**Design Thinking Project Workbook**

**Don't find customers for your product but find products for your customers**

**1. Team**

**Team Name:**  
Campus Click

**Team Logo (if any):**

**Team Members:**

1. [Krithika, Backend, 83092 10156]
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**2. Problem/Opportunity Domain**

**Domain of Interest: College, work place, school, etc.**

### **Description of the Domain:** Key Elements

1. **QR Code Integration**: Using QR codes for quick and accurate attendance marking makes it easy for students and employees to register their presence.
2. **Database Management**: Leveraging MongoDB to store attendance records, user profiles, and event data ensures quick access and real-time updates.
3. **User Interface**: A clear, intuitive web interface for users to view events, scan QR codes, and track attendance status.
4. **Role-based Access Control**: Different access levels for admins, organizers, and attendees to manage data privacy and system security.

### Challenges

1. **Real-time Data Sync**: Ensuring that attendance is updated immediately after QR scans, especially during large events, requires a well-designed backend.
2. **Security and Data Integrity**: Preventing misuse, like unauthorized scans or duplicates, and ensuring secure access for all roles in the system.
3. **Scalability**: Handling high traffic when multiple users scan simultaneously or when events are large.
4. **Device Compatibility**: Ensuring the app works smoothly on various mobile devices and browsers.

### Opportunities

1. **Enhanced User Experience**: Reduces manual work, simplifies attendance tracking, and allows easy access to attendance records for students and administrators.
2. **Data Analytics**: Track participation trends, attendance patterns, and engagement levels across events, which can inform better event planning.
3. **Integration with College Systems**: This solution could integrate with existing student portals or LMS, extending its utility across academic administration.
4. **Environmental Impact**: Reduces paper usage and waste associated with manual attendance.

**Why did you choose this domain?:**

· **Solving a Specific Pain Point**: Managing attendance at college events manually is time-consuming and error-prone, especially for larger groups. This project addresses a common, tangible problem by offering an efficient alternative that benefits both students and college administrators.

· **Market Potential in Academic Institutions**: With many institutions shifting towards digital solutions, CampusClick has the potential for wide adoption as it meets a real need. Colleges are increasingly looking for ways to streamline operations, and an easy-to-use system for attendance tracking could be appealing across the education sector.

· **Focus on User Experience and Engagement**: CampusClick can also contribute to student engagement by simplifying their interaction with event organizers and creating a seamless attendance experience. This aligns well with the ongoing trend in educational technology that emphasizes better student and staff experiences.

· **Scalability for Broader Applications**: Beyond college events, the system could scale to other educational and professional settings where attendance tracking is essential. This potential for broader applications makes the project strategically significant, positioning it for future expansion.

**3. Problem/Opportunity Statement**

**Problem Statement:**

In college environments, events such as seminars, workshops, and guest lectures are vital for student development and networking. However, manually recording attendance for these events is challenging, especially with large groups. Traditional attendance methods involve signing sheets, which are inefficient, prone to human error, and require significant administrative time. Additionally, verifying attendance data can be time-consuming, leading to delays and potential inaccuracies in records.

The lack of a streamlined, reliable attendance system also impacts student experience and engagement, as long queues and manual processes can deter participation. For administrators, verifying attendance records after the event can be tedious, and these processes often require subsequent digitization for record-keeping.

Given this context, there is a clear need for a solution that simplifies attendance tracking, provides real-time records, and ensures accuracy. CampusClick addresses this by offering a QR code-based system, where students can quickly scan to mark their presence. This minimizes administrative load, improves data accuracy, and creates a seamless, digital experience for both students and staff, ultimately fostering more efficient event management and enhanced student engagement.

**Problem Description:**

The primary challenge CampusClick addresses is the inefficiency of manually tracking attendance at college events, which is time-consuming, error-prone, and inconvenient for both students and administrators. Traditional methods, such as sign-in sheets, create bottlenecks at events, require substantial post-event administrative work, and are often inaccurate. CampusClick solves this by implementing a QR code system, enabling students to scan and automatically register their attendance, thus streamlining the process, ensuring real-time accuracy, and reducing administrative workload.

