Student Accommodation Portal

Revision: 1

Date: 22 Nov 2023

# Problem Statement

The number of international students has been steadily rising each year, leading to a significant challenge in providing adequate accommodation for them. This surge in the international student population has created a strain on available housing resources, making it increasingly difficult for students from abroad to find suitable living arrangements during their academic pursuits.

The magnitude of this issue extends beyond the challenges faced by individual students. It has become a substantial problem for the host countries, internal students, universities, and landlords alike. Countries find themselves grappling with the need to accommodate a growing number of international students, and this strain has a ripple effect on the local housing market. Universities, in turn, face the challenge of ensuring that their international students have safe and suitable places to live, while landlords may struggle to meet the demand for diverse and culturally sensitive housing options.

In conclusion, the impact of the accommodation problem for international students is profound, affecting individuals, educational institutions, and entire nations. Recognizing the gravity of the situation, various platforms such as student.com, studyabroad.com, as well as international universities and agents, are actively working to address this challenge. Through collaborative efforts and innovative solutions, these entities aim to alleviate the strain on accommodation resources, ensuring that international students can focus on their education without the added stress of securing suitable housing.

International students face significant challenges when searching for suitable accommodation in a foreign country. These challenges include:

**Limited Information:** International students often struggle with limited information about local housing options, neighborhoods, and facilities. Lack of awareness about the local housing market can lead to uninformed decisions.

**Remote Searches:** Being in a different country, students find it difficult to conduct physical inspections of potential accommodations. Relying on online listings alone may not provide a complete and accurate representation of the property.

**Cultural and Legal Differences:** Understanding local rental laws and cultural nuances related to housing can be challenging. Students may inadvertently enter into unfavorable rental agreements due to these differences.

**Financial Constraints:** Many international students operate within tight budgets. Finding affordable accommodation that meets their needs can be a daunting task, especially when considering additional costs such as security deposits and utility bills.

**Lack of Guarantor:** In some cases, international students may not have a local guarantor, a common requirement for renting in certain regions. This can limit their housing options and make the process more complicated.

# Proposed solution

To address the pressing issue of accommodation for international students, a comprehensive solution involves the creation of a dedicated platform. This platform would serve as a centralized hub connecting international students with a diverse range of accommodation options in their respective cities. By offering a user-friendly interface, students can easily explore and choose from various housing choices, taking into account their preferences and budget constraints.

Moreover, this platform would extend its services to landlords, agents, and public relations associates, providing them with streamlined tools and resources to efficiently assist international students in finding suitable accommodations. By enhancing communication and collaboration between these stakeholders, the platform aims to optimize the housing search process, making it more efficient and tailored to the specific needs of international students.

To strengthen this initiative, active involvement and support from universities and student welfare departments are crucial. Establishing partnerships with educational institutions can lead to the integration of the platform into the university's support system. This collaboration would ensure that students receive reliable information about accommodation options and encourage them to make informed choices. Additionally, the student welfare department can play a pivotal role in endorsing and promoting the platform, emphasizing its credibility and commitment to providing secure living arrangements for international students.

By combining technology, collaboration, and institutional support, the proposed platform seeks to alleviate the challenges associated with international student accommodation, fostering a more seamless and secure experience for students, landlords, and other stakeholders involved in the process.

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# What does platform offers?

