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at
Sathyabama Institute of Science and
Technology (Deemed to be University)

Submitted in partial fulfillment of the requirements for
the award of Bachelor of Technology degree in Information
Technology

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DEPARTMENT OF INFORMATION TECHNOLOGY

SCHOOL OF COMPUTING

SATHYABAMA INSTITUTE OF SCIENCE AND
TECHNOLOGY

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**SATHYABA
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**INSTITUTE OF SCIENCE AND
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BONA FIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of
LAKKU SNEHALATHA REDDY(39120115) who carried out the
project entitled “Netflix Video Streaming App Screens” under my
supervision from Feb 23 2022 to April 6 2022 .

Internal Guide

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Submitted for Viva voce Examination held on _____

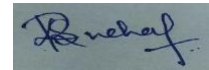
Internal Examiner

External Examiner

DECLARATION

I, **Lakku Snehalatha reddy** hereby declare that the project report entitled “**Netflix Video Streaming App Screens**” done by me under the guidance of **Dr. Mary Gladence.L ,M.E.,Ph.D.**, is submitted in partial fulfillment of the requirements for the award of Bachelor of Engineering Degree in information technology

DATE:

A handwritten signature in blue ink, appearing to read 'Snehalatha', is placed within a rectangular box.

PLACE:

SIGNATURE OF CANDIDATE

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TRAINING CERTIFICATE



ABSTRACT

UI stands for user interface design. User interface design refers to the design of user interfaces for software and machines, such as computers, mobile devices, home appliances, and other electronic devices. The main purpose of UI is to maximize the usability of these devices and to enhance user experience.

User interfaces act as the access points in which users interact with designs. There are various components of UI, such as graphical user interfaces (GUIs) which are designs for control panels and faces.

UX stands for user experience design. User experience design focuses on a consumer's attitudes and emotions about using a particular product or service.

It also centers on the human-computer interaction and has experiential, practical, valuable, and meaningful aspects that can help businesses determine if certain products are relevant or meaningful to users.

UI and UX are often confused and misused. While these two concepts do go hand-in-hand, they involve separate processes and tasks. The main difference between the user interface and user experience and that UX design puts a focus on the overall feel of an experience while UI design is more about how the product's interfaces function and look.

In addition, UX typically comes first in the product development process and UI comes after to complete the interactive and visual elements. Another difference is that UX generally applies to any type of product or service, while UI focuses primarily on digital products.

(i)

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1. INTRODUCTION

1.1 About UI/UX

User experience evaluation – methods to reveal how user feels about your design

- Overview of the kinds of UX evaluation methods available
- How to choose the right UX evaluation method for the purpose
- The basics of the most popular UXEMs of different types
- Where to find more information on those methods

To determine the quality of UX (summative)

- Measuring UX, e.g. to get out a score Requirements fulfilled? Targets achieved?
- Comparison of several designs
- To find out improvement areas (formative) • Why does certain UX emerge? • What you cannot evaluate, you cannot improve.

User Experience Evaluation Methods UX evaluation is different from usability evaluation User experience:

- How a person feels about using a system
- Beyond pragmatic utility and usability
- Subjective, holistic, emotional, long-term User Experience White Paper – Clarifying the concept of user experience www.allaboutux.org/uxwhitepaper

2. AIM AND SCOPE OF THE PRESENT INVESTIGATIONS

2.1 User Experience Evaluation Methods Evaluation:

- Some kind of material being evaluated • Not only understanding user behavior/needs • Focus is NOT on inspirational / co-creation methods • Part of the iterative design/development process, resulting in input for the next phase
- Procedure of conducting the evaluation • Also techniques that help to collect experiential data • Not (plain) tools
- Not (plain) measures of UX

Different methods for different purposes

- a. No one killer method exists for all purposes
- b. Select the right method for your evaluation case
- c. To convince management that solution A is better than solution B
- d. To experiment the physical reactions while playing a fun game
- e. Combinations of methods recommended (method triangulation)
- f. Moment-to-moment measurement, and a post-test questionnaire
- g. Observation, log of interaction, and interview

UX evaluation in academia vs. industry
Academia Understand the phenomenon
Validate(d) methods Big, well-planned study Controlled variables Project team of UX experts Skilled researchers
Industry Improve product UX Cost-efficient methods
Frequent and small evaluations Real life contexts UX people a minority in the project
UX evaluation often outsourced

