك	ق

Table 1: the standard Arabic alphabet script

2.4 Arabic Language Support

There is a problem in the Arabic language support in the internet and electronic devices. It is essential to understand this problem and its effect as it is going to be of relevance to this study later in the data and analysis chapter. When the internet started to become globally available in the 1990s, non English speakers started to use it more frequently. Yet, English is used as the main language; in most computers, the standard input keyboard enables users to type characters that belong to the ASCII code. Due to this technical limitation, users were unable to type using the Arabic script in several occasions. To overcome this situation, Arabs started to write the Arabic language using Roman alphabet (Palfreyman and Khalil, 2003). Each Arabic letter is represented using its phonologically similar Roman letter; this process in linguistics is called *transliteration* (Woodford and Jackson, 2003). However, the challenge is in representing the ten sounds that belong to Arabic only and cannot be represented using Roman alphabet. Therefore, a pattern of using numbers to represent these extra Arabic letters has emerged. This way of writing is called ASCII-ized Arabic or Franco-Arabic. (See Table 2 for examples of Franco-Arabic words).

Sound	Arabic Letter	ASC II Representation	Example	English Translation
/h/ (a heavy /h/-type sound)	ح	7	7ob	Love
/ʕ / (a tightening of the throat resembling a light gargle)	ع	3	3alam	Flag
/t/ (the emphatic version of /t/)	ط	6	6abeeb	Medical doctor
/s/ (the emphatic version of /s/)	ص	9	9ayf	Summer
/ʔ / (glottal stop)	ء	2	So2al	Question

Table 2: A table that shows how to write in Franco-Arabic

This style of writing is believed to be invented to overcome the lack of the availability of Arabic keyboards. Users no longer need to use Arabic script to communicate in Arabic; they use Franco-Arabic instead. However, it has become very widespread, especially among the young, despite the availability of Arabic keyboards. In a study among college students in UAE, students stated that they use Franco-Arabic to type as they use the English keyboard much more frequently. Most course works and assignments are written in English; thus students stated that they

type faster in Roman letters (Palfreyman and Khalil, 2003). Also, some students believe that if they can show that they are more familiar with typing in English, it could reflect that they belong to a higher social class (Palfreyman and Khalil, 2003). Although the use of Franco-Arabic is very widespread in emails, text and IM, it is rarely used in more formal settings. Recently, some attempts have been made to help users to type in Franco-Arabic but display the final result in proper Arabic script such as "Microsoft Maren" and "Google ta3reeb" (See Image 1 for screenshots). They also display several suggestions to the typed Franco-Arabic word for the user to choose from. These programs can be used in some websites and windows application.

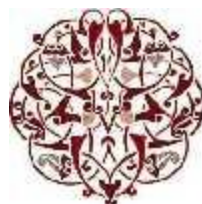


Image 1: Screenshots of "Microsoft Maren" and "Google ta3reeb", programs to allow users to write in Franco-Arabic and display in proper Arabic script

2.5 Summary

This chapter provided a review in two major areas, LDR previous research and the Arab world. There are several attempts to better understand the use of technology in LDR. Some researchers worked on identifying the needs that couples want to satisfy when they use technology. On the other hand, prototypes of some design ideas to support couples who are in LDR were created and tested. Despite the effort within the HCI community to design better systems for couples who are in LDRs, there is a gap in studying LDR in a particular cultural context. Studying the effect of culture on the use of technology in LDR is particularly relevant as previous research showed that culture does have major influence on romantic relationships. Thus, this study contributes to starting research to fill in this gap by studying the use of communication technology by Arab couples who are currently in LDR.

The second area that was explored in this chapter is the Arab world. It summarized essential demographics and information about the Arab world. It also provided an overview about relevant information about the Arabic language. The problem of Arabic language support in computers and devices was discussed. This overview about several Arabic issues is essential to understanding some key issues in the used methods and findings of this study. In the next chapter, an overview of approach selection and used methods is discussed.



CHAPTER 3. METHODS

In this chapter, the participants' selection process as well as used methods to conduct interviews, collect and analyze my data will be described. In order to answer the question of how Arab couples who are in LDR use technology to communicate, it is vital to understand various key issues in their use of technology. These issues are the change of the use of technology over time, location, legal/religious status of the relationship and financial/technical constrains.

- Time: It was important to understand how Arab couples use technology through out various stages of their relationship. It is important to understand whether there is a difference in the way they communicate in the first few months of their relationship in comparison to years later.
- Location: does living in the Arab world, Europe or the US has an influence on how participants use technology to communicate? When each partner is living in a place where significant time zone differences exist, how do they deal with such difference in the way they communicate?
- Relationship stage: In the Arab culture, there are several stages of a relationship. Ideally a couple is said to be socially engaged when an initial agreement between the two families take place about marriage. Religious engagement (in Arabic, *a'ked qaran*) is usually the next step. It happens when the couple sign the marriage contract. By this stage, a

couple is legally married. However, they do not live together. The last stage is marriage, when a couple is married and living together. These are the typical stages of relationships in the Arab culture. However, some couples do the religious engagement and marriage all at once. On the other hand, other couples are considered to be in a relationship before going through social engagement. It is vital to understand these stages as couples are “expected” to respect these stages in their daily life. For example, when a couple is in a relationship or socially engaged, a woman is not allowed to stay with her partner without a man relative nor seen without the veil (covering her hair). This situation changes as soon as they get religiously engaged because they are announced as husband and wife at this stage. Nevertheless, the description of how couples are expected to behave according to the status of the relationship is ideal. Individual differences play a role here as some couples do not interact according to these socially accepted norms. For full details of the relationship stages in the Arab culture, refer to table 3. Understanding the stages of relationships in the Arab world is essential as it might affect how participants use technology. This point will be discussed in depth in the data and analysis chapters.

- Financial/technical constrains: it is essential to understand what kind of financial and technical constrains that Arab couples are facing while communicating and how they are trying to overcome them.

Relationship status	Description
In a relationship	<ul style="list-style-type: none"> • No agreement between the two families of the couple yet. • Not allowed to stay alone without a relative man. • Not welcome by some religious/strict families.
Socially engaged	<ul style="list-style-type: none"> • Initial agreement about marriage between the two families. • Not allowed to stay alone without a relative man.
Religiously engaged	<ul style="list-style-type: none"> • Marriage contract is signed by the couple and they are announced as husband and wife. • Full right of being husband and wife is allowed such as being alone together and even sexual practise. • Not yet living together.
Married	<ul style="list-style-type: none"> • Socially announced as husband and wife • Living together • Some families do the religious engagement and marriage all in one step. It's a personal preference.

Table 3: The stages of a relationship in the Arab world

Answering the research question of this study involves studying very complex and vital aspects of the daily life of Arab couples who are in LDR. There are several approaches within the HCI community to adopt in this study. Quantitative approaches might seem suitable to answer specific questions about the use of technology in relationships. However, it is hard to construct such questions about a situation in which technology use is largely influenced by the above discussed factors. An ethnographic approach seemed more suitable as it helps in studying communication and LDR in situ. Moreover, some previous research which was conducted to study the use of technology in relationships and families relies on ethnography (Bhandari & Bardzell, 2008; Chen, Forlizzi, & Jennings, 2006; Eichhorn, Wettach, & Hornecker, 2008; Kaye, 2006; Kaye & Goulding, 2004; Kaye et. al 2005). Therefore, an ethnographic approach is the best choice to study long distance relationships in the Arab World. Interviews and diary study were used to understand more about relationships than restricted lab based approaches. Using both interviews and diary study facilitated getting richer data about how couples were using technology than using one sole technique.

3.1 Participants

In order to address all the issues mentioned above, participants had to have different age, locations, background and in different stages in a relationship. Participants were recruited via two ways: family/friends connections and social networking websites and forums.

Being an Arab myself facilitated the recruitment process. Most of my friends and family who might know any Arab who is currently in a long distance relationship were emailed. Even if they did not know anyone in specific, they were asked to forward the email so that I can reach as many people as possible. Some participants expressed interest in participation by getting in touch through a family member or a friend. Yet, some direct emails were received from people who are interested to participate. The second method that was used to recruit participants is via approaching online communities of Arabs. Both English and Arabic versions of a recruitment advertisement were created (See Annex I). They were posted in online groups for Arabs in Facebook, Myspace as well as some Arabic forums such as fnrtop, masrawy and shobiklobik. Participants were screened to ensure that they are eligible to participate in this study. All participants had to answer some basic questions via email/phone such as age, occupation, country of origin and how long he/she has been in a long distance relationship.