## Must-Have Features:

1. **Accommodation Database:**  
   A comprehensive database of accommodation options in various cities.Which will provides a centralized location for students to explore available housing. In order to simplifies the search process, ensuring students have access to a wide range of suitable accommodations.
   1. User Authentication: Allow students, landlords, and university representatives to create accounts and log in securely.
   2. Search and Filter Functionality: Enable students to search for accommodations based on various criteria such as location, budget, and amenities.
   3. Accommodation Listings: Provide a platform for landlords to list their accommodations, including details like photos, rental terms, and amenities.
   4. Integrated Maps: Integrate maps to show the location of each accommodation, helping students understand proximity to their university.
   5. User Profile Management: Allow users to manage their profiles, update information, and track their rental history.
2. **Communication Hub:**  
   Enables direct communication between students, landlords, and agents which facilitates efficient information exchange and negotiation.This will enhances collaboration, making it easier for students to secure suitable housing with the assistance of landlords and agents.
   1. Messaging System: Facilitate communication between students and landlords within the platform to discuss rental details, ask questions, and negotiate terms.
   2. Secure Payment Gateway: Implement a secure payment gateway for online transactions, allowing students to make rent payments through the platform.
3. **Safety and Reliability Ratings:**  
   Allows users to rate and review accommodations for safety and reliability providing transparency and helps students make informed decisions.In order to ensures that students can trust the reliability and safety of their chosen accommodation.
   1. Verification Mechanism: Implement a verification system for both students and landlords to ensure the authenticity and reliability of users.
   2. Review and Rating System: Implement a system for students to leave reviews and ratings for accommodations, fostering transparency and helping future tenants make informed decisions.
4. **Integration with University Systems:**  
   Integrates with university databases to verify student enrollment and other relevant details which ensures the legitimacy of student users and their eligibility for specific accommodations.This will reduces the risk of fraudulent activities and ensures a secure platform for students.
   1. Guarantor Service: Introduce a feature allowing universities to act as guarantors for international students who may not have a local guarantor.
   2. Integrated University Partnerships: Collaborate with universities to integrate their housing recommendations directly into the platform, offering students curated and verified options.
5. **Legal Assistance Resources:**   
   Offers information and resources related to legal aspects of renting for international students which will empowers students with knowledge about their rights and responsibilities. Mitigates legal uncertainties, providing a more secure rental experience for international students.
   1. Legal Guidance Section: Include a section that provides information on local rental laws, cultural considerations, and tips for a smooth renting process.

## Desire to Have Features:

1. **Cultural Matching Algorithm:**  
   Matches students with accommodations based on cultural preferences and compatibility. Enhances the overall living experience by considering cultural factors.Ensures a more comfortable and culturally suitable living environment for international students.
   1. AI-Powered Recommendations: Implement an artificial intelligence (AI) system that analyzes user preferences and recommends accommodations based on individual needs and preferences.
2. **Budget Optimization Tool:**  
   Helps students optimize their budget for accommodation and living expenses. Assists in financial planning for international students.Enables students to make cost-effective choices based on their budget constraints.
   1. Budget Calculator: Include a budget calculator that helps students estimate the total cost of accommodation, considering rent, utilities, and other expenses.
3. **Emergency Assistance Integration:**  
   Integrates emergency services and contacts for immediate assistance. Enhances the safety net for students in case of emergencies. Provides a quick and reliable support system for students facing urgent situations.
   1. Emergency Assistance Feature: Include an emergency assistance feature that provides contact information for local emergency services, hospitals, and embassy services.
4. **Language Support Services:**  
   Offers language support for communication between diverse stakeholders. Reduces communication barriers for international students. Ensures effective communication, especially for students who may face language challenges.
   1. Multi-Language Support: Provide multi-language support to cater to the diverse linguistic backgrounds of international students and landlords.
5. **Community Building Features:**  
   Facilitates the creation of communities and forums for students in shared accommodations. Fosters a sense of community and support among international students. Addresses the potential isolation of international students by creating opportunities for social connections.
   1. Community Forums: Create community forums where students can share advice, tips, and experiences related to accommodation and university life.

## Excited to Have Features:

1. **Virtual Campus Tours:**   
   Provides virtual tours of campuses and surrounding neighborhoods. Helps students familiarize themselves with the environment before arriving. Enhances the pre-arrival experience, reducing uncertainty about the local surroundings.
   1. Virtual Tours: Enable landlords to upload virtual tours of their properties, providing students with a more immersive experience before making a decision.
2. **Cultural Events Calendar:**   
   Offers a calendar of cultural events and activities in the city. Encourages students to engage in local cultural experiences. Enhances the overall cultural integration of international students.
3. **Green Living Certification:**   
   Certifies accommodations that adhere to environmentally friendly practices. Promotes sustainable living choices among students. Addresses the growing concern for sustainable and eco-friendly housing options.
4. **Personalized Mentorship Program:**  
   Matches incoming students with experienced mentors. Provides guidance and support for new international students. Eases the transition process and ensures a smoother adjustment to the new environment.
5. **Integration with Local Services:**   
   Integrates with local services such as transportation and healthcare. Enhances the overall support system for international students. Ensures that students have easy access to essential local services, promoting a more comfortable stay.
   1. Integration with Public Transportation Information: Integrate real-time public transportation information to help students assess the convenience of an accommodation's location.