So, evaluation situations differ Before choosing a specific method, decide whether you want to • get out a score or improvement suggestions (summative or formative)
• conduct the study in a lab, on the field, or on the Web • run the test in one or more

locations • run the test with lots of users or a handful of them • ... Such decisions are similar to those in usability evaluations • Guidance for making these decisions exists elsewhere • We assume you know your evaluation needs on this level • Once you know the needs, we help you to find a method

Example case:

Personal health service 14 Product Design stage Product representation Purpose of evaluation Study location Participants Time restrictions Equipment, tools Skills of researchers Mobile app (+ iPad app at pharmacy) Concept design Storyboard Find best concept idea for personal health service Meeting room 4 young pharmacy customers (mothers, young adults) 3 weeks (from assignment to results report) Audio recorder, assistant for note taking New media student

2.2 Scenarios of evaluation situations

Case 1

- ❖ UX consultancy project in industry, test a prototype Case
- ❖ Research project in academia, study existing product on market Case
- ❖ Joint research project, compare UX of early design ideas
- ❖ down when demand for the apps is unpredictable.

Case 2

- ❖ UX consultancy project in industry, test a prototype
- ❖ Anna is a usability specialist in a UX consultancy company of 30 employees. Their client has asked for offers to evaluate an application prototype on vitamin information for use in a specific pharmacy. The client wants to test the usability of the vitamin info application and its potential to improve the service experience of typical pharmacy customers during rush hours. The client gives one month to complete the study.
- ❖ Anna has now one day to formulate an offer for their client, describing the evaluation process on high level. She is excited to learn about UX evaluation (which their company would like to do more) and wants to see

which UX evaluation method(s) could be used to find out answers to the service experience request of the client. She has to make a competitive offer for the client that is most interested in improvement proposals for the prototype. resource demand. That way, you can deliver IT resources to employees from anywhere in the world faster and enhance application performance.

Case 3

- ❖ Research project in academia, study existing product on market
- ❖ A group of researchers in a university wants to know how game play experience changes over time. They are planning a study to identify the differences between Chinese, British, and North American culture in the long term UX. They plan to study Angry Birds players over 4 months with a sample of 100 players per country.

Case 4

- ❖ Joint research project, compare UX of early design ideas
- ❖ A joint research project between academia and industry has ideated some new concepts for families to save energy at home. Six families with 8-15-years-old children living near the university have participated in the ideation phase and they have agreed to be involved in the studies throughout the project. The team now has storyboards (cartoons) of 4 different ideas, and they should select
- ❖ which of the ideas to take further for prototyping. One of the companies involved has the responsibility to build the prototype, but they have resources for implementing one of the ideas only. The project will select one of the ideas based on four criteria: potential impact in energy saving; technical feasibility; cost of the system; and user experience.
- ❖ Tom, the only user experience researcher in the project, has now one week time to estimate which of the ideas would generate the most excited emotional response among the family members. The team just wants him to deliver a “UX score” for each idea, so that implementation can start as soon as possible.

2.3 Overview of the types of UXEMs available

Example Case:

UX evaluation of a mobile journalism application Journalists used the mobile journalism application on their mobile devices on the field Right after delivering the story, journalists received an SMS with a link to an online questionnaire:

- 5 point scale for emotion/valence
- 5 point scale for emotion/arousal
- Modified Attrakdiff questionnaire: hedonic and pragmatic quality perception and judgment of appeal Experience Sampling Method (ESM) Heli Väättäjä, Virpi Roto (2010): Mobile questionnaires for user experience evaluation. In CHI 2010 extended abstracts. p 3361-3366.

Day Reconstruction Method (DRM)

- A retrospective (offline) diary method (Kahneman et al. 2004)
- DRM respondents first revive memories of the previous day by constructing a diary consisting of a sequence of episodes
 - Then they describe each episode by answering questions about the situation and about the feelings that they experienced, as in experience sampling
 - The goal is to provide an accurate picture of the experience associated with activities (e.g., commuting) and circumstances (e.g., a job with time pressure)
 - Each experience is recalled in relation to preceding and succeeding ones
 - As a result, participants reconstruct the emotional experience on the basis of sufficient episodic information
 - Increasing contextual cues, thus avoiding retrospective biases
- DRM may achieve an accuracy close to that of online reporting, e.g. Experience Sampling

Example case:

Day Reconstruction Method

- 4-week field study on taking iPhone into use
- 6 participants captured their daily experiences at the end of each day by

- Day reconstruction: participants listed all activities of the day that somehow related to their iPhone. A brief name and an estimation of time spent for each activity.

