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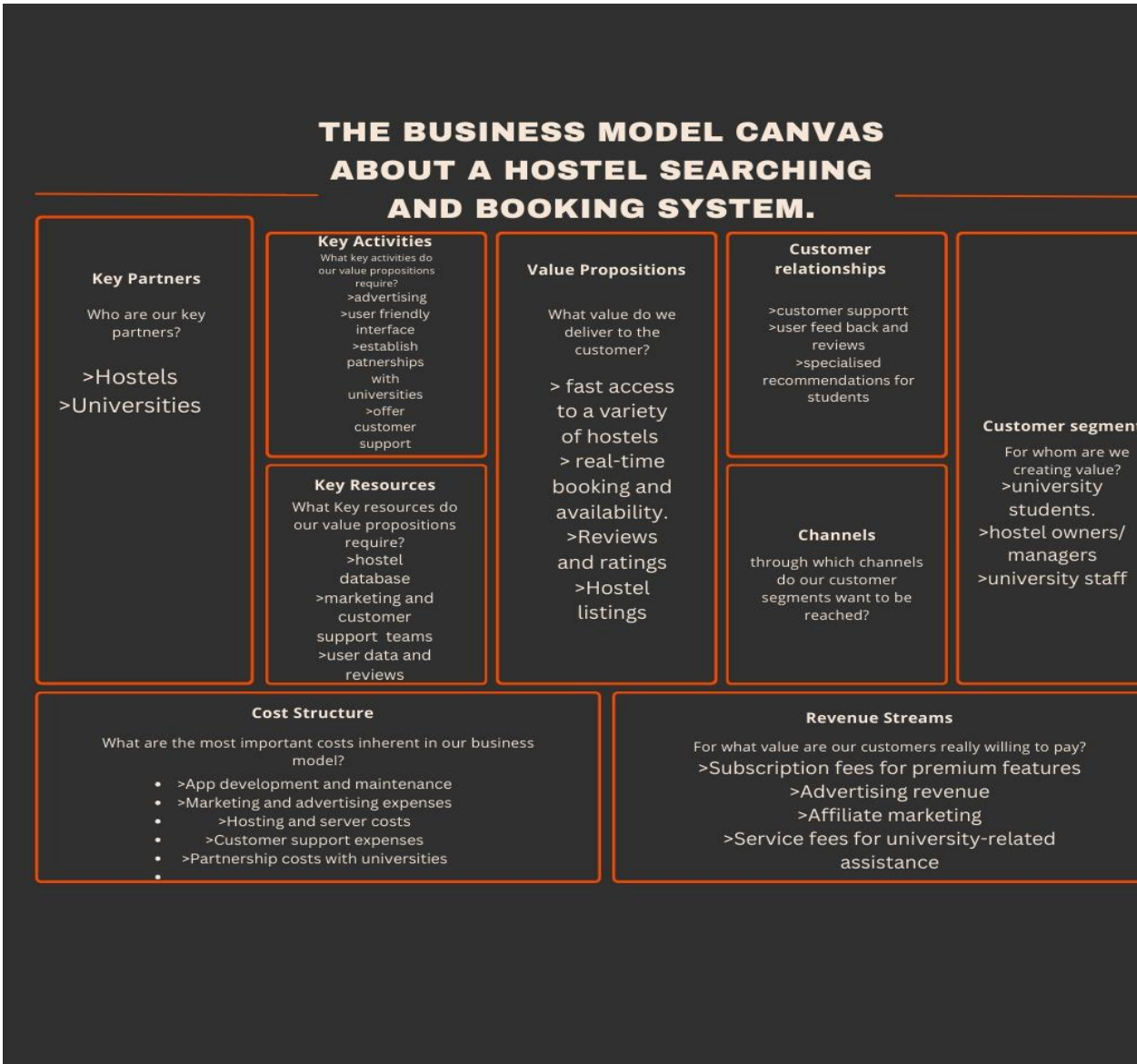
FACULTY: ENGINEERING DESIGN AND TECHNOLOGY

COURSE: BSIT 3

COURSE UNIT: IT RESEARCH PROJECT 1

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THE BUSINESS MODEL CANVAS ABOUT A HOSTEL SEARCHING AND BOOKING SYSTEM.