3.2 Study Design Consideration

3.2.1 Study Procedure

The study consisted of three parts: an interview, diary study which is followed by a second interview. The purpose of the first interview is to get to know the participant more and understand how they use technology to communicate. In the preparation stage, two major questions were important to answer. The first one is whether interview should be conducted face to face, video or via voice. Voice interviews were chosen for two reasons. First, it is not feasible to conduct face to

face interviews as most participants are living in various countries around the world. Therefore, it was not possible to conduct face to face interviews. Second, from my personal experience of being Arab, we find it a bit uncomfortable to talk about relationships and emotions face to face. On the other hand, having a video interview could seem more formal and needs more preparation before hand which could make participants uncomfortable especially that there is no evidence showing that video interviews are more effective than voice. Hence, I argue that having voice interviews is more effective for the purpose of this study as it helps in getting participants to talk about relationships with less embarrassment.

The second decision which had to be taken is whether to use English or Arabic in the diary. Since participants come from different backgrounds, it was decided to create two versions of the diary, one in each language. This issue was critical as some participants might find it unacceptable to ask them to fill in the diary in English for a research that studies behaviour of Arabs. Some people find using English only a way of showing off and having an inferior view about the Arabic language (Palfreyman and Khalil, 2003). Yet, only classic Arabic was used in the diary study to avoid any confusion and dialect specific problems. Below is a description of the three stages of data collection.

3.2.1.1 First Interview

The study started by conducting the first interview. At the beginning, any questions that participants had about the study were answered. A consent form, which was available in both Arabic and English, was sent to participants at the

beginning of the interview (Annex II). Afterwards, several questions about which means of communication they use, how frequent they get in touch, what a typical day of communication between them looks like and such questions were asked. This interview took 45 minutes on average. At the end of the interview, an electronic diary study was sent and explained to participants how it should be used (Annex III). Also, any questions that they had about the use of the diary were answered. A date in which the diary should be sent back and have the second interview conducted is agreed upon during the first interview.

3.2.1.2 Diary study

Participants were asked to fill in a diary for a week. The main aim of the diary is to find out how a couple might communicate using various technology means. They were asked to log every communication that happens during each day by recording time, communication mean, general topic and their feeling about this specific entry. At the end of each day, they were able to comment about the day in general and whether it was a typical day in communicating with their partner or not. In order to get participants to the habit of filling in the diary everyday, a question about the reason why they did not get in touch with their partner was added so that they fill in the diary in both cases.

3.2.1.3 Second Interview

This interview was typically conducted after 7-10 days of the first interview. This interview helped in getting more details about the relationship. Also, questions about the entries in the diary were asked to get more details about most major events

which happened during the week. At the end, participants were debriefed and a mean of how to send their “thank you” voucher to them was agreed upon.

3.3 Developing Rapport

In this section, several approaches that were used to get richer data and develop rapport with participants are discussed.

3.3.1 During Recruitment

The most issue which participants were concerned about during the recruitment phase is privacy and confidentiality of the study. Due to the sensitivity of the issue of relationships, almost all individuals who expressed interest in participation asked explicitly about how private the questions would be and what are the procedures that are being done to ensure confidentiality. In order to gain participants trust, two ways were used. First, the topics that will be probed during the interviews were explained and how they will be allowed to skip any question that they would not like to answer without having to give a reason. An open session via email/telephone was used to answer all participants concerns about privacy and confidentiality without any commitment to participate. Such a session helped in building good rapport with participants that is based on trust. The second way which was used is to explain that this research is conducted by a joint team from UCL and Microsoft research. Such combination gave participants the impression that this project is a serious research that aims at enhancing the design of systems to Arabs. I explained how I am obliged to conform to the UCL board of ethics as well as

Microsoft regulations to keep data confidential and private which made participants feel more comfortable and willing to participate.

3.3.2 During Interviews

3.3.2.1 Breaking the ice

Interviewing Arabs and having them to talk about such a sensitive issue like relationships needs a lot of effort. Several techniques were used that made participants more comfortable and willing to share more information. For example, if participants were complete strangers to me, after going through the screening process, I had an initial chat session before conducting the interview. This session was essential as I used it to get the chance to know them better and introduce myself in a friendly environment. I do not talk a lot about the study during this session, instead we talk about our lives and I share some personal information about myself. This information could include sharing some personal experience about being an Arab living abroad and being away from family and friends to create the sense of how I understand what they are going through. At the end of this session we agree upon time and date to start the first interview. I found out that this session is extremely important as it makes it very easy to start the voice interview later on.

3.3.2.2 Dialects

One of the key approaches which helped to get more from participants is using different dialects of Arabic language. As explained in the literature review chapter, each region in the Arab world speaks different dialect. Since I fluently speak three major Arabic dialects which are Iraqi, Egyptian and Lebanese, I tried to

use the appropriate dialect with each participant. Fluently speaking the same dialect as the participant during interviews helped me in creating friendly environment for participants. They did not need to worry about explaining dialect specific vocabulary to me. This approach facilitated communication and helped to have stronger rapport with participants. Yet, if I interviewed a participant that I can not speak his/her dialect, I tried my best to use a neutral Arabic which is more formal but easy to understand by most Arabs.

3.3.2.3 Sense of sharing

During interviews, I tried to show empathy and become part of their story of being in a long distance relationship. First of all, I tried, whenever possible, to share my personal experience of being an Arab who is living away from family, friends and loved ones. Although this information might not be very similar to being in a long distance relationship, but it gives the impression of understanding what they are going through. Also, depending on participants' background, I tailored the way I asked questions and referred to their partner. To illustrate, I had a participant who comes from a very religious region in the Arab world in which men might not feel very comfortable if their partner was referred to by name; they feel it is too private. Therefore, I used to refer to her by the plural form such as did you call "them" or did "they" tell you about X. Such a method made the participant more comfortable talking about his relationship as it gives the impression that I am asking about his partner and children instead of asking about his partner alone. Also, it is more acceptable within such conservative regions to refer to women by saying "*Oum X*" which means "the mother of X" where X is the name of her eldest son.

On the other hand, these expressions when interviewing younger Arabs who come from more liberal backgrounds are considered as an insult. Therefore, I used to ask about the name of the partner so that I can refer to him/her by name instead of saying “him” or “her”. Referring to partners by name with these participants gives more sense of sharing and makes them feel that they are having a casual chat with a friend about their relationship. From the above example, it is obvious that I had to understand the participant’s background very well so that I can form my questions in a way that makes them more comfortable to share their experience.

3.3.2.4 Support

The last and one of the very effective techniques that I used to build rapport with participants is offering to help in technical problems that they face in communication with their partner. Being a computer science graduate with experience in teaching IT specific programs, I offered to help in technical problems. For example, I helped a participant in installing the driver of her webcam after we finished the interview when she expressed how sad she feels that she can not get her webcam to work so that her partner can see her. As another example, I used my internet search skills to suggest a way in which a participant was able to call his partner at much cheaper rates. These small actions which did not take long time to do helped in dramatically improving the rapport with my participants and positioned me as a friend rather than a formal researcher.

3.4 Data Gathered

There are eleven Arab individuals who are currently in LDR participated in this study (5 males and 6 females). Two individuals agreed to recruit their partners which gave a better chance to compare and contrast their answers. Participants were from various Arab countries such as Iraq, Egypt, Saudi Arabia, Yemen, Palestine and Syria. The age ranged from 20-35 with average age of 26. The education of participants varied from high school to PhD. Within the sample, there were two types of participants: those living in the Arab world (who will be labelled 'Home' as it is assumed here that the Arab world is one geographical area) and those who live in Westernised areas such as Europe or the US (who will be labelled 'Expatriates'). See Table 3 for more details about the participants. Also, for simplicity, participants will be referred to using the form "Participant Number – Gender" (e.g. P5-M or P10-F).