- **Experience narration:**

participants were asked to pick the three most impactful, either satisfying or dissatisfying, experiences of that day. For each of the three experiences, participants were asked to write a story that describes in detail the situation, their feelings and their momentary perceptions of the product.

- Data analysis: Categorization of 482 narratives

Results:

Experiences changed over time. Phases of orientation, incorporation, and identification were recognized. Karapanos, E., Zimmerman, J., Forlizzi, J., Martens, J-B: User Experience Over Time: An Initial Framework. CHI 2009, Boston, USA.

iScale tool

- An online tool for the retrospective elicitation of longitudinal UX data
 - Concept partly based on Day Reconstruction Method (DRM, Kahneman et al. 2004)
 - iScale uses sketching in the reconstruction of one's experiences with the aim to minimize retrospection bias
 - Chronological order helps the reconstruction of experiences
 - more contextual details surrounding the experienced events
 - the felt emotion is constructed on the basis of the recalled contextual details
 - increases the amount, the richness, and reliability of recalled information
 - The results provide support for retrospective techniques as cost-effective alternatives to longitudinal studies Karapanos, E., Martens, J.-B., Hassenzahl, M. (2010) On the Retrospective Assessment of Users' Experiences Over Time: Memory or Actuality?. CHI'10 extended abstracts. Video:
<http://ekarapanos.com/iscale-final/iscale-final.html>

2.4 A validation study of iScale

- Comparison of two forms of sketching to help recall:
 - Chronological sketching - users recall step-by-step in forward chronological order
 - Top-down sketching - users first assess the overall change, and split this into periods
 - Chronological sketching was found result to an increase in the amount, the richness, and the test-retest consistency of recalled information. Top-down sketching not.
 - Comparison of iScale tool with free-hand sketching (pen and paper):
 - Free-hand sketching is more expressive: less rules for the graph and annotations
 - iScale allows modifications of the graph, which helps in reconstructing experiences
 - Free-hand sketching is an alternative to the iScale tool (see also: UX Curve method)
 - iScale helps understanding the long-term UX of products
 - Sketching assists in the reconstruction of the context of the experiences
- Karapanos, E., Martens, J.-B., Hassenzahl, M. (2012) Reconstructing Experiences with iScale. International Journal of Human-Computer Studies, 70 (11), pp. 849-865
- AttrakDiff™ questionnaire
- Evaluates hedonic and pragmatic quality of interactive products (Hassenzahl et al. 2003)
 - The data enables to evaluate how the attractiveness of the product is experienced, e.g. in terms of usability and appearance
 - AttrakDiff2 consists of 21 word-pairs (semantic differentials)
 - Seven-step items whose poles are opposites (e.g. "confusing - clear", "good - bad")
 - Covers the following components of user experience:
 - pragmatic quality (PQ)
 - hedonic quality: identification (HQ-I)
 - hedonic quality: stimulation (HQ-S)
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2.5 Covers the following components of user experience:

- pragmatic quality (PQ)
- hedonic quality: identification (HQ-I)
- hedonic quality: stimulation (HQ-S)

Expert evaluation with UX heuristics

- UX experts evaluate a service using a predefined set of heuristics
- Heuristics indicate both pragmatic and hedonic instances of each heuristic (Väänänen-Vainio-Mattila & Wäljas, 2009)
- Experts mark down both positive and negative findings (experiences)
 - Resulting in a broader understanding of UX of a product, when compared to "standard" heuristic evaluation

2.6 Case: Cross-platform Web services

- Development of a set of heuristics for Web2.0 types of cross-platform (multidevice) services (see Väänänen-Vainio-Mattila & Wäljas 2009, 2010)
- Evaluation of three Web2.0 services (Facebook, Nokia Sports Tracker, TripAdvisor travel service) by three experts for each service,
- Approximately two days evaluation time over 1-2 weeks
- Of the total number of 255 evaluation findings, 93 (36%) were labelled positive and 162 (64%) negative, 191 (74%) were seen pragmatic and 64 (26%) hedonic
 - Rich picture of service UX

More expert evaluation methods in our pool

- Immersion
- Perspective-based inspection
 - Playability heuristics
 - Property checklists

Psycho-physiological measurements

- E.g. heart beat, skin perspiration, and facial muscles tell about the emotional state of a person.
- Physiological reactions are recorded with sensors attached to the participant. This objective data can be used in combination with self-report data to find out what the user experienced.