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**Context (When does the problem occur):**

· **Large-Scale Events and Workshops**: In events with a high number of attendees, such as guest lectures, career fairs, or workshops, it becomes increasingly difficult to track attendance manually. Long lines and crowding around sign-in sheets can occur, leading to delays and frustration among students and staff.

· **Limited Time for Attendance Verification**: Events often have limited time, especially when held between regular class schedules. Manually recording attendance in these situations is both time-consuming and inefficient, creating pressure to manage both attendance and event logistics smoothly.

· **Frequent and Recurring Events**: Colleges host numerous events throughout the semester, from departmental seminars to extracurricular activities. Regularly taking manual attendance adds a recurring administrative burden and often results in inaccuracies due to repetitive data entry.

· **Mandatory Attendance Tracking for Credits or Certifications**: Some events require attendance records to issue credits, participation certificates, or fulfill course requirements. Manual tracking in these cases is prone to errors, which can directly impact students’ academic records or their eligibility for certification.

· **Need for Real-Time Attendance Monitoring**: During events that require real-time tracking—such as ongoing workshops where instructors need to ensure that attendees are present from start to end—manual methods fall short as they cannot provide up-to-date information efficiently.

· **Multi-location Events or Parallel Sessions**: Events held in multiple locations or involving concurrent sessions create logistical challenges for attendance tracking. Manually moving between locations or handling separate attendance sheets for each session adds complexity and increases the chance of mistakes.

**Alternatives (What does the customer do to fix the problem):**

· **Manual Sign-in Sheets**: The most common method involves students signing a paper sheet upon entry, which is later digitized by event organizers. However, this is time-consuming, prone to human error, and can lead to issues with data integrity, especially for large events.

· **Barcode or RFID Card Scanners**: Some institutions use barcode or RFID cards for student identification. Students swipe or scan their ID cards at entry points to register attendance. However, these systems often require costly hardware installations and may not support real-time attendance tracking.

· **Mobile Check-In Apps**: Some schools utilize general mobile attendance apps that allow students to check in via GPS or Bluetooth when they’re within range. While these can automate the process to some extent, they may not be reliable for indoor events, where GPS signal accuracy can be limited.

· **Biometric Attendance Systems**: Larger institutions may use biometric systems (e.g., fingerprint or facial recognition) to track attendance at events. However, these systems are costly to install, raise privacy concerns, and require maintenance. They are also less flexible and don’t support remote check-ins for virtual events.

· **Manual QR Code Scanning**: Some organizers generate QR codes that link to Google Forms or attendance forms for students to scan. However, this still involves manual form submissions and may lack the automation and integration required for real-time, secure tracking and reliable data storage.

**Customers (Who has the problem most often):**

· **Students**: Students are directly impacted as they are required to mark their attendance at various college events. Traditional attendance methods can be inconvenient, leading to delays and frustration, especially in large gatherings. A digital solution would provide them with a quicker, more convenient way to register their presence, freeing up time and reducing hassle.

· **College Administrators and Event Organizers**: College staff responsible for organizing events and tracking attendance face a significant workload with manual attendance systems. They often have to manage sign-in sheets, manually verify attendance, and digitize records afterward, which is time-consuming and error-prone. CampusClick’s automated solution reduces this administrative burden, improves accuracy, and allows them to focus on other event logistics.

· **Academic Departments and Program Coordinators**: Departments that track event attendance as part of academic or extracurricular requirements benefit from more reliable and easily accessible attendance records. This helps them enforce participation policies more effectively and gather accurate data for evaluating student engagement.

· **IT and Data Management Teams**: Teams responsible for managing digital records are affected by the reliability of attendance data and the ease of data integration into existing systems. CampusClick’s solution could simplify data handling, reduce the need for manual data entry, and enable seamless integration with other campus systems.

· **Event Attendees Beyond Students**: In some cases, college events are attended by guest speakers, alumni, or industry partners who also need to be registered. A digital attendance system like CampusClick provides a professional and streamlined experience, creating a positive impression and facilitating smooth event management for all attendees.

