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Human Computer Interaction (ICT3152)
PACT Analysis - Report

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Abstract

PACT analysis helps to identify requirements of a system when considering interactions with the system by humans. PACT analysis contains four different elements.

1. People
2. Activities
3. Context
4. Technologies

Considering those four elements, this report discusses how to analyze a system that helps university students to improve their performance of their academic activities and that helps with communication between students.

Use Case

Faculty of Technology wishes to introduce a system that helps its students to improve their performance. The system should help students remember about their quizzes, assignments, project deadlines and midterm examinations. Also, the system should provide an easy communication platform among the students in a particular batch.

PACT Analysis

People Analysis

Discussed system is designed for Faculty of Technology, University of Ruhuna. Because of that, the system is using by a closed group of people. Let's evaluate the stakeholders of the system.

- Students
- Lecturers
- Administration Staff

Physical Aspects

Age:

- Students - From 19 years to 35 years.
- Lectures - From 25 years to 65 years.
- Administration Staff - From 25 years to 65 years.

Overall, the age is between 19 years to 65 years.

Gender:
Both male and female stakeholders uses the system.

Height:
Average height of an adult.

Physical Abilities:
There can be students who need special needs, and also there can be differently abled staff members as well.

Psychological Aspects

All users are well-educated. Students are undergraduates and lecturers are degree holders. Administration staff also professionals who have a knowledge about IT field.

Social Difference & Mental Models

The users are from IT and technological backgrounds who are willing to use new technologies and can be adopted to new technological changes easily. Also, the users have the confidence to use the system.

Activities Analysis

Main functionalities of the system

- Help students remember about their quizzes, assignments, project deadlines and midterm examinations.
- Provide an easy communication platform among the students in a particular batch.

Temporal aspects

Frequency: Students use the system regularly to check on their work, and lecturers also use the system frequently. Administration staff may use the system rarely. There will

Processing Time: When the system is used by the lecturers and administrators, processing time could be moderate because the system is not used by time critical activities by them. When the system is used as a communication platform by the students, the system should function in real time.

Continuous or interruptions: Students can be interrupted by warnings about deadlines and other notifications, but the system should continue the workflow after the user accepts the interrupt.

Time Pressure: There is no time pressure while using the system because the system is used by their own devices individually. Users can take the time as much as they needed and use the system.

Co-operation and Complexity

All users use the system individually and system complexity is not much affected on the system because all the users are from technology backgrounds.

Safety critical

The system is not safety critical, but there can be issues if deadlines are wrong and if notifications are slow. Students may face difficulties if they get the correct information.

Content

The system is dealing with texts and learning materials. There can be texts, images, documents, audio and video clips.

Context Analysis

Physical environment

The system is mostly used in indoors as computer laboratories, student hostels, boarding places, administration offices & lecturer offices etc. Sometimes, it may access via mobile devices from anywhere.

Social context

The system should respect user privacy and communication between other users should confidential. There is no need of special training or helping with using the system, but administrators should provide technical support whenever the user needs.

Users may complain about spams, disturbing contents & privacy violations when there is communication happening among them. There should be an authority to handle those issues.

Students with special needs must be guided and monitored, and administration staff must aid them with the help whenever they needed.

Organizational context

The system must not interrupt the university workflow, and it should not affect the different roles of the users in the University. The connection between the lecturers and students shouldn’t be altered by the system. The system should respect the organization hierarchy of the university.

Technologies Analysis

Input

The inputs to the systems should capture by keyboards and mouse. Desktop interfaces of the system should support those input devices.

While the system is allowed to use via mobile devices, it should support touch screens. To facilitate touch screen inputs, the elements on the interfaces should be automatically adjusted to optimal sizes, which helps touch navigation.

Output

All the outputs can be shown on a screen. Screen sizes may different. Because of that, the interfaces must adopt the screen size changes. All interfaces should responsive.

Communication

The system needs internet connection with a good bandwidth. Users may need to upload and download files through the system. Real-time notifications and messaging require consistent connection to the internet.

Communication channels must be encrypted and ensure the user security. While the users access the system via web browser, HTTPS (TLS Encryption) ensures the secure connection between client and the system.

Conclusion

The PACT analysis reflects how the discussed system should design and get a brief idea about how it should function. After getting the general idea about how the system should design, UI/UX engineers and software engineers can design the system which serves better to its users.

References

D. Benyon, "PACT Analysis", Medium, 2022. [Online]. Available: https://bootcamp.uxdesign.cc/pact-analysis-3ac5fbe8817. [Accessed: 17- Mar- 2022].