Strengths

- Investigates momentary experiences without intervening in the interaction

Weaknesses

- Expensive setup
- Momentary emotions are important in some domains only

FaceReader

- FaceReader™ is a tool to track the user affective state while using products or software without resorting to self-report.
- Real-time analysis of facial expression from a video or live via a webcam.
- FaceReader™ constructs a model of the face from the video and a neural network classifies the facial expressions.
- Based on these movements it calculates the likeliness that each of six basic emotions (joy, anger, sadness, surprise, fear and disgust) is felt at any given time.

Strength:

- Objective assessment of a person's emotion Weakness:

- Data limited to six basic emotions.

Multidisciplinary application domain

- Psychology:

how do people respond to stimuli, e.g. in fear research?

- Education: observing students' facial expressions can support the development of educational tools.
- Human-computer interaction: facial signals can provide valuable information about the user experience.
- Usability testing: emotional expressions can indicate the ease of use and efficiency of user interfaces.

Example case

- Automatically evaluate emotions as part of a game
- The "Emotional Flowers" game harnesses the player's emotions as the primary means for the game interaction. Within the game the player's facial expression of

emotion is used to control the growth of a flower.

More information References:

• Uyl, M. den, Kuilenburg, H. van & Lebert, E. (2005). FaceReader: an online facial expression recognition system. Measuring Behavior 2005, 5th International Conference on Methods and Techniques in Behavioral Research, 30 August - 2 September 2005, Wageningen, The Netherlands. • FaceReader is available from Noldus Information Technology <http://www.noldus.com/> www.Noldus.com

PrEmo :

- PrEmo is a non-verbal self-report software instrument that measures 14 emotions that are often elicited by product design.
- Emotional responses difficult to measure because
- their nature is subtle (low intensity)
- often mixed (i.e. more than one emotional response at the same time).
- Does not rely on words
- Each of the emotions is portrayed by an animation of dynamic facial, bodily, and vocal expressions.
- For use in internet surveys, formal interviews, and qualitative interviews, e.g.,
- to identify the concept with the most pleasant emotional impact • as a discussion tool in consumer interviews.

PrEmo

- Procedure:
- Show product, system, etc. to participant
- For each of 14 emotions ask participant to indicate how intense the emotion is felt. • PrEmo is a licensed commercial product available through Susagroup.com: www.premotool.com

Example cases

- automotive design (Mitsubishi; Daimler-Chrysler)

- biscuit packages (Bolletje)
- office chairs (Ahrend)
- mobile telephones (KPN Telecom) • websites (Starchild foundation)
- gearlevers (Johnson Controls) • cooking oil packages (Diamant)
- city districts (city of Enschede) • sport shoes (Nike)
- childrens wheelchairs (Havenkamp) • fragrances (Procter & Gamble)
- meals and snacks (KLM; Barilla)

More information Strengths: • Multicultural, since does not rely on words

• Picking an object is less disturbing than filling in a questionnaire or verbal explanations of the emotion

• Fun for participants Weaknesses:

- You need to acquire the objects
- Bound to a stationary place where objects are easily accessible
- Since objects may mean different things to different participants, analysis is hard

References Isbister, K., Höök, K., Sharp, M., and Laaksolahti, J. 2006. The sensual evaluation instrument: developing an affective evaluation tool. In Proc CHI '06. ACM, New York, NY, 1163-1172