Key Partners

Who are our key partners?

>Hostels
>Universities

Key Activities

What key activities do our value propositions require?
>advertising
>user friendly interface
>establish patnerships with universities
>offer customer support

Key Resources

What Key resources do our value propositions require?
>hostel database
>marketing and customer support teams
>user data and reviews

Value Propositions

What value do we deliver to the customer?

> fast access to a variety of hostels
> real-time booking and availability.
>Reviews and ratings
>Hostel listings

Customer relationships

>customer supportt
>user feed back and reviews
>specialised recommendations for students

Channels

through which channels do our customer segments want to be reached?

Customer segment

For whom are we creating value?
>university students.
>hostel owners/ managers
>university staff

Cost Structure

What are the most important costs inherent in our business model?
- >App development and maintenance
- >Marketing and advertising expenses
- >Hosting and server costs
- >Customer support expenses
- >Partnership costs with universities
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Revenue Streams

For what value are our customers really willing to pay?
>Subscription fees for premium features
>Advertising revenue
>Affiliate marketing
>Service fees for university-related assistance

The channels for the above Canva are;

Facebook

Mobile app stores

Search engine optimization

Part 1: Project Identification and Selection (10 points)

1. Choose a software development project that contributes to one or more of the Sustainable Development Goals (SDGs). These goals aim to make the world a better place by addressing global challenges such as poverty, inequality, and environmental sustainability.

Hostel explorer – this a hostel searching and booking application for university students: this aligns with the SDG 11 which is sustainable cities and communities.

2. Write a brief description (one paragraph) of the project, explaining its purpose and how it supports specific SDGs.

The above project will solve the problem of Students struggling to get accommodation of hostels at campus. Plus, it will make it easier to get hostels by students, using our application to search for the available hostels to make bookings. "Hostel explorer" is a hostel searching application designed to cater to the needs of university students. Its primary purpose is to simplify the process of finding suitable accommodation options for students attending in Mukono. This project provides a comprehensive database of hostels, allowing students to search for accommodations based on their specific preferences, budget constraints, and location requirements. Through the platform, students can access information 5about hostels. This project is in line with SDG 11 which sustainable cities and communities.

3.Explain why you are interested in this project and how it connects to your interests or career.

As students pursuing a degree in Information Technology (IT) we are interested in a hostel searching application as a project for several reasons below:

1. **Practical Application of Skills**: Developing a hostel searching application provides an excellent opportunity to apply and enhance their technical skills. This project typically involves tasks such as database design, backend development, frontend design, and mobile app development, which are highly relevant to our daily courses in class.

2. **Problem Solving**: Creating an effective hostel search app requires solving real-world problems related to data management, user interface design, and search algorithms. we often enjoy the challenge of solving complex problems, and this project can offer a rich set of challenges to tackle.

3. **User Centred Design**: Building an application for university students involves considering the needs and preferences of the end users. This experience in user centred design and user experience (UX) can be valuable in our IT careers, because we aim to work on projects that prioritize user satisfaction and usability.

4. **Data Management**: Hostel searching apps rely heavily on data management, storage, and retrieval. As IT students can gain valuable experience in data modeling, database management, and data security skills that are in high demand across various industries.

5. **Entrepreneurial Skills**: Developing a hostel searching application can also be an entrepreneurial endeavour. Some of us as IT students we aspire to become entrepreneurs or work for startups, and this project can provide a hands-on experience in creating a tech product from scratch.

6. **Alignment with Career Goals**: some of our members career goals involve working in the travel industry, mobile app development and any field related to information systems, this project aligns well with their career aspirations. It allows them to gain specific domain knowledge and skills that can be directly applied in their chosen career path.

In summary, as IT students our interest in a hostel searching application as a project is driven by the practicality, problem solving opportunities, and skill development it offers. It aligns with our career goals and can serve as a valuable addition to their portfolio, showcasing our ability to create real world solutions using technology.