Participant No	Participants demographics					Location		Language Used	
	Age	Country of origin	Sex	Marital status	Education	Participant	Partner	Interview	Diary
P1	22	Yemen	F	Socially engaged	UG	Egypt	Yemen	Neutral Arabic/English	English
P2	35	Iraq	M	Married to P6	PhD	UK	UK	Iraqi	English
P3	24	Egypt	F	Religiously engaged	BA	Egypt	Qatar	Egyptian	English
P4	32	Iraq	M	Married	Some UG	Egypt	Iraq	Iraqi	Arabic
P5	20	Iraq	M	In a relationship	UG	Sweden	Sweden	Iraqi	Arabic
P6	30	Iraq	F	Married to P2	PhD	UK	UK	Iraqi/English	English
P7	23	Saudi Arabia	F	In a relationship	MA	Egypt	Saudi Arabia	Iraqi/English	English
P8	22	Egypt	F	Socially engaged to P9	BSc	Egypt	Dubai	Egyptian	English
P9	26	Egypt	M	Socially engaged to P8	BSc	Dubai	Egypt	Egyptian	English
P10	24	Palestine	F	In a relationship	MSc	Egypt	Gaza	Iraqi	English
P11	27	Syria	M	In a relationship	BA	Sweden	USA	Lebanese	Arabic

Table 4: Participants details

3.5 Data Analysis

The data that was analyzed in this study is from the two interviews and the diary that was filled in by each participant. Data was transcribed and analyzed using qualitative coding methods. The following sections would explain the process in more details.

3.5.1 Transcription and Translation

Since most interviews were conducted using mixture of Arabic and English, field notes contained both languages. Responses of participants in Arabic were not translated in this stage to ensure that data is analyzed in its original form without losing meaning in translation. Data from interviews and diaries was only translated into English for the purpose of presenting it in the data chapter; no translation took place during the coding process. After transcribing interviews, data was analyzed using grounded theory (Strauss, 1987; Strauss & Corbin, 1990). Open coding was first done; transcribed data were scanned to find “identifiable units of meaning” to put them into various categories (Banks, Louie & Einerson, 2000). Each of these segments was labelled using a separate name and colour. Frequent recurring labels indicated a possible emergent theme. An example of a colour coded transcript is shown in

Image 2. Using colours in identifying themes helped to visually organize and connect different categories across different transcripts.

Focused coding was used to consider identified themes and compare them across all transcripts (Lofland & Lofland, 1994). At this stage, some themes were combined into one theme if they share common characteristics and thought to have a logical link. For example, the themes of “quality of service” and “Arabic language support” were all combined into the “technical limitation” theme as they share very similar characteristics. Furthermore, Ideas were further developed through writing memos (Lofland & Lofland, 1994). At this stage, writing helped in developing ideas, creating relationships, and linking them to available theories and literature. Coding was a recursive process which stopped as soon as themes started to stabilize and analyzed data is not generating new themes. At the end, a theory was constructed due to logically connected themes and relationships.

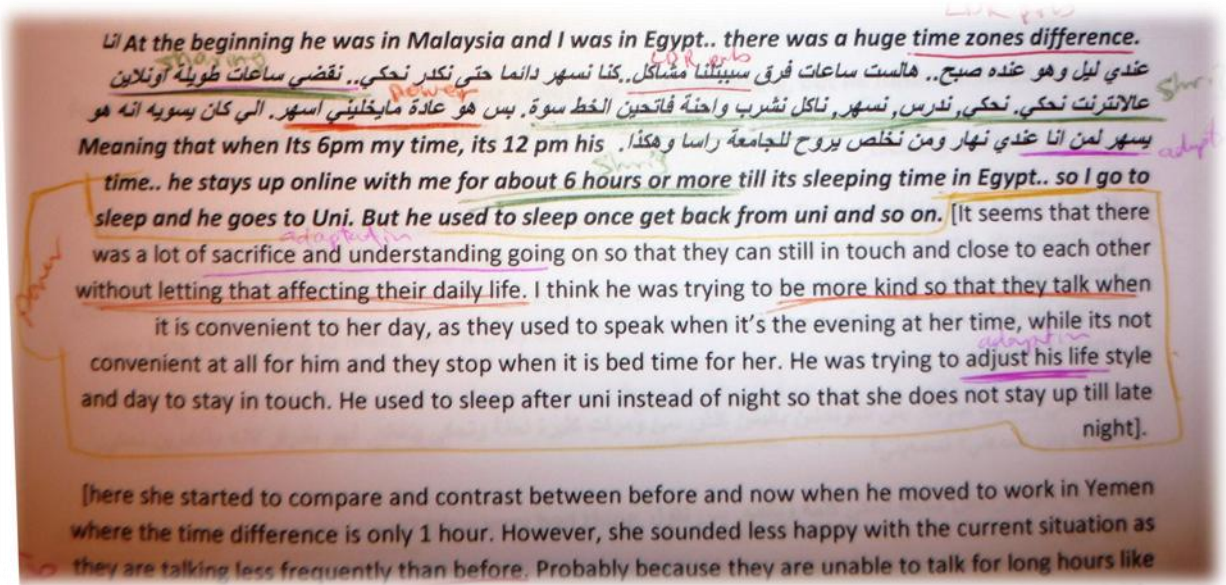


Image 2: Example of field notes showing color coding of Arabic and English transcripts

3.6 Summary

This chapter discussed the used methods in participants' selection, data collection and analysis. A qualitative approach was chosen as it is more suitable to study the use of technology in a specific cultural context. Eleven Arab participants were recruited via family/friends' connections and advertising. Two interviews were conducted and a diary study was filled per participant. There are several techniques that were used to create rapport and get richer data. Some of the techniques were during recruitment or interviews. Some of the techniques are derived from understanding the Arabic culture. In the data analysis phase, grounded theory was used. Data was transcribed; open and focused coding was used. The emergent themes were further developed via writing and relating them to relevant theories and research. In the coming two chapters, data and analysis chapters, identified themes as well as their analysis is discussed.



CHAPTER 4. DATA

During the analysis stage, there are three major themes that emerged. The first theme is related to *the context of current communication means* which includes how current communication means fit into the daily life of Arab LDR couples. The second theme is about the *problems that Arab couples face when communicating*; two major categories of users were identified. The third theme encompasses the *culture specific factors* that affect the choice and use of technology to communicate. Each one of these three themes will be described below using what participants said in interviews and diaries.

4.1 Context of communication technology

For all participants, technology is considered the principal mean in which they can stay in touch and overcome the distance. Mobile phones, text messaging, and the internet are an integral parts of the couples' relationships. Analysis showed that they daily use technology to communicate with their partner and appropriate this technology to serve their own needs. Each of these practices is discussed in more detail in the following sections.

4.1.1 Daily Routine

Most participants, both Home and Expatriates stated that there are several actions that they prefer to do each day in terms of communicating with their partners. Based on interviews, participants must get in touch at least in the beginning and the end of the day. These “prefer to do” actions are done either using phone calls or text messages:

P7-F: “Every day, we must talk on the phone for few minutes in the morning and lunch time [...] we have to end the day by at least an hour on Msn.”

P5-M: “When I wake up, we have to exchange a good morning text message[...]when she gets back home from university, I call her before going to bed as well”.

P6-F: “No matter how busy we are, we have to speak over phone when he gets back home [...] I can never imagine my day without having this phone call”

Most participants stated that they must get in touch with their partner in certain times of the day. These preferences were more supported in the diaries. Most participants’ diaries showed that there were repeated actions at approximately the same time of the day. Interestingly, participants showed that these actions have to happen even if they are annoyed at each other. The exception is one participant who did not get in touch with his partner at all during a specific day because they were in a fight. Most participants recorded in their diary at least the daily “prefer to do” calls and messages:

P9-M: "Even if we are mad at each other, she still wakes me up in the morning; I send to her a text message when I'm home and we do speak over the phone before going to bed."

P2-M: "Being mad has nothing to do with our daily calls and messages [...] maybe the duration of the calls and the tone would vary, but we have to get in touch."

P8- F: "Everyday, we must do an Msn [voice] call for 1-2 hours, even if he is extremely busy and I am [...] Listening to him typing his work report on the keyboard without even talking is enough to me"

4.1.2 Appropriation of technology

Not only each couple did have routine, they also used technology in a way that best suits their needs. Some participants appropriated existent technology to communicate with their partners. The use of internet conferences is an example of such practise. Most participants stated that they use internet conferences frequently. Internet conferences might be in the form of voice chat or video conferencing using available online platforms such as Skype, Yahoo and MSN messengers. The interesting fact about the use of such internet conferencing is that couples use this feature as an ongoing channel of communication. They leave an active conference open even if they are not talking to each other:

P1-F: "I feel we live online, we eat, and study and even sleep while Skype is open [...] my laptop is open 24/7"

P11-M: "I can see her on the webcam while she eats, pray, washes dishes [...] We often select a mutual TV channel to watch together while on a video conference[...] sometimes I forget that my webcam is on as we leave it open and we don't talk"

P7-F: "He keeps the camera on while he has friends visiting, I feel I'm there [...] I am sometimes so close to believe that he would ask me to prepare dinner for his friends!"