Conclusion

Various methods are available for evaluating how people feel about a design

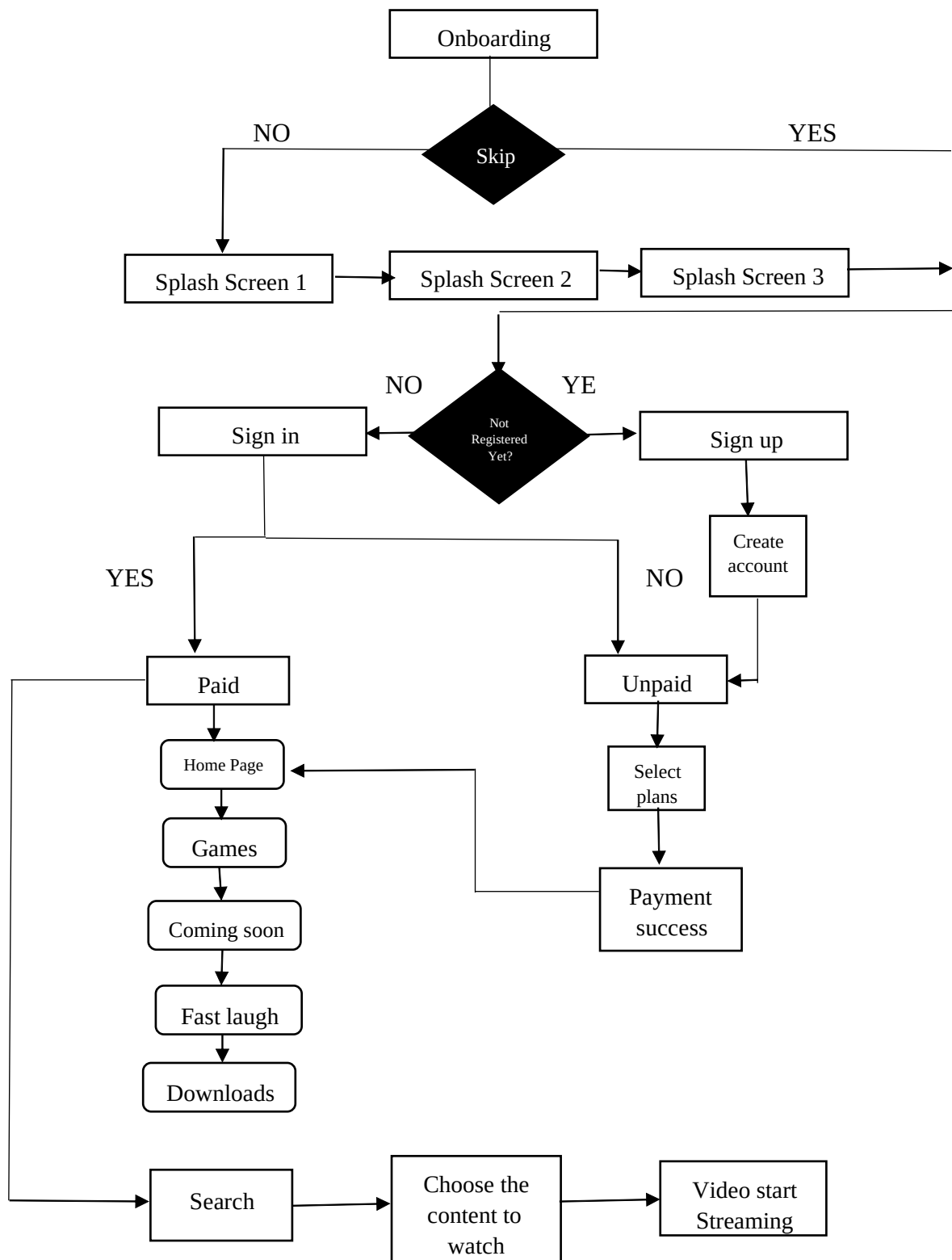
What's best for You? No lack of methods, but how to choose the best one for the purpose? www.allaboutux.org

- Aims to help in choosing the right method
- Launched late 2010
- Now more than 80 UX evaluation methods
- We published only the ones with a reference to more information
- Method descriptions come from various people • Participants in UXEM workshops
- Participants in a SIG session in CHI conference
- Other existing method repositories: ENGAGE, HUMAINE

Exercise 3 Selecting one or more specific methods

- Choose one of the collected situations you want to find a method for
- On www.allaboutux.org site, search for a method suitable for the situation
- You can use the Advanced Search tool
- You can browse the method lists

3.EXPERIMENTAL OR MATERIAL AND METHODS , ALGORITHM USED



4.RESULTS AND DISCUSSIONS , PERFORMANCE ANALYSIS

The main focus of UI design is on the visual aspects of a product. It mostly deals with the design, colour and placement of various elements of the websites to make the website design look fresh and pleasing. Whereas, the main focus of UX is on the usability, experience and functionality of those designs. It aims at understanding the minds of the users and build the designs accordingly

"A UI/UX designer has to frequently think from more than one perspectives for a design. While the design should be aesthetically pleasing to the eye, which is important to the business stakeholders, it should also take into account how the user or consumer will feel when using or consuming it. A good looking mobile app may be very difficult to use (e.g. 10 steps to order a pizza) and a functional design may not be very appealing to the eye. Therefore a good UI/UX designer must be able to understand the business context, the expectation of the stakeholders and the usability for the end user," says Dipu Kumar, a UI/UX analysts and designer who runs an IT skills training institute in Delhi.