**Emotional Impact (How does the customer feel):**

· **Frustration with Inefficiency**: Students and administrators often feel frustrated with the time wasted during manual attendance-taking, especially when long queues form at event entrances. This can detract from the excitement of the event and leave attendees feeling impatient and annoyed.

· **Anxiety Over Missed Attendance**: Students may feel anxious about missing attendance if they arrive late or encounter technical issues with traditional systems. With attendance sometimes linked to participation credits or grades, this anxiety can increase, especially if errors occur during manual entry.

· **Annoyance from Repetitive Processes**: Faculty and staff often feel the repetitive nature of manual attendance is burdensome. Collecting, verifying, and digitizing attendance data afterward adds unnecessary workload, leading to fatigue and a sense of inefficiency.

**Alternative Shortcomings (What are the disadvantages of the alternatives):**

· **Time Wasted on Manual Processes**:

* **Event Setup and Management**: For each event, setting up a manual attendance process requires significant prep time. Event organizers often spend an additional 15-20 minutes per event preparing sign-in sheets or attendance lists.
* **Post-Event Verification**: After events, college administrators spend hours verifying attendance records and entering them into databases, leading to approximately 3-4 hours of additional work per event for larger gatherings. This becomes unmanageable with frequent events, adding up to dozens of hours each semester.

· **Financial Costs**:

* **Paper and Printing Costs**: Manual attendance sheets require printing and storage, which, for larger institutions, can add up to $500-$1000 per year in paper and printing expenses.
* **Increased Administrative Costs**: Additional labor costs are incurred when staff are tasked with manually managing, verifying, and digitizing attendance records. This is especially costly in larger colleges, where labor costs for these tasks could exceed $2,000 annually.

· **Reduced Student Engagement**:

* **Decreased Attendance and Participation**: Long lines and tedious sign-in processes can discourage students from attending events. This can lead to lower turnout and less engagement, potentially reducing the impact of events on student development and college community building.

**3. Addressing SDGs**

**Relevant Sustainable Development Goals (SDGs):**

· **SDG 4: Quality Education**  
By simplifying attendance tracking, CampusClick supports the accessibility and quality of educational experiences. Efficient attendance management allows institutions to focus more on delivering quality education rather than administrative tasks, contributing to better learning environments.

· **SDG 9: Industry, Innovation, and Infrastructure**  
The project promotes innovation in educational infrastructure through the integration of technology for attendance management. This aligns with the goal of building resilient infrastructure and fostering innovation in institutions.

· **SDG 12: Responsible Consumption and Production**  
By reducing the reliance on paper for attendance tracking (e.g., sign-in sheets), CampusClick contributes to responsible resource management and waste reduction. This aligns with the goal of ensuring sustainable consumption and production patterns.

· **SDG 17: Partnerships for the Goals**  
Implementing a system like CampusClick encourages collaboration between educational institutions and technology developers. This fosters partnerships that can enhance educational outcomes and drive further innovations in the sector.

**How does your problem/opportunity address these SDGs?:**

**Quality Education (SDG 4)**:  
By streamlining attendance tracking through the CampusClick project, educational institutions can enhance the overall quality of education. Efficient attendance management allows for better monitoring of student participation in events, which can lead to improved engagement and learning outcomes. This fosters an inclusive environment where students are more likely to attend educational activities, ultimately enhancing their learning experiences and opportunities.

**2. Decent Work and Economic Growth (SDG 8)**:  
The CampusClick system can help create more efficient administrative processes in colleges, reducing the time and resources spent on manual attendance. This efficiency can allow staff to focus on other critical tasks, improving productivity and contributing to a more effective educational workforce. By enhancing operational efficiency, institutions can allocate resources better and potentially reinvest savings into educational programs.

**4. Stakeholders**

Answer these below questions to understand the stakeholder related to your project

1. **Who are the key stakeholders involved in or affected by this project?**

· **Students**: The primary users of the system who will scan QR codes to mark their attendance. Their experience and satisfaction with the system are crucial for its success.

· **Faculty and Event Organizers**: These individuals are responsible for planning and executing events. They will rely on the system for tracking attendance and ensuring accurate participation records.