It seems that having this ongoing open channel is not about chatting or information exchange. It is being done to create a sense of connectedness and sharing. It is similar to Tacchi's (1998) discussion about the use of Radio in homes. He described how users tend to keep the radio working in the background to create a "social" and "reassuring" environment. The content of what is being broadcasted is not as important as having it running in the background. This concept inspired Lottridge et al (2009) to design the "MissU" device that allows couples to have a private radio channel and listen to music together.

Additionally, technology appropriation can also be found in internet conferencing when used in celebration of special occasions. Some participants have used internet conferencing for birthday or anniversary celebration.

P1-F: "In every birthday, he always sends me a gift by post and I never open it unless we start a video conference [...] he likes to feel that he is with me in such a day and see my reaction when opening the gift"

P8-F: "In his birthday, I wanted to feel as if he is still here [...] we did a video conference and I called all his friends using my mobile and let him speak to them via the speaker [...] it felt as if it was a surprise party to him."

Participants here used technology in a way that helps them to overcome distance. They even started to creatively use a combination of communication means to achieve connectedness and have shared experience.

4.2 Problems that Arab LDR couples face

There are several problems that Arab LDR couples face when trying to use technology to communicate. These difficulties are in technology readiness to support couples who are in LDR and Arabic language support problems. Each of these problems will be discussed in more detail in the following sections.

4.2.1 Technology Readiness

One of the major problems that Arab couples face is in technology readiness. Home Arabs is the group that is most affected by this issue. First of all, Home Arabs have fewer options to choose from to communicate with their partner. As an extreme case, a participant stated that he has only phone calls to call his wife in Iraq as this is the only available option. Other participant stated that he has to use Msn calls to speak to his fiancé as Skype is blocked in his country. Furthermore, available communication services for the Home Arabs are not of good quality. Most participants stated that they have experienced technical difficulties when using the internet voice chat or video conferencing.

P1-F: "My fiancé always hates doing voice chat as we waste very long time literally just saying can you hear me?"

P10-F: "Although I hate using IM and prefer hearing his voice, we sometimes end up using it as voice chat is very unreliable"

The quality of service is not the only problem that Home Arabs face but overall cost is also a big issue. Mobile phone services and internet connection is still expensive in the Arab world. Most Home Arabs stated that they suffer from

financial problems because of the expensive phone calls and internet subscription that they have to monthly pay. For example, a participant mentioned that it costs her 5 L.E/min (Approximately 1\$/min) to call her fiancé in Yemen. This rate is very expensive in comparison to local calls rates where she lives which is as cheap as 0.3 L.E/min (0.06\$/min). In order to overcome the problems of quality and price of service, some participants created new codes to communicate using less money. One approach used by several participants relies on “missed calls” (i.e calling and immediately hanging up). In general, it is free of charge to do a missed call; calls are charged only once the person that is being called picks up the phone. Some participants have developed own “codes” using missed calls to stay in touch. For instance:

P9-M: “When she gives me one missed call, it means that she wants me to sign in to chat with her online”, “I give her a missed call everyday when I leave and get back home from work [...] it is cheaper and faster than sending a text message as she knows that I will be arriving around this time of the day”

Sometimes, some participants use missed calls as a way to stay connected or convey a specific message:

P7-F: “Sometimes I just ring to him to say Hi [...] it’s like “I’m thinking of you note” as I know he is busy and unable to speak over the phone”

P11-M: “I give her a missed call so that I know whether it is safe to call her now or not [...] she cannot speak to me while she is with her parents [...] if she rings me back then it means that it is safe to call now”

The situation of financial costs is different for Expatriates. Most participants who live in the West mentioned that they have several options to choose from such as cheap Voice OverIP international calling cards and unlimited texts or minutes in specific mobile phone contracts.

P11-M: "Phone costs have never been a problem to us; I call her using cheap international calls card which is as cheap as 1p per minute."

P2-M: "We use text messages a lot that's why we have chosen to have the unlimited texts option when chosen our mobile phone contracts."

P5-M: "Local mobile phone calls are charged by call and not by minutes here which means once I call her, I can speak to her as long as I wish [...] it is very cheap and convenient."

In general, there are several problems that Arab couples who are in LDR face. Unlike Expatriates, Home Arabs reported that they have slow and unreliable internet connections. This problem makes it hard for them to do video or voice conferences. On the other hand, the mobile phone and internet services are expensive. They reported that making international calls is very expensive in comparison to local rates. Consequently, these couples have developed some strategies to overcome this financial burden. They have used the "missed calls" feature to communicate using own developed "codes". On the contrary, Expatriates have cheap international calls, more reliable services and more options to choose from. Yet, they do face different problems such as the Arabic language support.

4.2.2 Arabic Language Support

The major problem that the Expatriates group face is in the support of the Arabic language. Most participants who live outside the Arab world stated that they do not

have access to devices that support the Arabic language as most devices do not support writing in the Arabic script. Some of the devices can not even display the Arabic script.

P6-F: "I got my mobile phone from here [UK] free of charge with my contract; I can neither read nor write Arabic script"

P5-M: "Although I like to use Arabic with my girlfriend when we chat on Yahoo messenger, my laptop has only the English and Swedish letters [...] I can read the Arabic script though"

A solution to this problem that is used by most Expatriates was the use of Franco-Arabic for writing text messages and chatting. The problem in Arabic language support is relevant to Home Arabs as well. Although most Home Arabs mentioned that they have mobile phones that support the Arabic script as they have purchased it from the Arab world in which devices are especially made to support Arabic, they stated that they rarely use it. The first reason is that they are not used to writing in the Arabic script

P10-F: "I always write in Arabic using the English characters, it would take me ages trying to type in Arabic [...] I cannot find the right key of each letter [...] it's a complete nightmare to me"

P7:F: "I never use the Arabic script when I write texts to him; it just feels so weird to us"

On the other hand, some Home Arabs still use Franco-Arabic in text and instant messaging despite the availability of the Arabic script support. Some Arabs, especially the young generation, is used to typing the roman characters as they use it more frequently in typing assignments, courseworks and education related material (Palfreyman and Khalil, 2003). Thus, they type slower in Arabic as they use it less frequently.

Despite the fact that Expatriates face fewer problems regarding reliability and availability of communication technology, they face different problems. One of these difficulties is the support of Arabic script. As a result, they use Franco-Arabic to communicate with their partners. On the other hand, some Home Arabs use Franco-Arabic despite having Arabic script support in their devices. They use Franco-Arabic for several reasons such as typing speed and familiarity with roman characters.

4.3 Culture Specific Findings

Although technology readiness and Arabic language support play a vital role in shaping how technology is being used by Arab LDR couples, the data also shows some culture specific findings that are relevant. These two findings are related to the religious/social stage of the relationship and gender differences.

4.3.1 Religious/Social stage of relationship

Data shows that there is a difference between the communication means that Arabs use at different stages of the relationship. In general, participants who are still unengaged or socially engaged used less video conferencing than religiously engaged or married couples.

P10-F: “We do not use video conferencing [...] we usually use voice chat as, you know, my family would not allow me to do so while we are still unengaged”

P6-F: “the situation is way different now, we use video conferencing whenever we like [...] I remember in our engagement days I used to ask my parents’ permission to do video conference [...] I had to nag a lot for them to allow me to see him on the cam ”

This situation is typical in home Arabs. Yet, some personal differences might apply here as not all Home Arabs are that strict. Some participants stated that they used video conferencing, phone calls since the beginning of the relationship. However, these couples do so without letting their family know. For example:

P8-F: "I have my private room, I run my camera there and let him see me even without the veil [...] no of course my parents do not know about it [...] they would be extremely upset if they even know that I am chatting with a guy"

"I speak to my fiancé over the phone and my father knows about it and he is totally fine with it [...] but my father does not know that I have a webcam in the first place he would not allow me to do video conference with my fiancé despite being socially engaged now"

On the other hand, such restrictions are still relevant even for some Expatriates. Some participants who live in Europe stated that their partner can not speak to them over the phone while they are with their parents.

