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**ADVANCE RESEARCH METHODS QUANTITATIVE & QUALITATIVE  
TECHNIQUES**

**Re-MID SEMESTER ASSIGNMENT**

**(Time Allowed:24 hours)**

**Marks:30**

Q 1. Write a brief note on Introduction Part of a Research.

Ans 1 : A brief note on introduction

**Introduction** : After the title and abstract, the introduction is the next thing your audience will read, so it's vital to begin strongly. The introduction is your opportunity to show readers and reviewers why your research topic is worth reading about and why your paper warrants their attention. The introduction serves multiple purposes. It presents the background to your study, introduces your topic and aims, and gives an overview of the paper. A good introduction will provide a solid foundation and encourage readers to continue on to the main parts of your paper the methods, results, and discussion. Remember, all you have to present in the introduction is: definition of the topic idea and its urgency, explanation of the aim of the research, facts to hook the readers and thesis statement. Be logical. Your introduction will be really strong if it contains key ideas only in few sentences mean that if it is short and to the point. The introduction has five important responsibilities: get the audience's attention, introduce the topic, explain its relevance to the audience, state a thesis or purpose, and outline the main points.

An introduction is the first paragraph of a written research paper, or the first thing you say in an oral presentations , or the first thing people see or hear, or experience about your project or research. The introduction gives the reader the beginning piece of the thread so they can follow it.. It establishes the context of the research being conducted by summarizing current understanding and background information about the topics, stating the purpose of the work in the

form of the hypothesis, question, or research problem, briefly explaining your rationality , methodological approach, highlighting the potential of your work .

**Clearly keep in mind that**

In introduction you should start broadly then try to limit it for example in first paragraph focus and describe briefly that the reader gets complete understanding of your research paper, state the aim and importance of your research, cite thoroughly but not excessively, avoid giving too many citations for one point clearly state your hypothesis or research question consider giving an overview of the paper keep it short to 500 or 1000 words , show that why the topic is important, don't bury your readers in detail check your introduction through the given general requirement.

It establishes the context of the research being conducted by summarizing current understanding and background information about the topic

To start your introduction topic you should :

- Introduce your topic.
- Create some context and background.
- Tell your reader about the research you plan to carry out.
- State your rationale.
- Explain why your research is important.
- State your hypothesis.

There are three parts to an introduction: the opening statement, the supporting sentences, and the introductory topic sentence.



Q 2. Summarize and paraphrase Literature Review of Two research papers on a particular contemporary topic of your choice. (Provide e-links for reference)

## **Ans 2 : LITERATURE REVIEW**

A typical literature review consists of the following components

- 1)introduction
- 2)main body
- 3)conclusion

## **Paper no 1 : Design of Smart Home Automation System using Android Application**

### **INTRODUCTION**

Nowadays, everyone wants to do smart things. To strive in this smarter world we have to do our daily things in smart way. IOT and Home automation are the smart ways by which we can do daily things in a smarter way. We have to reduce the human exertion, time and cost. In the event if it is conceivable then just individuals craving to utilize these advancements. IOT (Internet of things) is the correspondence between the people and protests. Items can be of any sort like home apparatuses and other household things. In IOT distance never matters. This is the motivation behind why we are utilizing this innovation in our venture. By utilizing IOT we are outlining Smart home which has four applications that uses an advanced mobile phone to offer examination to the proprietor of the house.

Home computerization is the idea of controlling home apparatuses naturally by utilizing different control framework methods. There are many different techniques to control home appliances. At the point when IOT is enlarged with sensors and actuators, the innovation gets to be on occurrence of the more broad class of digital physical frameworks, which additionally incorporates advances, for example, smart grid, smart homes, insightful transportation and brilliant urban communities.

## **LITERATURE REVIEW Main body :**

In this segment talked about the distinctive home automation systems that are actualized before and furthermore the advances, highlights, future work of those frameworks.

In this phase talked regarding the distinctive home automation systems that ar actualized before and what is more the advances, highlights, future work of these frameworks. Through detail objectives as given in paper the system is implemented that is employed to observe the environmental parameters within the home like temperature, humidness in order that if the gases are leaked within the home then it's detected by the sensors. this technique is extensile and can be developed for several a lot of applications. In this phase talked regarding the distinctive home automation systems that ar actualized before and what is more the advances, highlights, future work of these frameworks.

## **CONCLUSION**

Here we've got mentioned concerning the planning and design of the good smart Home Automation System. The projected system is ready to supply automation in addition as higher security to the house. By victimisation this technique home appliances are often remote controlled and monitored. The system makes attainable to observe and management the items within the home from any remote location through web. It makes the human life easy. The projected system can cut back time and energy. also the health of individuals within the house are maintained. CONCLUSION Here we've got mentioned concerning the planning of the good Home Automation System. The projected system is ready to supply automation in addition as higher security to the house. By victimisation this technique home appliances are often remote controlled and monitored. The system makes attainable to observe and management the items within the home from any remote location through web. It makes the human life snug. The projected system can cut back time and energy. also the health of individuals within the house are maintained.