Part 2: Defining Project Objectives and Scope (15 points)

4. Define clear and specific project objectives. What do you aim to achieve with this project?

Write down at least three objectives that align with the chosen SDGs.

Here are three clear and specific objectives for the hostel searching application project that align with Sustainable Development Goal 11 (Sustainable Cities and Communities):

1. **Promote Sustainable Accommodation Choices**: The application aims to encourage university students to make sustainable choices when selecting hostels. This objective aligns with SDG 11 by promoting sustainable consumption and production patterns. To achieve this, the app will provide information about hostels that implement eco-friendly practices, such as energy-efficient facilities, waste reduction measures helping students choose accommodations that support environmental sustainability.

2. **Enhance Access to Safe and Affordable Hostels**: One of the core goals of SDG 11 is to ensure access to safe, affordable, and adequate housing for all. The hostel searching application aims to contribute to this goal by providing a platform where students can find a wide range of hostel options across different price ranges and ensure that they have access to safe and affordable accommodations during their university years.

3. **Facilitate Inclusive and Equitable Urban Development**: SDG 11 also emphasizes inclusive and equitable urban development. The application seeks to support this objective by including information about hostels located in diverse neighbourhoods, making it easier for students to find accommodations that align with their preferences and needs.

These objectives align with SDG 11 by promoting sustainability, affordability, inclusivity, and equitable access to accommodations for university students, contributing to the broader global effort to create sustainable and liveable cities and communities.

Qn5

5. Outline the scope of the project. What will you include in the project, and what will you leave

out? Provide a list of key deliverables to help achieve the defined objectives.

Below is the scope of the hostel searching project that well defines the objectives of the application. Here's an outline of what to include and what to leave out, along with key deliverables:

Included in the Project Scope:

1. **Database of Hostel Information**: we shall develop a comprehensive database that includes details of various hostels, such as location, pricing, amenities, sustainability practices, safety features, and user ratings.

2. **User-Friendly Mobile and Web Applications**: Creation user friendly mobile and web applications is one of our top objective to enable students to search for hostels, filter results, and view detailed information about each option.

3. **User Registration and Profiles**: we aim at implementing user registration and profile management functionality to allow students to create accounts, save favourite hostels, and leave reviews.

4. **Search and Filtering Features**: In addition we shall develop strong search and filtering options to help students find hostels based on criteria like location, price range, sustainability features, and accessibility.

5. **Sustainability Information**: Include a dedicated section providing information about a hostel's sustainability initiatives and certifications, supporting the promotion of eco-friendly choices.

6. **User Reviews and Ratings**: the application shall allow users to leave reviews and ratings for hostels, creating a community-driven feedback system to enhance transparency and safety.

Excluded from the Project Scope:

1. **Direct Booking and Payment**: The project should focus on providing information and facilitating hostel discovery. Direct booking and payment functionalities can be left out as they can be complex and involve financial transactions.

2. **Hostel Management Tools**: Tools for hostel owners or administrators to manage their listings should be excluded to keep the scope manageable.

Key Deliverables to Achieve Objectives:

1. **Hostel Database**: A complete database of hostels, regularly updated with accurate information.

2. **Mobile and Web Applications**: User-friendly applications accessible on both mobile devices and desktops.

3. **User Registration and Profiles**: A secure system for user registration and profile management.

4. **Search and Filtering Features**: Functional search and filtering options to help students find suitable accommodations.

5. **Sustainability Information**: A dedicated section displaying sustainability features and certifications for each hostel.

6. **Accessibility Considerations**: Documentation showcasing how accessibility considerations were integrated into the design.

7. **User Reviews and Ratings**: A user-friendly system for leaving and reading hostel reviews and ratings.

8. **Documentation**: Comprehensive documentation for both users and developers, outlining how to use the application and maintain it.

By focusing on these key deliverables, the project can efficiently achieve its objectives, promoting sustainable, safe, and affordable hostel choices for university students while maintaining a manageable scope.

Part3

Part 3: Feasibility Study (20 points - Explained in Simple Terms).

6. In simple terms, explain how you will carry out the following:

-Technical Feasibility: How will you build the software? Which technology do you plan to use?