# Metrics:

**Engineering Matrices(EM):**

| **Matrics** | **Effort in Person Days** | **Cost in USD** |
| --- | --- | --- |
| 1 | 5 | 2000 - 2400 |
| 2 | 10 | 4000 - 4800 |
| 3 | 15 | 6000 - 7200 |
| 4 | 30 | 12000 - 14400 |
| 5 | 30+ | 24000 - 28800 and onwards |

Engineering Capcaity:

| **Role** | **Qunatity** |
| --- | --- |
| UI Designer | 1 |
| Full Stack Developer | 3 |
| QA | 1 |

Project Phases:

## Phase 1: Proto Typing the product for each phases

In this phase, the focus is on creating a prototype of the platform using Figma design. The prototype will include the Must-Have, Desire-to-Have, and Excited-to-Have features. This prototype will be reviewed with the client for feedback and approval before moving forward with development. During this phase, all client requirements will be finalized and frozen.

| **Task** | **EM** |
| --- | --- |
| - Requirement gathering to set the scope of the project - Develop Figma designs for Must-Have, Desire-to-Have, and Excited-to-Have features. | 2 |
| Conduct a review session with the client for feedback on the prototype. | 1 |
| Make necessary revisions based on client feedback. Obtain final approval from the client for the prototype. | 1 |

**Estimated time:** 20 days/person ( ~ 20 days based on resource capacity)

**Estimated cost:** USD 4,000 - 4,800

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## Phase 2: Delivering Must-Have Features

| **Task** | **Sub Task** | **EM** |
| --- | --- | --- |
| Domain setup | Domain setup along with Email, SMTP, Securing domain | 1 |
| Infra Setup | Setup the Infra for Project which includes AWS account, Databases, Frontend, Backend, Code bases repo, Project Tracker, Monitoring system. | 2 |
| Accommodation Database | User Authentication | 2 |
|  | Search and Filter Functionality | 2 |
|  | Accommodation Listings | 3 |
|  | Integrated Maps | 2 |
|  | User Profile Management | 2 |
| Communication Hub | Messaging System | 3 |
|  | Secure Payment Gateway | 2 |
| Safety and Reliability Ratings | Verification Mechanism | 2 |
|  | Review and Rating System | 2 |
| Integration with University Systems | Guarantor Service | 2 |
|  | Integrated University Partnerships | 2 |
| Legal Assistance Resources | Legal Guidance Section | 1 |

**Estimated time:** 140 days/person ( ~ 52-60 days based on resource capacity)

**Estimated cost:** USD 56,000 - 67200

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## Phase 3: Delivering Desire to Have Features

| **Task** | **Sub Task** | **EM** |
| --- | --- | --- |
| Cultural Matching Algorithm | AI-Powered Recommendations | 3 |
| Budget Optimization Tool | Budget Calculator | 2 |
| Emergency Assistance Integration | Emergency Assistance Feature | 2 |
| Language Support Services | Language Support Services | 2 |
| Community Building Features | Community Forums | 2 |

**Estimated time:** 55 days/person ( ~ 20 days based on resource capacity)

**Estimated cost:** USD 22,000 - 26,400

## Phase 4: Delivering Excited to Have Features

| **Task** | **Sub Task** | **EM** |
| --- | --- | --- |
| Virtual Campus Tours | Virtual Tours | 3 |
| Cultural Events Calendar | Cultural Events Calendar | 2 |
| Green Living Certification | Green Living Certification | 2 |
| Personalized Mentorship Program | Personalized Mentorship Program | 2 |
| Integration with Local Services | Integration with Public Transportation Information | 2 |

**Estimated time:** 55 days/person ( ~ 20 days based on resource capacity)

**Estimated cost:** USD 22,000 - 26,400

# Infrastructure Cost

**Once time cost:**

| **Items** | **Description** | **Estimated Cost in USD** |
| --- | --- | --- |
| Domain | Domain + Email + Domain Protection for 1 year | 10 - 30 |

**Monthly recurring time cost:**

| **Items** | **Description** | **Estimated Cost in USD/month** |
| --- | --- | --- |
| Email Service[Send Grid] | ~50,000 emails/mo | 20 |
| AWS EC2 instances t2 | For 2 environment (Product and Development) need total 4 instances(~$25/instance) | 100 |
| AWS S3 storage | 100 GB Storage (Pay as use) | 5 - 10 |
| Database | 10 GB Storage | 10 |
|  | **Total** | **~140** |

Monthly recurring cost will be ~ USD 140 per month. Also the cost varies based on the usage.