· **College Administrators**: They oversee event management, resource allocation, and attendance reporting. Administrators will benefit from improved efficiency in attendance tracking and data management.

· **IT Support Staff**: Responsible for maintaining the technical infrastructure of the CampusClick system, ensuring its smooth operation, and providing support to users as needed.

· **Parents and Guardians**: They may be indirectly affected by the project, as attendance tracking can impact students' academic records and overall engagement in college activities.

· **College Leadership and Decision-Makers**: Individuals at the administrative level who may influence the adoption and funding of the CampusClick project, recognizing its potential to improve operational efficiency and enhance student services.

1. **What roles do the stakeholders play in the success of the innovation?**

· **Students**:

* **Primary Users**: They will directly interact with the QR code system to mark their attendance. Their feedback and usage patterns are crucial for improving the app's functionality and user experience.
* **Advocates for Adoption**: If students find the system beneficial and easy to use, they can influence their peers and encourage widespread adoption, increasing overall attendance and engagement at events.

· **Event Organizers/Faculty**:

* **Facilitators**: They play a key role in implementing the QR code system at events. Their cooperation in using and promoting the technology is essential for its success.
* **Feedback Providers**: Organizers can provide insights on how the system performs during events, suggesting improvements based on their experiences and needs.

· **College Administration**:

* **Decision Makers**: They are responsible for approving and funding the project. Their support ensures the necessary resources are allocated for development and implementation.
* **Policy Makers**: Administrators can help integrate CampusClick into existing systems and processes, ensuring it aligns with institutional policies and enhances operational efficiency.

1. **What are the main interests and concerns of each stakeholder?**

· **Students**

* **Interests**:
  + Quick and easy attendance marking without lengthy manual processes.
  + Immediate feedback on their attendance status for events.
  + Assurance of data privacy regarding personal information.
* **Concerns**:
  + Technical issues with QR code scanning (e.g., phone compatibility or internet access).
  + Security of personal data and potential misuse of information.
  + Potential inaccuracies in attendance records that could affect academic standings.

· **College Administrators**

* **Interests**:
  + Streamlining the attendance process to save time and reduce administrative burden.
  + Access to accurate, real-time attendance data for reporting and planning.
  + Enhancing overall event participation and engagement among students.
* **Concerns**:
  + Reliability of the QR code system, including the potential for misuse or tampering.
  + Training staff and students on using the new system effectively.
  + Data security and compliance with regulations regarding student information.

· **Event Organizers**

* **Interests**:
  + Efficiently tracking attendance to measure event success and student engagement.
  + Gaining insights from attendance data for future event planning.
  + Receiving real-time attendance reports to manage event flow.
* **Concerns**:
  + Dependence on technology; any technical failure could disrupt the event.
  + Need for effective communication to ensure students are aware of the QR code process.
  + Addressing any issues with students who may not have smartphones or QR code scanning capabilities.

1. **How much influence does each stakeholder have on the outcome of the project?**

· **Students**

* **Influence Level**: High
* **Impact**: As the primary users of the attendance system, student engagement and satisfaction are critical. If students find the QR code scanning process easy and efficient, it will lead to higher participation rates and overall success of the system. Their feedback will be essential for ongoing improvements.

· **College Administrators**

* **Influence Level**: High
* **Impact**: Administrators have the authority to approve and implement the CampusClick project. Their support is crucial for the system's adoption and integration into existing processes. They will also assess the system's effectiveness and decide on potential further funding or enhancements.

· **Event Organizers/Faculty**

* **Influence Level**: Medium to High
* **Impact**: Faculty and event organizers will rely on the system for managing attendance at their events. Their acceptance and endorsement of the system will influence its usage among students. They can provide valuable insights into features that would enhance functionality.

1. **What is the level of engagement or support expected from each stakeholder?**

· **Students**

* **Engagement Level**: High
* **Support Expected**: Students are expected to actively participate by scanning QR codes to mark their attendance. Their feedback will be crucial for improving user experience and functionality. Encouraging students to embrace the system can enhance engagement and compliance.

· **College Administration**

* **Engagement Level**: Moderate to High
* **Support Expected**: Administrators are expected to support the implementation of the CampusClick system by promoting its use among students and faculty. They should also facilitate training sessions for staff on how to use the platform effectively. Their backing is essential for institutional acceptance and smooth operational integration.