P11-M: "We have been together for six years and when I call and she is with her parents, she speaks English to me to imply that I am her workmate [...] she can not tell her parents that she is simply speaking to a guy"

The situation is very different when the couple is religiously engaged or married. Most participants stated that they started to use video conferencing and communicate much freely after being religiously engaged or married.

P3-F: "Of course it is different [...] I could chat with him now whenever I like, I can do a video conference late at night without even asking anyone's permission"

P2-M: "Unlike engagement days, now I run my camera whenever we feel like"

As data shows, the relationship status is very essential in understanding how participants use communication technology to communicate. When they are still in

their early stages of the relationship, the use of video conferences or calls is restricted. Sometimes, couples do use videos but without their families' permission. The situation is different for religiously engaged or married couples. Once couples are in this stage, they are allowed to use communication technology more freely. More in depth discussion of the effect of the relationship stage on the use of technology is presented in the analysis chapter.

4.3.2 Gender Differences

One of the factors that affect the use of technology to communicate is gender differences. Most participants stated that the male partner is responsible for paying for the communication expenses such as phone calls, especially when making international calls.

P8-F: "He does not allow me to call him using my pay as you go credits; he rejects my call and calls me back"

P9-M: "Its always been this way, she gives me a missed call so I understand that she wants me to call her so I do"

This situation made men in the sample more in control over when to call and when to end the conversation.

P2-M: "She knows it when I say: so, do you need anything else? It means that I will end the call [...] I have to do so as I am the one who is paying for the calls"

P8-F: "He has to call every Thursday, we speak for a while and then he ends the call, I have never ended the conversation even if I was busy or in a hurry, he would take it as I do not want him"

In addition to who pays the financial expenses of communication, there are other issues that are closely related to gender differences. Some participants stated that they choose the way in which they communicate based on the preference of the male partner. Below is the opinion of two married participants about video conferencing:

P6-F: "I like to see him on the camera a lot and hear his voice, it makes me feel as if he is in front of me [...] we rarely do video conferencing as he hates it so much"

P2-M: "I know she likes video conferencing but I really hate it[...]I hate turning on my laptop and keep staring at screen for hours, I like using the phone so we use it a lot [...] what to do she has to accept it "

The power in the relationship goes beyond the financial and the choice of the communication mean. Data analysis showed that men have power over how their partner's use communication technology in general. For example, 5 out of 6 women stated that their male partners know the passwords of their email, online profiles and instant messaging accounts. Yet, some women do not know passwords of all accounts of their partners.

P9-M: "I know all the passwords of her email accounts and Facebook profile [...] yes she knows the passwords of my email accounts except the password of Msn messenger"

P11-M: "She does not know the password of one of my email accounts that I use for online forums, she doesn't know that this account even exist so I am not lying to her about it, she knows all passwords of the email accounts that she knows about"

P5-M: "I do not give her the password of one of my yahoo messenger accounts as she would find some girls' contacts and she would not understand that they are just online friends [...] I'm doing this to save a lot of troubles, these online friends are like my sisters but she just wouldn't understand"

Furthermore, men tend to be more sensitive about their partners' contacts in instant messaging and social networking websites such as Facebook than women. In some extreme cases in the Home-Arab group, women were not allowed by their partners to have male friends in their contact lists of the Msn, yahoo messenger and Facebook. The below quotes of two engaged participants show this trend:

P8-F: "I never add any guy to my Facebook profile; my fiancé does not accept it at all"

P9-M: "If I get to see a guy in her profile, I would be truly mad, she is mine [...] yes I do have girls in my profile but these are good friends since college days [...] I did not like any of her colleagues at university, she should not add them to her Facebook profile and she knows that I do not allow her to do so"

P7-F: "I do not add my boyfriend to my profile so that people do not know that I know him [...] if someday we get married people should not know that we were in a relationship before marriage"

In less extreme cases, men had less control over who their partners' can add to their Facebook profile. Yet, couples tend to be careful when interacting in social networking websites such as Facebook; they tend to be more formal.

P6-F: "I do not comment about any of my husband's pictures on Facebook [...] I can never expect what would his reaction be as he has all his friends and workmates on Facebook [...] I do not know he might be mad so I avoid commenting on his pictures or writing on his wall."

P3-F: "I comment on my finance's picture on Facebook only if I find one of his sisters or a family member that I know commented, as well, otherwise I do not"

P1-F: "You need to have more privacy when interacting with your fiancé [...] he is not a Facebook person at all, we rarely interact there [...] I do not feel free commenting on his news feed there, all people are watching and they can read all what I am writing"

P10-F: "People now know that we are in a relationship but we never changed the relationship status to the "In a relationship with X" option, I feel it is very public, everyone can see this"



CHAPTER 5. ANALYSIS

In the data chapter, the main findings that emerged due to data analysis are highlighted. These themes include the context of communication technology which is understood in the daily routines and appropriation of technology. Second, the problems that Arab couples face in technology readiness and Arabic language support. Finally, some culture specific findings were highlighted which affect communication of Arab couples which are the religious/social stage of the relationship and gender differences. In this chapter, these findings are discussed further and related to existent theories and literature.

5.1 General LDR needs

Arab couples who are currently in LDRs tend to use current communication means in a way that fulfills their needs. Technology is playing a vital role in their daily lives (Bhandari and Bardzell, 2008); they seem to use communication means in a form of daily routine as well as appropriate current technology to support connectedness, create a sense of shared experience and have presence in absence.

5.2 Daily Routines

Data showed the couples have a pattern of daily communications which are considered routines. For example, when a partner states that they have to send a message to his wife in the morning and chat using MSN before going to bed, these actions are routines as they have the following characteristics (Tolmie et. al, 2002):

- 1- *Expectation*: the partner does not expect specific response, for instance, in the case of sending a “good morning” message. The partner may or may not reply back. In non-routine actions, when a text message is sent to convey a specific meaning, a partner might be expecting a reply or a reaction to his/her message. Yet, in the good morning text message, he does not.
- 2- *Meaning in the action*: The content of the action is not as important as the action itself. When the “good morning” message is sent, the content does not matter as the action of sending the message on time.
- 3- *Context*: The good morning text message has its meaning due to the time of the day in which it was sent. This message does not give the same meaning and feeling of connectedness if it was sent later in the day as its main purpose is to express that the husband is awake and getting ready for work.

These three characteristics make the action of sending a good morning text message defined as a routine that Arab couples use to achieve connectedness. What makes this kind of a text message more suitable to be categorized as a routine is that it is sent even if the couple is in a fight or mad at each other. Tolmie et al. (2002) found that when an action becomes an integral part of users to fulfill a certain need, it is most probably classified as a routine. Similarly, the same characteristics can be applied to MSN chat before going to bed or any other actions that are done in the same manner. These routines are used by Arab couples to achieve connectedness and situational awareness. They use available technology means to perform certain actions that are equivalent to what collocated couples do and overcome the distance. The routine patterns in Participants’ lives show that they use communication technology to fulfill some of their needs such as being connected and feel as if they are collocated.

5.3 Appropriation of technology

Data analysis showed that participants tend to appropriate technology in a way that fulfill their needs of staying connected, have shared experience and presence in absence. Each technology is designed to fulfill particular purpose(s) (Williams & Edge, 1996). In the example of the ongoing online conferences, this technology was not meant to be used in the way it is being used to by Arab couples. Participants stated that when they do the internet conference, they sometimes do not expect to exchange information or even talk. Instead, they share day to day actions, watch TV and celebrate birthdays. Appropriation here takes place to support couples to share feelings and actions as well as to create a sense of being together despite the distance.

Appropriation that participants do is adopted to fulfill their needs. They have created daily routines and used technology in a way to stay connected, share daily life matters, have the feeling of being collocated and being aware of each others' emotions. These themes conform to previous HCI research to support couples who are in LDR and enhance their communication by providing connectedness (Bardzell and Bhandari, 2008), shared experience (King and Forlizzi, 2007), and presence-in-absence (Vetere et al, 2005). It is essential to come up with design ideas that take these identified themes into consideration when designing for Arab couples who are in LDRs.

5.4 Technical Problems and Limitations

The above discussed themes such as daily routines and appropriation of technology could enhance the experience of Arab couples who are in Long distance relationships. Yet, there are some technical issues that limit the current use of technology to communicate such as poor infrastructure and availability of Arabic script support.