E link for reference <https://core.ac.uk/download/pdf/230495101.pdf>

**Paper no 2:** paraphrase and summarize to extent..

## **Smart homes and its users: a systematic analysis and key challenges**

**Introduction :** Smart technologies are pervasive. Embedding information and communication technologies in consumer appliances such as phones and TVs and in infrastructures such as cities and grids promises enhanced functionality, connectivity and manageability. Major technology developers, service providers and energy utilities are now lining up to extend smartness beyond specific devices to the home as a whole and link these smart homes into the meters, wires and pipes of the utility networks. Research on smart homes and its users is growing exponentially, yet a clear understanding of who these users are and how they might use smart home technologies is missing from a field being overwhelmingly pushed by technology developers. Through a systematic analysis of peer-reviewed literature on smart homes and their users, this paper takes stock of the dominant research themes and the linkages and disconnects between them. Key findings within each of nine themes are analyzed, grouped into three:

(1) Views of the smart home—functional, instrumental, socio-technical; (2) users and the use of the smart home—prospective users, interactions and decisions, using technologies in the home; and (3) challenges for realizing the smart home—hardware and software, design, domestication. These themes are integrated into an organizing framework for future research that identifies the presence or absence of cross-cutting relationships between different understandings of smart homes and their users. The usefulness of the organizing framework is illustrated in relation to two major concerns privacy and control that have been narrowly interpreted to date, precluding deeper insights and potential solutions. Future research on smart homes and their users can benefit by exploring and developing cross-cutting relationships between the research themes identified.

### **Literature reviews (main body) :**

We conducted a systematic search of the peer-reviewed literature using key words denoting “user” as well as “smart home”. Specifically, in July 2012, we searched the Scopus database using the search string “Smart” AND “Home” AND “User” AND “Technology” and included a total of 23 synonyms and variants (e.g. “Resident\*” and “House\*” in lieu of “Home”, with the \*capturing different

possible word endings, e.g. “House”, “Housing”). For further details on the search protocol. This initial search yielded 12,310 articles. In two initial sifts, we reduced the sample to 538 articles by reviewing titles, and then titles and abstracts, and excluding all spurious or otherwise irrelevant hits. We then used a final sift to exclude articles which mentioned or referenced users but on closer examination did not focus on users either directly or indirectly in the research and analysis. The final sample was 150 articles that either explicitly investigated prospective users of smart homes or implicitly considered users through inferences on the usability, design or attractiveness of smart home technologies. Using the Scopus disciplinary classifications, this set of 150 articles was dominated by engineering and technical sciences (61 %) with the remainder split evenly between health-related disciplines (19 %) and the social sciences (20 %)

## **1. Users and the use of the smart home**

- i. prospective users
- ii. interactions and decisions
- iii. technology in the home

## **2. Challenges for realizing the smart home**

- i. hardware and software
- ii. design
- iii. domestication

The first set of themes describes three views of the smart home. These views provide the context and underlying rationale for industry activity and scientific research, offering different and at times competing visions or interpretations of what smart homes are and what they are for. The second set of themes relate specifically to the users and use of smart homes. They begin with basic questions about who smart home users are and what specific characteristics they have. They then extend to different views of the form, frequency and function of user interactions with smart technologies in the home. The final set of themes turns to the principal challenges for realising the smart home in the near-term future, distinguishing a hardware and software development issues from design and usability challenges. More fundamental questions are also asked about the users of smart technologies amidst the complex & irregular rhythms & patterns of everyday life in the home.

smart home a growing and potentially important field of research and development. Three broad views are evident in the literature: a functional view; an instrumental view; and a socio-technical view. The functional view sees smart homes as a way of better managing the demands of daily living through technology. The instrumental view emphasises smart homes' potential for managing and reducing energy demand in households as part of a wider transition to a low-carbon future. The socio-technical view sees the smart home as the next wave of development in the ongoing electrification and digitalisation of everyday life.

## 1 Conclusions

Smart homes are an advancing wave of technological development whose success depends on a coalescence between the visions of technology developers for enhanced functionality and energy management, and the needs and demands of households in the complex places that are homes. User-focused research on smart homes is growing, dominated by engineering, technical sciences and design, but with a sizeable niche of health care-related research, and increasing attention from social scientists ranging from ethnographers and domestication theorists to economists and applied energy researchers. Yet there is a wide and growing recognition of the need to develop a better picture of who users are and how they might use smart homes. Although two of the themes analysed from the literature (on “user-technology interactions” and “accept- ability and usability”) are most strongly informed by research on user-centred design, these themes have not typically been entry points for thinking about the purpose and use of smart homes. Rather, they have emerged as a consequence of a technological vision that is struggling to gain user acceptance. The result is that current visions of smart homes have a limited appeal to users and are failing to meet user needs.

E link for the above paper : [www.refitsmarthomes.org](http://www.refitsmarthomes.org).

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**Note: In case on any queries, contact your instructor on [atif.ishtiaq@inu.edu.pk](mailto:atif.ishtiaq@inu.edu.pk)**