· **Event Organizers (Faculty/Staff)**

* **Engagement Level**: High
* **Support Expected**: Event organizers will need to actively utilize the system during events, ensuring that QR codes are generated and displayed appropriately. Their support in promoting the system's benefits to students will also be vital for increasing adoption rates.

1. **Are there any conflicts of interest between stakeholders? If so, how can they be addressed?**

· **Students vs. Administrators**:

* **Concern**: Students may prefer anonymity or privacy regarding their attendance, while administrators may seek comprehensive data analytics to assess participation and engagement.
* **Resolution**: Implementing robust privacy policies and offering students the option to opt-in to data sharing can help balance these interests. Transparent communication about how attendance data will be used can build trust.

· **Event Organizers vs. Students**:

* **Concern**: Organizers may want to enforce attendance as part of event requirements, while students may feel pressured or burdened by mandatory attendance.
* **Resolution**: Establish clear guidelines for attendance requirements upfront and provide incentives for participation, such as certificates or rewards, to encourage engagement rather than enforcing strict mandates.

1. **How will you communicate and collaborate with stakeholders throughout the project?**

· **Identify Stakeholders**:

* **Students**: End users who will interact with the QR code system.
* **Faculty and Staff**: Event organizers who will use the system to track attendance.
* **IT Department**: Technical support and infrastructure management.
* **Administrative Staff**: Responsible for record-keeping and reporting.

· **Regular Meetings**:

* **Kick-off Meeting**: Start with a meeting to align on project goals, scope, and timelines.
* **Weekly Progress Updates**: Hold regular check-ins to share updates, address concerns, and gather feedback.
* **Ad-hoc Meetings**: Schedule additional meetings as needed to discuss critical issues or changes.

· **Communication Channels**:

* **Email**: Use for formal communication, updates, and documentation.
* **Instant Messaging Tools**: Platforms like Slack or Microsoft Teams for quick communication and collaboration.
* **Project Management Tools**: Use tools like Trello, Asana, or Jira to track tasks, deadlines, and responsibilities. This keeps everyone informed about project status and progress.

1. **What potential risks do stakeholders bring to the project, and how can these be mitigated?**

· **User Resistance**:

* **Risk**: Students or employees may be resistant to adopting a new system, preferring familiar methods.
* **Mitigation**: Conduct training sessions and demonstrations to showcase the system’s ease of use and benefits. Providing user-friendly guides and offering support can help ease the transition.

· **Technical Issues**:

* **Risk**: Technical failures such as server downtime, QR code scanning failures, or app bugs can disrupt attendance tracking.
* **Mitigation**: Implement robust testing protocols before deployment, including stress testing for high-traffic scenarios. Regular maintenance and updates will be necessary, alongside having a support team ready to address any technical issues promptly.

· **Data Security and Privacy**:

* **Risk**: Handling sensitive student and employee data poses risks related to privacy breaches or unauthorized access.
* **Mitigation**: Ensure compliance with data protection regulations (e.g., FERPA) by implementing strong encryption, secure access controls, and regular audits. Educating users about data privacy can also promote trust.

· **Dependence on Technology**:

* **Risk**: Over-reliance on the technology could be problematic if there are connectivity issues or device compatibility problems.
* **Mitigation**: Offer alternative methods for attendance marking (e.g., manual entry) as a backup. Educate users about the importance of having their devices ready for the event.

**5. Power Interest Matrix of Stakeholders**

**Power Interest Matrix: Provide a diagrammatic representation of Power Interest Matrix**



* High Power, High Interest: [Stakeholder Names]
* High Power, Low Interest: [Stakeholder Names]
* Low Power, High Interest: [Stakeholder Names]
* Low Power, Low Interest: [Stakeholder Names]

1. **Empathy Map**
2. **Who is your Customer?**

#### Customer Profile

* **Age**: 18-24 years
* **Profession**: College students (undergraduate and graduate levels)
* **Interests**: Academic success, networking, participation in extracurricular activities, and overall campus engagement.