Infrastructure is a key component in understanding the use of communication technology by Arab couples; infrastructure, in several occasions, failed to support emotional needs of Arab couples who are in LDRs. This term refers to all components that work in the background to provide a service (Star, 1999). These components could be users, wire cables, Internet Service Provider (ISP), and tax system (Mainwaring, Chang and Anderson, 2004). Sometimes, infrastructure is considered seamless to someone who experiences no problems with the service while others perceive it as a barrier as users are not supported by the service. For example, the internet connection is considered infrastructure. Arab couples use the internet to do online conferences. Unlike expatriates, home Arabs expressed more problems with the internet connection when trying to run their webcam or use voice chat despite using Digital Subscriber Line (DSL) connection. There are two important characteristics of infrastructure that is relevant here. First, it is built on previous infrastructure, the old phone cables, which could suggest why some participants in Arabic countries are experiencing problems in the quality of service. Second, Infrastructure tends to be invisible until it fails (Star, 1999); Home

Arabs were more aware of the details of the DSL service as they experience limited or slow internet connections more frequently than Expatriates.

Infrastructure, the internet connection in this occasion, fails or provides less reliable service when there is a mismatch between the expectations of users and the standard provided service (Mainwaring et al 2004). Arab couples “expect” current technology, such as the internet connection, to support their emotional experience and help them feel connected, have shared experience and overcome the geographical distance. Yet, the current internet connection does not meet users’ expectations; it cannot provide high quality of service to support video conferencing and voice chat. Thus, less reliable service that is sometimes below the standard is experienced by couples. To overcome this problem, users usually upgrade the service or demand for better service. Unfortunately, both of these two options are not available or less affordable for Arab couples who live in the Arab world.

The infrastructure that is available for communication technology is particularly relevant to the HCI community. In general, when a designer wants to introduce a specific design or technology, there are two factors that play a vital role here. First, users readiness to use the design; technology will not be used unless it fulfills a specific need (Olson and Olson, 2000). Various researches in the HCI community, including this project, investigated the needs to be fulfilled when designing for couples who are in LDRs. Therefore, this first factor is satisfied. Second, infrastructure standard service usually shows during interaction and use (Barkhus et al., 2005); whether infrastructure is ready or not to support the new

design or technology is critical here (Olson and Olson, 2000). This factor is not yet satisfied when examining the current infrastructure of some Arab countries (Egypt, Yemen, Syria, Iraq and Palestine). Therefore, designing systems for the Arab world with Western assumptions that infrastructure is ready to support the new design/technology of communication systems should be avoided. The new design/technology would most probably run using poorer quality of service which could result in less user satisfaction and consequently more declining use (Olson and Olson, 2000).

Although designing a new system or introducing new technology is related to users' impression about the idea and infrastructure support, this is not always the case. For example, the support of Arabic script in mobile devices seems like a typical infrastructure problem. Some participants tend to use Franco-Arabic instead of proper Arabic script as their mobile phones do not support the latent or writing Arabic messages is more expensive than using Franco-Arabic. This situation is appropriation of technology to overcome what infrastructure failed to support. Yet, this is not the complete picture; some participants, including home Arabs, stated that they still use Franco-Arabic despite having their mobile phone/computers supporting Arabic script. Therefore, the issue here is not only about understanding Arabs' needs and link them to the current situation of infrastructure. The key is to understand the willingness of participants to adapt new design/technology in a social context (Olson and Olson, 2000).

5.5 Socio-Cultural Boundaries

Studying communication technology in social context is important to understand the factors that affect the choice of communication means by Arab couples. One of these factors is boundaries. According to Ozaki and Rees Lewis (2006), cultures are entities that divide the world into meaningful “chunks”; boundaries are the rules that define these entities. They provide a way to interpret the world around us according to our own culture. These boundaries help people who are members of a specific culture define their personal behavior, restrict or prohibit actions in some day to day interaction with the world (Ozaki and Rees Lewis, 2006). For Arab couples, Arab values and boundaries help in defining and regulating how they are “supposed” to interact with each other. Since socio-cultural boundaries are usually defined by “ritualized practices” (Pellow, 1996), socio-cultural boundaries in relationships for Arab couples are presented in terms of the religious/social status of the relationship. Data analysis showed that there are differences in the choice of communication mean according to the social/religious status of couples. This difference might be understood by taking into consideration the socio-cultural boundaries of relationships for Arabs. The use of video conferencing will be used to illustrate this point.

There is a tendency to discourage the use of video conferencing or voice calls and sometimes both due to socio-cultural boundaries of Arabs. Couples that are not yet religiously engaged should not “physically” stay together in a place without a man relative. Thus, video/voice conferencing takes a different social meaning.

These conferences could be seen by some religious Arabs as crossing of boundaries. Video/voice technology makes it possible for a couple to virtually see each other without supervision; it resembles being physically in one place to some extent. Therefore, participants talked about how their families are stricter when it comes to using webcams or voice chat/calls before religious engagement. Yet, some participants stated that they do use webcams or calls without their families' knowledge. In this situation, Arab couples are aware of crossing this socio-cultural boundary (Ozaki and Rees Lewis, 2006). However, they do cross the boundaries to fulfill their emotional needs to see and speak to each others.

Understanding boundaries, especially socio-cultural, is very vital for designers. The above example about the use of video/voice conferencing illustrates how socio-cultural boundaries affect the use of communication technology among Arab couples who are in LDR. It is important to understand the boundaries of a specific culture to predict the use of current technology (Ozaki and Rees Lewis, 2006). Consequently, better design of new systems and technology by taking these boundaries into consideration. For example, by understanding the boundaries of the Arab culture, it is possible to understand or predict how Arabs are going to use new design or technology to fulfill some of their needs while respecting their cultural boundaries at the same time.

5.6 Gender and Power Effect

Data analysis revealed additional culture specific findings about how Arab couples who are in LDRs use technology to communicate; these findings are beyond socio-cultural boundaries and perceived meaning of technology. In this section, it is argued that the use of communication technology by Arab couples is a reflection of their own society. Most of the actions that showed gender differences and the role of the male partner are supported in Arab society. There are two culture specific issues that will be discussed in the following sections: how Arabs perceive the role of men in supporting and protecting women. From Westerners prospective, these culture specific issues could be perceived completely differently. Yet, it is essential to view the issue of men support and protection of women from Arabic prospective. In the coming two sections a discussion of how men and women understand support and protection in the Arab culture is presented.

5.7 Support of women in the Arab culture

This study has shown how men tend to pay for financial expenses of communication. Men are expected to be paying for phone calls, especially international, internet calling credits and other expenses. This expectation gave men some power over when to initiate and end communication. Men do feel obliged to pay the financial expenses as it makes them feel that they are responsible about their partner. This notion is supported by culture and religion. Although the Islamic law tends to treat men and women equally, there are several occasions in which a distinction took place between men and women. One of these occasions is

inheritance. Men are eligible to get twice as women do when it comes to inheritance (Ruthven, 1997). This law is to support men as they are supposed to take care of women whenever needed. Since Islamic law gives special attention to family as the building block of society (Ruthven, 1997). It is argued that this support is to strengthen family bonds and keep men responsible about women and consequently the family.

5.8 Protection of women in the Arab culture

In addition to the support of women in Arab culture, protection of them is a critical issue. Data analysis showed that men did not only know the passwords of their partners' accounts, but also had a say about which friends to add to social networking websites and messengers, in some extreme cases. Again it is not possible to understand the reason behind this behavior without considering the social motivation behind it. In the Arabic culture, women represent the family honor (Moore, 1988); men are responsible to protect this honor. Moore (1988) describes this situation as: "Women are the guardians of male honor and because of this they themselves need to be guarded [...] a family's reputation and status in the community depend upon daughters, sisters and wives". This characteristic of Arab culture allows us to interpret the behavior of men in regard of controlling women from a different perspective. Men, feel obliged to tell women who to add to their profiles, who to talk to and what to do online under the protection umbrella. They claim that they are protecting them. This behavior can not only be found in the use of technology, but also in real life situations. Thus, I argue that these behaviors are

reflection of the real life situation in society; it is not surprising to show in studying the use of communication technology of Arab couples who are in LDRs.