- Operational Feasibility: After building, will your software be effectively used by the intended

users? Explain how you envision the users will interact with your software.

Technical Feasibility: We'll build the software using common and trusted tools and languages like Python, JavaScript, or Java. Think of them as the building blocks for the app. For storing all the hostel details,

we'll use a database system like MySQL or PostgreSQL, kind of like a digital filing cabinet. The part of the app that you see and click on (the website or mobile app) will be created using web development frameworks like React or Vue.js. We'll make sure the app is available all the time by putting it on cloud platforms like Amazon Web Services or Microsoft Azure, just like putting your photos on the cloud for easy access.

Operational Feasibility: Once the software is ready, we want it to be super easy for the students who need hostels. They'll visit our website or use our mobile app, just like going to a website or opening an app on their phone. They'll tell the app what they're looking for by typing things like where they want to stay and how much they want to pay. The app will show them a list of hostels that match their criteria. They can then click on a hostel to get more details, like pictures and reviews from other students. If they like a hostel, they can book it right there on the app. We'll also provide guides and help if they get stuck. We want to make sure that using our app is easy and helps students find the perfect place to stay during their university years.

Qn 7

7. Explain any challenges or risks in plain language that could affect the project's success.

Here are some challenges or risks in plain language that could affect the success of the hostel searching and booking project:

1. **Technical Glitches**: Sometimes, the technology we use might have hiccups or errors. It could mean the app crashes, doesn't show the right information, or is slow. This can frustrate users.

2. **Data Accuracy**: Keeping the hostel information up to date can be tricky. Hostels might change their prices, amenities, or even close down. If our data is not accurate, users could be disappointed.

3. **User Adoption**: Getting students to use our app is crucial. If they don't find it easy to use or don't know about it, they won't use it. Building awareness and making the app user-friendly is a challenge.

4. **Competition**: There might be other apps or websites offering similar services. We need to make sure our app stands out and offers something better or unique to attract users.

5. **Sustainability Verification**: Ensuring that the hostels we promote are truly sustainable can be challenging. We might need to rely on the information provided by hostels, and it can be hard to verify.

6. **User Reviews**: While user reviews are valuable, they can also be manipulated or contain fake information. Keeping the review system fair and trustworthy is important.

7. **Regulations**: Different places might have different rules and regulations for hosting and booking accommodations. We need to make sure our app complies with all these rules, which can be complex.

These challenges and risks are common in software projects, and managing them effectively is essential for the success of the hostel searching and booking application project.

Part 4

Part 4: Stakeholder Analysis in Plain Language (15 points)

8. Identify the main people and groups (stakeholders) involved in your project. Describe them

simply:

Certainly, in the context of the hostel searching and booking project, here are the main stakeholders, along with descriptions and examples:

1. **Clients**: These are the people or organizations providing the financial support and driving the project's initiation. In this case, clients are the hostels aiming to create the hostel booking platform and universities interested in facilitating student accommodation. These client's main role is to fund the project and articulate its goals.

2. **End-Users**: These are the individuals who will use the hostel searching and booking software to find and book accommodations. In this project, the primary end-users are university students seeking hostels. They will interact with the software through the website or mobile app to search for, compare, and book hostels based on their preferences and needs.

3. **Project Managers**: Project managers are responsible for overseeing and managing the various aspects of the hostel searching and booking project. They ensure that the project progresses smoothly, stays within budget, and achieves its objectives. For example, a project manager guides the software development and project management that lead the team and coordinate tasks to ensure the project's success.

4. **Team Members**: These are the individuals who will actively work on the project, responsible for its design, development, and implementation. Our team typically includes roles such as software developers, web designers, database administrators, testers, and marketing specialists. Examples of our team members include software developers who write the code for the platform, front end developer designer who creates an intuitive user interface, and testers who check for software functionality and quality.

Qn 9

9. Share how you plan to communicate and work with these stakeholders to ensure the project's

success. Use everyday language to describe your approach.

here's how we plan to communicate and work with the main stakeholders in simple terms:

1. **Clients (Funding and Vision)**:

   - We'll have regular meetings with the clients to discuss their vision and goals for the project.