#### Goals and Needs

1. **Seamless Attendance Tracking**: Students desire a quick and easy way to mark their attendance without long queues or tedious manual processes.
2. **Real-time Updates**: They appreciate instant feedback confirming their attendance, providing peace of mind about their participation in events.
3. **Event Participation**: Students aim to engage in campus activities to enhance their learning experiences and build networks with peers and faculty.
4. **Time Efficiency**: They need solutions that save time, allowing them to focus more on their studies and other activities instead of administrative tasks.

#### Context of Interaction

Students will interact with the CampusClick solution primarily during events held on campus. They will use their smartphones to scan QR codes placed at designated attendance points, such as event entrances. The system will provide immediate feedback on their attendance status and may offer notifications or reminders about upcoming events. The user interface will need to be intuitive and accessible to ensure a positive experience for students with varying levels of technical proficiency.

1. **Who are we empathizing with?**

#### User Characteristics

**Personality**: Students are often characterized by their diverse personalities, ranging from motivated and proactive individuals to more reserved or distracted participants. Many are tech-savvy, comfortable using smartphones and digital tools.

**Values**: They value efficiency, convenience, and transparency in their academic and extracurricular activities. Students are also concerned about their time management, balancing academic commitments with social and personal responsibilities.

**Responsibilities**: Students juggle multiple responsibilities, including attending classes, completing assignments, and participating in events and extracurricular activities. They are also increasingly accountable for their attendance and participation in various college activities.

#### Goals and Challenges

**Goals**:

* + **Efficient Attendance Tracking**: Students seek a hassle-free way to mark their attendance without delays or long wait times.
  + **Engagement in Events**: They aim to participate actively in college events that enhance their learning and networking opportunities.
  + **Accessibility to Records**: Students want easy access to their attendance records for personal tracking or administrative requirements.

**Challenges**:

* + **Time Constraints**: With packed schedules, students often find it challenging to manage time effectively, making long attendance processes frustrating.
  + **Technical Barriers**: Some students may face issues with technology, such as device compatibility or lack of familiarity with QR code scanning.
  + **Motivation**: Maintaining motivation to attend events can be difficult if the attendance process feels cumbersome or if events are not perceived as valuable.

1. **What do they need to DO?**

· **Tasks and Actions**

* · **Scanning QR Codes**: Students must scan the designated QR code for each event they attend using their mobile devices. This is the primary method for marking their attendance.
* **Viewing Events**: Students need to access the platform to view upcoming events, including details such as time, location, and purpose, to plan their attendance accordingly.
* **Checking Attendance Status**: After scanning the QR code, students can check their attendance status for events to confirm their participation is recorded correctly.
* **Providing Feedback**: After events, students may be prompted to give feedback or rate their experience, contributing to continuous improvement of future events.

· **Decisions to Make**

* · **Event Selection**: Students must decide which events to attend based on their interests, schedules, and relevance to their academic goals.
* **Participation**: They need to decide whether to participate in events, weighing factors such as time commitment and perceived benefits.
* **Device Usage**: Students may need to choose whether to use personal devices or college-provided devices for scanning QR codes, based on convenience and accessibility.

1. **What do they SEE?**

#### Physical Environment

**Event Venues**: Students interact with various physical spaces on campus, such as lecture halls, auditoriums, or outdoor venues. These environments typically include signage, seating arrangements, and technology like projectors or screens that display event information.

**QR Code Displays**: At events, QR codes can be prominently displayed on banners, flyers, or digital screens. Their visibility and accessibility are crucial; clear placement ensures students can quickly locate and scan the codes, influencing their willingness to participate.

**Peer Interaction**: The physical presence of peers can also affect behavior. If students see others scanning the QR codes and actively engaging in the event, it may encourage them to do the same, creating a social validation effect.

#### Digital Environment

**User Interface**: In the digital space, students engage with the CampusClick web application or mobile interface. A clean, intuitive design featuring visually appealing elements like buttons, icons, and notifications enhances user experience, encouraging regular use.

**Notifications and Updates**: Digital alerts about upcoming events or reminders to scan QR codes can significantly impact attendance. Students are more likely to engage when they receive timely and visually appealing notifications.