The above discussed behavior of men in relationships could be surprising if they are not explained in the context of Arab culture. Some of these characteristics are acceptable for people who belong to this culture. They were maintained over years and supported by religion and society (Moore, 1988); these components might not work for other cultures (Ozaki and Rees Lewis, 2006). Therefore, these findings help designers in the HCI community to understand that designing for Arab couples who are in LDRs is directly related to understanding some crucial cultural characteristics such as women support and protection. Designing for Arab users, especially in the context of sensitive issues, such as, romantic relationships must address the socially accepted notion of power of some men in society.

5.9 Bidirectional Influence of technology on Arab relationships

In this section, a more abstract analysis of data is presented. What was discussed in this chapter suggest that there are two major influences that is affecting Arab LDR relationships: social impact and social shaping of technology; these two influences will be discussed in relation to this project.

5.9.1 Social Impact

The social impact of technology school is concerned about how technology use and impact is deterministic (Williams and Edge, 1996). It is about how technology is supposed to progress and impact society. The social impact of

technology school applies to how technology is reconstructing the use of communication technology by Arabs who are in LDRs. In several occasions, technology has impact on society. A relevant research that was done about studying the social impact of technology on email in organizations revealed that technology has an impact on organizational power, gender perception and other social aspects of organizations. (Garton and Wellman, 1993). In this project, data showed that technology defined how Arab couples “should” use it. For example, the use of Franco-Arabic to send text messages just because technology does not support Arabic script is considered social impact of technology. Some linguists started to feel that the new generation might use Franco-Arabic on the expense of using the proper Arabic script. The use of Franco-Arabic might make the Arabic script in danger if the new generation use it much more frequently (Palfreyman and Khalil, 2003). Additionally, when Arab couples showed that they choose the mean of technology based on what infrastructure can provide is another example. In these examples, technology changed the way that Arab couples would like to communicate to conform to how technology is supposed to work.

5.9.2 Social Shaping

On the other hand, it is argued that Arab couples do have an impact on the use of technology. This impact can be addressed by applying the social shaping of technology school. This argument states that technology evolves and develops over time in response to culture, it is never developed in vacuum (Bijker and Law 1989). Technology is considered a reflection of a specific culture in which users tend to

accept, reject or give symbolic value to several objects/technology. This school applies to the use of technology by Arab couples as they did demonstrate social shaping of technology that reflects Arab culture values. For example, users use webcams within the socio-cultural boundaries that gives specific meaning to technology. On the other hand, this school states that users tend to “subjectively” appropriate technology in a way that gives embedded meaning to technology in addition to the physical meaning. For instance, Arab culture gave password exchange a social meaning that is support of women and protection. Consequently, men used passwords and social networking power in a way that satisfies this cultural meaning of technology.

5.9.3 Bidirectionality

In general, it is essential for designers to realize the importance of technology on culture and vice versa. Arab culture is affecting and being affected by technology. There is a two way influence of both technology and Arab relationships taking place. When introducing new design/technology for Arab couples who are in LDR, it is vital to address the couple needs in social context. By understanding the social impact of technology, it is possible to design systems that reduce the limitation that restrict users to use technology the way it is designed for. On the other hand, designers should try to take the social shaping of technology school into consideration. By studying how Arab couples shape technology and socially appropriate it, it is possible to find the “real” meaning that is given to technology (Bijker and Law 1989). Consequently, designers can produce well targeted

communication technology. Finally, It is not possible to design systems that will be used by users in real life context; yet, assume that no cultural influence would change the way users perceive and use these systems.

5.10 Summary

This chapter discussed several findings and related them into relevant theories and literature. Daily routines and appropriation of technology are used to achieve connectedness and shared experience. Yet, the available infrastructure does not support the needs of Arab couples such as using internet conferencing. On the other hand, the use of communication technology is affected by socio-cultural boundaries. It restricts how participants use technology to communicate. The use of technology is also found to be a reflection of the Arab culture; it supports how society perceives women support and protection by men. These discussed findings suggest that there is a bidirectional influence of technology on society.



CHAPTER 6. CONCLUSION

In this study, the use of technology by Arab couples who are in long distance relationships was investigated. The study aimed to understand how Arab couples use existent technology means to communicate and express their feelings and maintain their relationship. A qualitative approach was adopted using interviews and diary studies. Eleven participants who live in the Arab world, Europe or the US were interviewed and asked to fill in a diary for a week. By analyzing the data using grounded theory methods, several findings emerged and were explored; this chapter will summarize these findings. Additionally, limitations and future work will be discussed.

6.1 Findings summery

This study identified the following themes in the use of current technology by a participating group of Arab couples who are in LDRs:

- *General LDR needs:* Couples in this study tended to use current communication technology to fulfill some of their needs and achieve connectedness, shared experience and presence in absence. They fulfill these needs via daily routines such as morning/night calls and text messages; they also appropriate technology for example through doing ongoing conferences and online birthday parties to overcome distance.
- *Technical problems:* Unlike expatriate participants, home Arabs face technical problems when communicating due to quality and availability of

service in the communication infrastructure. They often find it difficult to communicate using slow internet connections and relatively expensive phone lines. Additionally, current technology often does not support Arabic script, especially for expatriates. This problem motivated participants to use Franco-Arabic when using text messages and the internet.

- *Socio-cultural boundaries*: There are some boundaries around appropriate behavior that are implicit in the Arab culture; these boundaries affect the way couples use technology to communicate. The relationship status of couples is one of these boundaries. For example, video conferences are strictly used after religious engagement as they are considered boundary crossing.
- *Gender and power effect*: the use of technology by Arab participants reflects some values that are supported in the Arab culture such as men and women's perception of support and protection.
 - *Support*: Men are expected to support women financially. They tend to pay for financial expenses involved in communication. This tendency makes men more in control than women such as in terms of communication initiation and duration of calls/conferences.
 - *Protection*: According to the Arab culture, women should be protected by men. Thus, in the study, men tend to control who their partner should talk to online, add and have knowledge of their social networking websites as well as passwords.

The above summarized themes in this study show that there is a change of the use of technology due to social impact. On the other hand, technology is changing the way that Arab couples use technology to communicate. These changes lead me to conclude that there is a bidirectional influence of technology on Arab relationships: social impact and social shaping of technology. This influence answers, in a more abstract way, the research question of how technology is being used by Arab couples who are in LDRs to communicate. First, technology is changing the way Arab couples communicate and consequently has an impact on the society. For example, technology does not support Arabic script which led participants to use Franco-Arabic on various occasions. This phenomenon affects the Arab society as some experts have started to fear that the new generation use this new way of writing at the expense of the original Arabic script. Second, Arab couples are socially shaping technology when communicating. Arabs use technology to suit their cultural values. For example, password exchange is considered a way of protection and care for women. This kind of behavior in the use of technology is actually a reflection of socially accepted norms and traditions.

This is an exploratory study that aimed at understanding the use of communication technology by distant couples in cultural context. Arab couples in this study were found to use technology to fulfill some of their needs via daily routines and appropriating it in unexpected ways. Also, they face some technical problems due to infrastructure issues. Furthermore, there are some boundaries and gender effects that show in their use of technology. These themes suggest that there is a bidirectional effect of technology on society in which Arab culture is changing

the way technology is being used and vice versa. This topic is still a fairly new area of research that needs to be developed. After concluding the major findings of the study, it is vital to discuss some of its limitations as well as suggesting some areas for future work.

6.2 Limitations

There are some limitations in the data collection and analysis of this study. These limitations are:

- *Duration of the diary study*: Participants were asked to fill in a diary for only one week. This duration was the longest possible due to the limited time that was available to complete this project. Although data from diaries were very useful in getting a snapshot of daily communication of couples, a longer duration would have brought richer input.
- *Recruited couples*: Only two couples agreed to participate together in the study. Having more couples in the study could have given richer data than the data collected from only one partner especially when studying communication technology in cultural context; It is useful to compare and contrast interview scripts and diaries of participating couples to see how each partner perceives a specific situation or action.
- *Countries of origin and residence*: Due to recruitment difficulties, it was not possible to recruit participants from all Arab countries, major regions were covered though. Additionally, expatriates were participants who live in Europe or US only; Arab participants who live in more regions could have

been useful particularly in identifying problems that expatriates face in LDRs.

- The number of participants: Although the number of participants is reasonable in comparison to similar qualitative studies in literature, a larger sample would provide findings that could be generalized with greater confidence to Arab couples who are in LDRs. It was not possible to recruit a larger number as the available time and resources were not sufficient. However, the findings could be considered as a start that highlighted variety of complex topics to be complemented with other future work.