   - We'll provide them with progress updates, so they know how their investment is being used.

   - If there are any important decisions to be made, we'll involve them and get their input to make sure we're on the same page.

2. **End-Users (Students)**:

   - We'll put ourselves in the shoes of the students using our app. We'll consider what they need, what's easy for them, and what will make their hostel search smooth and since we are also students we shall incorporate our needs as well.

   - We might do surveys or ask for feedback from students to understand their preferences better.

   - After launching the app, we'll keep channels open for feedback and support to make sure it meets students' needs.

3. **Project Manager (Leadership)**:

   - The project manager will be like our captain. She will coordinate the team's efforts and make sure everyone is working together effectively.

   - She will set clear goals and timelines for the project and ensure that we stick to the budget.

   - If there are any roadblocks or challenges, she will help find solutions and keep the project on track.

4. **Team Members (Doers)**:

   - The team members are the ones building the app. We'll have regular team meetings to share progress, challenges, and ideas.

   - We'll make sure everyone understands their roles and responsibilities and has the resources they need.

   - Collaboration and open communication within the team are key to getting the project done successfully.

Overall, our approach is all about clear and open communication with everyone involved, making sure we understand their needs and feedback, and working together as a team to bring this hostel searching and booking project to life.

Part 5

Part 5: Developing a Project Plan (20 points)

Qn10

10. Create a preliminary project plan that includes:

- Project Schedule: A basic timeline showing when major project milestones will be reached.

- Resource Needs: Identify the key resources you'll need for the project.

- Risk Management: List any potential problems and initial ways to deal with them.

Here's a preliminary project plan for the hostel searching and booking application project:

Project Schedule:

1. **Project Initiation (1-2 week)**
   - Define project scope and objectives.
   - Identify stakeholders.
   - Secure funding and resources.

2. **Requirements Gathering (3-4 week)**
   - Conduct surveys and user interviews.
   - Document functional and non-functional requirements.

3. **Design and Planning (week 5-6)**
   - Create user interface mockups.
   - Design the database structure.
   - Plan the project timeline and milestones.

4. **Development (week 7-8)**
   - Build the frontend and backend of the application.
   - Develop the hostel database and integration with the website/app.
   - Implement the booking and payment system.

5. **Testing and Quality Assurance (week 9)**

    - Conduct thorough testing, including functionality, security, and performance.

    - Fix any bugs or issues identified during testing.

6. **Deployment and Launch (week 10)**

    - Deploy the application on web servers and app stores.

    - Conduct a soft launch for testing with a limited user group.

    - Make any necessary adjustments based on user feedback.

7. **Marketing and Promotion (week 11-12)**

    - Develop a marketing strategy.

    - Promote the application to the target audience.

    - Monitor user adoption and feedback.

8. **Maintenance and Updates (Ongoing)**

    - Continuously monitor and maintain the application.

    - Implement regular updates and improvements based on user feedback.

Resource Needs:

1. **Human Resources**:

    - Project Manager

    - Software Developers

    - Web Designers

    - Database Administrators

    - Quality Assurance Testers

    - Marketing Specialists

2. **Technological Resources**:

    - Development tools and software.

    - Web hosting servers.

    - Cloud infrastructure.

Risk Management:

1. **Technical Glitches**: Regular testing and quality assurance will help identify and address technical issues early in development.

2. **Data Accuracy**: Establish processes for updating and verifying hostel information to ensure accuracy.

3. **Security**: Implement robust security measures to protect user data and financial transactions.

4. **User Adoption**: Develop a user-friendly interface, provide clear guides, and actively engage with users to encourage adoption.

5. **Competition**: Conduct market research to identify unique features and differentiators to stay competitive.

6. **Sustainability Verification**: Establish a process to verify sustainability claims made by hostels and ensure accurate representation.

7. **User Reviews**: Implement a moderation system for user reviews to prevent manipulation and ensure fairness.

8. **Regulations**: Stay informed about local and international regulations related to online booking services and comply with them.