**Competitors’ Solutions**: Students may notice competing attendance solutions or applications used at their college or by peer institutions. The visual appeal and user experience of these platforms can influence their perception of CampusClick. If competitors employ eye-catching designs or engaging user experiences, it may push CampusClick to prioritize aesthetic and functional design.

1. **What do they SAY?**

#### Open Conversations

**Comments on Attendance Issues**:

* 1. “Taking attendance always feels like a hassle, especially in large classes.”
  2. “I often forget to sign in when I'm busy, and I worry it affects my participation records.”

**Frustration with Current Systems**:

* 1. “I wish we could just scan something instead of waiting in line to sign a sheet.”
  2. “It’s frustrating when I miss an event just because I couldn’t find the attendance sheet!”

**Concerns About Accuracy**:

* 1. “I’m not sure if my attendance is being recorded accurately; sometimes I don’t see my name on the list after an event.”
  2. “It’s annoying when attendance data gets lost or mixed up; it can impact my grades!”

#### Expressions of Goals and Frustrations

**Desire for Convenience**:

* 1. “It would be great to just pull out my phone and scan a code to mark myself present.”
  2. “I want a quick way to prove I attended events without wasting time.”

**Need for Real-Time Updates**:

* 1. “I’d love to see my attendance status right after I scan in; that would really help me keep track.”
  2. “Getting instant confirmation that I’m marked present would give me peace of mind.”

**Feedback on Potential Solutions**:

* 1. “If we had a QR code system, it would definitely make things easier for everyone.”
  2. “I think a mobile app for attendance would be super helpful; I’d use it all the time!”

1. **What do they DO?**

**Scanning QR Codes**: During events, students actively scan QR codes with their mobile devices to mark their attendance. This action is quick and straightforward, allowing them to participate without delay.

**Checking Event Schedules**: Students regularly check their college event calendars or platforms to stay informed about upcoming activities they might want to attend.

**Engaging with Digital Interfaces**: They navigate through user-friendly interfaces to find events, view attendance history, and sometimes provide feedback on the events they attended.

**Participating in Group Activities**: Students often engage in discussions or group projects during events, contributing to a collaborative atmosphere and enhancing their overall experience.

**Habits and Routines**

**Pre-Event Planning**: Many students plan their attendance ahead of time, deciding which events align with their interests and academic goals.

**Last-Minute Attendance**: Some students may decide to attend events spontaneously based on peer recommendations or social media updates, requiring a quick attendance marking process.

**Habitual Use of Mobile Devices**: As tech-savvy individuals, students are accustomed to using their smartphones for various tasks, including scanning QR codes, checking emails, and accessing event information.

**Feedback Sharing**: After attending an event, students may habitually share their experiences on social media or directly with peers, influencing future attendance and event planning.

**Problem-Solving Actions**

**Seeking Alternative Attendance Methods**: If manual attendance is cumbersome, students might suggest alternative methods like online sign-ins or mobile apps to streamline the process.

**Requesting Digital Solutions**: Students may advocate for technological improvements or express their needs to college administrators, pushing for systems that facilitate easier participation in events.

**Peer Support**: They often collaborate with friends or classmates to keep each other informed about events, which helps them navigate attendance efficiently.

**Engaging in Feedback Mechanisms**: After experiencing issues with attendance tracking, students might participate in surveys or focus groups to provide feedback on how the process can be improved, contributing to the development of more effective solutions like CampusClick.

1. **What do they HEAR?**

#### Feedback from Peers and Colleagues

* **Peer Experiences**: Students often discuss their struggles with manual attendance systems during group projects or events, expressing frustration with long lines and inefficiencies. Many seek solutions that simplify the process.
* **Mentor Insights**: Mentors may highlight the importance of efficient attendance tracking as part of effective event management. They can share experiences from other institutions that have adopted digital solutions, emphasizing their benefits.