6.3 Future work

This study aimed at exploring the use of communication technology in culture context. It opened the door to other researchers to study in more depth several issues. For example, this study highlighted some of the problems that Arab couples face when communicating. A follow up study could contribute to studying each Home Arabs and Expatriates in more details; it could focus on each group in a separate in depth study. On the other hand, each of the cultural specific findings, socio-cultural boundaries and gender and power effect could be studied in more details.

Studying LDR in culture context could be inspiring to some Western researchers. Relationships are familiar to designers; they need to see relationships from a completely different lens to better understand them; this process is through defamiliarization. Studying and identifying challenges and limitations of design for

other cultures help designers to understand design for their own culture (Bell, Blythe and Sengers, 2005). This study has identified some culture specific challenges and issues to consider when designing for Arab couples who are in LDRs; these issues are very unfamiliar from Westerners' prospective. Thus, these findings are not only useful for designers who are interested in designing for Arab users but also for Western designers as a defamiliarization attempt. This study encourages Western designers to question the effect of the Western culture on LDRs. Similar to the Arab culture, Western culture might have effect on the use of current communication technology by western couples but it has not been explored yet.

6.4 Remarks

This study dealt with several complex issues. It contributed to filling in the gap in studying communication technology in a cultural context. It highlighted various issues that affect the way Arab couples who are in LDR use technology. Some findings conform to previous research that suggest that couples tend to use technology to fulfill some of their needs. Yet, this study shows some findings that were not highlighted before. The effect of the relationship religious/social stage as well as Arabs perception of support and protection was not discussed in previous research within the HCI community.

These findings show western designers that in order to design systems that are best targeted at Arab couples, careful understanding of cultural norms and traditions is inevitable. Furthermore, this study suggests that Western designers should study communication technology in a Western cultural context. Studying this topic is very complex; it combines very challenging aspects of research that are technology, romantic relationships and culture. Yet, this study does make a difference in the HCI world as it helps designers to see the matter from a completely different prospective.



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Annex I: The English version of the recruitment advertisement



Are you from the Arab World and currently in a long distance relationship?

I am an MSc student in University College London Interaction Centre. I am doing my MSc project, sponsored by Microsoft Research Cambridge, to study how Arab couples communicate using both technological means such as telephone, email and instant messaging as well as non technological means such as letters, cards, gifts, printed photos to communicate and express their feelings and emotions.

If you would like to participate you will be asked to do the following during a total of 9 days:

- 1- A get to know you interview in which I will explain more about the study and what you are required to do in the following week. This interview will be conducted face to face at home (if applicable). If you are not located in the UK, this interview would be conducted via the web.
- 2- For a period of a week, I will ask you to write in a small diary in which you record information about your communication with your partner and how you felt about it. This would not take longer than 5-10 minutes a day.
- 3- By the end of that week, I will conduct a 45 minute interview in which we will discuss the events which were recorded in the diary in the previous week. This interview will be conducted face to face at home (if applicable). If you are not located in the UK, this interview would be conducted via the web.

To take part in this study, you should be from a Middle Eastern country and currently in a long distance relationship.

If you are located in the UK and participate in the study, you will be given a £40 voucher of your choice. On the other hand, if you are located elsewhere and participate in the study via the web, you will be given a £20 voucher of your choice.

If interested in participation, please contact Ms Tamara Alsheikh, email: t.alsheikh@ucl.ac.uk , Mobile: +44 (0) 7508011982

Annex II: Consent Form

Communication between Arab long distance relationship couples

Purpose This is an invitation to participate in a research study in which researchers from University College London investigate how Arab couples who are in long distance relationships use technology to communicate and express their feelings. I intend to study how these couples use various means of communication such as phones, text messages, webcams, blogs and social networking sites to maintain their relationships. On the other hand, I will also be studying why these couples sometimes choose to communicate using non-technology means such as printed pictures, letters, posted physical items and gifts beside the use of technology. This research is part of the MSc project at UCL, and is overseen by Dr Jennifer Rode.

Procedures I will conduct voice interviews via the internet. This interview is to get to know you more and to ask you about how you usually use technology to communicate with your partner. In the following week, I will ask you to write in a small diary in which you record information about your communication with your partner and how you felt about it. This would not take longer than 5-10 minutes a day. By the end of that week, I will conduct a 45 minute interview in which we will discuss the events which were recorded in the diary in the previous week. I will take field notes.

Use of and Confidentiality of Data We will use information gathered to understand how Arab couples who are in long distance relationships communicate using technology. We will take the following steps to keep your data confidential: At the beginning of the study, you will be assigned a “participant number”; information such as the audiotape will have this number code instead of your name. Only the interviewer and Dr Jennifer Rode will have access to information linking your name to your participant number. The information linking your name to participant number will be kept in locked files separately from the other data and destroyed upon completion of the study. The consent form, containing your full name, will be stored in locked files separately from the data.

The data may be examined by Dr. Jennifer Rode, Dr. Sian Lindley and Miss Tamara Alsheikh and members of Dr. Rode's research group.

Short segments of the field notes may be used for illustrative reasons in presentations of this work in classrooms or scientific presentations. Please note that we are asking you to separately to consent to short segments of audio footage.

After the research is completed, we may save the notes for future use by ourselves or by others. However, this same confidentiality guarantee given here will apply to future storage and use of the materials.

Risks and Benefits Parts of transcripts may be included in papers or presentations. If your name appears in the transcript it will be replaced by the participant number. Your sorority name will be replaced by an alias. Regardless, your participation might be recognized if the transcript is read or tapes by someone able to recognise you. We foresee no other risks associated with participation. There is no direct personal benefit to you from participating in this.

Freedom to Withdraw Participation in this study is voluntary. You are free to decline to be in this study, or to withdraw at any time, and you may refuse to answer particular questions. You may request the audio to be stopped at any time during the study.

Freedom to Ask Questions

I understand that the proposed research has been reviewed by Ethics review board and that to the best of their ability they have determined that the observations involve no invasion of my rights of privacy, nor do they incorporate any procedure or requirements which may be found morally or ethically objectionable. If, however, at any time I wish to terminate my participation in this study, I have the right to do so without penalty.

If you have any questions about this study, you should feel free to ask contact:

Dr Jennifer Rode
UCL Interaction Centre
MPEB 8th floor
University College London
Gower Street
London WC1E 6BT
United Kingdom
+44 (0)20 7679 0687

If you have any additional concerns, please contact:

Graduate School
North Cloisters
Wilkins Building
University College London
Gower Street
London
WC1E 6BT
+44(0) 20 7679 7844

You have received two copies of consent form. If you choose to participate, please keep a copy for your records.

I understand that in signing this consent form, I give Tamara Alsheikh and associates, permission to present this work in written and oral form, without further permission from me.

I have read and understand the above information on the purpose of the study, the procedures that will be followed, the use and confidentiality of the data, the risks and benefits and freedom to withdraw from the study or ask questions and I agree to participate.

Participant Name (please print): _____

Signature: _____ Date: _____

I consent to short segments of audio footage or photographs being used for educational purposes in conjunction with publications of this research. Any faces will be obscured on photographs displayed in these forums.

Participant Name (please print): _____

Signature: _____ Date: _____

Experimenter Name (please print): _____

Signature: _____ Date: _____

Annex III: The English Version of the electronic diary

Participant's Number:

Day of week:

Date: / /2009

- Record the time and general topic/purpose in which you get in touch with your partner. (please see example below)
- If you use the same communication mean for the same topic, record it only once (e.g: if you send/receive several text messages talking about how to fix your computer, please record it as one entry).

Time	Phone Call	Video Call	SMS	Missed Calls	Chat	Skype/Video Conferencing	Letters/Gifts	Who initiated it?	General Topic/Purpose*	How do you <i>feel</i> about it in TWO words**
13:00-16:00						X		Him	Work problems, my exams, his flight booking, his dinner with friends	Connected, loved

If you did not contact your partner today, please explain why?

Do you have any comments about today's communication with your partner? Was it a typical day?

* Please record what you generally talk about. The more details you mention, the easiest to talk about the event in the second interview.

** write two words that describe how you feel about this communication.

If you have any questions, comments please email me at: t.alsheikh@ucl.ac.uk or call +44 75 08011982