4.1 Important skills required:

- Ability to understand what business expects from a design
- Good creative visualization
- Excellent command over relevant tools for wireframing and graphics design
- An eye for detail
- Ability to think and critique the design like an end user
- Good analytical skills
- Basic programming skills are useful but not mandatory
- Starting salary
- "Starting salary of a UI/UX designer in India can range between Rs 20,000-Rs 25,000 per month. The salary increases with experience," says Sushil Kumar, a freelancer designer.

4.2 Future scope:

In today's digital world, the website/app of a brand is the face of the brand. Having an strong and appealing website/app is essentially to grow a brand and connect with the consumers. Hence, the scope for professionals in this field is immense.

5.SUMMARY AND CONCLUSIONS:

Various methods are available for evaluating how people feel about a design

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REFERENCES

1. ["Design in motion"](#). IBM Design. Retrieved 2015-06-18.
2. ^ [environmental context "THE INTERACTION DESIGN FOUNDATION"](#), by Karen Holtzblatt and Hugh R., Retrieved 2016-08-26
3. ^ Uxdesign.com, ["UX Design Defined"](#), 16/08/2010
4. ^ Kujala, Sari; Roto, Virpi; Väänänen-Vainio-Mattila, Kaisa; Karapanos, Evangelos; Sinnelä, Arto (2011). ["UX Curve: A method for unlimited long-term user experience"](#). *Interacting with Computers*. **23** (5): 473–483. doi:10.1016/j.intcom.2011.06.005.
5. ^ Merholz, Peter (2007). ["Peter in Conversation with Don Norman About UX & Innovation"](#). Adaptive Path.
6. ^ ["Words Matter. Talk About People: Customers, Consumers, Users"](#). Don Norman's jnd website. Retrieved 2008-10-03.
7. ^ ["Visual Design Web Style Guide 3"](#). Web Style Guide. Retrieved 2015-06-18.
8. ^ Information Architecture Institute (2013), [What is IA?](#) (PDF)
9. ^ Garrett, Jesse (2011). [The Elements of User Experience](#). p. 81. ISBN 978-0-321-68368-7.
10. ^ ["Efficiently Simplifying Navigation, Part 1: Information Architecture"](#). Smashing Magazine. 2013-12-03. Retrieved 2020-03-15.
11. ^ ["What is Interaction Design?"](#).

12. ^ ["Principles of Mobile App Design"](#). Archived from [the original](#) on 2018-04-13.
13. ^ ["What Is User Experience Design? Overview, Tools And Resources"](#). 5 October 2010.
14. ^ ["The Five Competencies of User Experience Design"](#).
15. ^ Lowgren, Jonas. [Interaction Design - brief intro](#). The Interaction Design Foundation. Retrieved 2015-06-18.
16. ^ ["International Standards"](#). UsabilityNet. 1998. Retrieved 2015-06-18.
17. ^ Marcus, Aaron (2015). [Design, User Experience, and Usability: Design Discourse](#). p. 340. [ISBN 978-3319208862](#). Retrieved 26 July 2015.
18. ^ Butters, Kerry (16 October 2014). ["The Fundamentals of Great UX"](#). Archived from [the original](#) on 6 July 2015. Retrieved 26 July 2015.
19. ^ ["What is Accessibility?"](#). The Interaction Design Foundation. Retrieved 2021-03-31.
20. ^ ["Web Content Accessibility Guidelines \(WCAG\) 2.0"](#). www.w3.org. Retrieved 2017-12-05.
21. ^ ["Curricula for Human-Computer Interaction, Chapter 2. Definition and Overview of Human-Computer Interaction"](#). ACM SIGCHI. Retrieved 2015-06-18.
22. ^ [Cooper, Alan](#); Reimann, Robert; Cronin, David; Noessel, Christopher (2 September 2014). *About Face: The Essentials of Interaction Design* (4th ed.). Wiley. p. 62. [ISBN 978-1-118-76657-6](#).
23. [Cooper, Alan](#); Reimann, Robert; Cronin, David; Noessel, Christopher (2014). *About Face: The Essentials of Interaction Design* (4th ed.). Wiley. p. 131. [ISBN 978-1-118-76657-6](#).
24. ^ Treder, Marcin (2012-08-29). ["Beyond Wireframing: The Real-Life UX Design Process"](#). Smashing Magazine. Retrieved 2015-06-18.
25. ^ [Cooper, Alan](#); Reimann, Robert; Cronin, David; Noessel, Christopher (2014). *About Face: The Essentials of Interaction Design*. Wiley. p. 140. [ISBN 978-1-118-76657-6](#).

APPENDIX

A.SCREENSHOTS