#### 2. Media and Channels of Information

* **Social Media**: Platforms like Instagram, Twitter, and LinkedIn serve as channels where students engage with tech trends, share experiences, and discover new tools for managing academic life. Discussions around educational technology often circulate on these platforms, influencing perceptions about digital attendance systems.
* **Educational Blogs and Websites**: Students may read articles and case studies on popular educational technology sites, exploring topics like efficiency in college administration and emerging solutions for attendance tracking.
* **Campus Newsletters and Bulletins**: Colleges often send newsletters or post on bulletin boards about new tools and initiatives aimed at improving student life, where solutions like CampusClick could be featured.

#### 3. Influencers Guiding Behaviour

* **Industry Leaders**: Influencers in the educational technology space, such as innovators or speakers at conferences, may promote the benefits of digital solutions, encouraging students and colleges to adopt new technologies for better efficiency.
* **Student Organizations**: Leaders of student organizations or event coordinators can drive adoption by advocating for streamlined attendance solutions during meetings and events. Their endorsement can influence their peers significantly.
* **Faculty and Administration**: Professors and administrators who recognize the benefits of a QR code-based attendance system may advocate for its use in their classes and events, thereby encouraging students to engage with the new technology.

1. **What do they THINK and FEEL?**

#### Fears, Worries, and Anxieties

**Fear of Missing Important Events**: Students worry about missing crucial academic or networking opportunities due to complications in the attendance process. This fear can lead to anxiety about their academic performance and involvement in campus life.

**Concerns Over Accuracy**: Many students have concerns about whether their attendance will be accurately recorded. Manual processes can lead to lost sign-in sheets or clerical errors, which might affect their grades or participation records.

**Anxiety About Participation**: Some students may feel anxious about attending events, especially if they believe that long wait times or complicated sign-in processes will deter their peers from attending, making the experience less enjoyable.

**Time Constraints**: Busy schedules often lead to anxiety about managing time effectively. Students may fear that inefficient attendance processes could lead to them being late for classes or other commitments.

#### Motivations and Desires

**Desire for Convenience**: Students are motivated by the desire for an easy, efficient way to mark their attendance. They want a quick solution that doesn’t require lengthy processes, allowing them to focus more on learning and engagement.

**Aspiration for Engagement**: Many students want to actively participate in events to enhance their learning and networking opportunities. A streamlined attendance process can help facilitate this by removing barriers to participation.

**Interest in Accountability**: Students appreciate systems that help them keep track of their participation in events. Being able to easily access their attendance records motivates them to engage more fully in campus activities.

**Seeking Innovation**: Today's students are tech-savvy and often prefer digital solutions over traditional methods. They are motivated by the availability of modern tools that enhance their experience.

1. **Pains and Gains**

**Time Consumption**: Students often find attendance-taking processes lengthy and tedious, especially during large events where they have to wait in line to sign a sheet.

**Inaccurate Records**: Manual attendance methods can lead to mistakes, such as missed signatures or incorrect data entries, causing confusion and frustration regarding their attendance status.

**Limited Engagement**: The cumbersome process of taking attendance can discourage students from attending events, resulting in missed opportunities for learning and networking.

**Difficulty in Tracking Attendance**: Students may have trouble keeping track of their attendance for different events, which can impact their participation grades or eligibility for certain programs.

#### Desired Outcomes

**Efficiency**: Students desire a quicker, more efficient way to mark attendance that eliminates the need for waiting in lines or filling out forms manually.

**Accuracy**: A system that ensures their attendance is accurately recorded without the risk of human error or lost records.

**Increased Engagement**: By simplifying the process, students would feel more motivated to attend events, leading to greater participation and a richer college experience.

**Ease of Tracking**: Students want a straightforward way to view and manage their attendance records, allowing them to monitor their participation in events easily.

#### Expected Benefits from CampusClick

**Streamlined Attendance Process**: With QR code scanning, students can mark their attendance instantly, saving time and reducing hassle.

**Reliable Attendance Records**: The digital system ensures that attendance is accurately logged in real-time, providing peace of mind to students about their attendance status.

**Improved Event Participation**: The ease of marking attendance may lead to higher attendance rates at events, fostering a more engaged student community.

**Access to Attendance Data**: Students can easily access their attendance history through the CampusClick platform, helping them stay informed about their participation and meeting requirements for courses or programs.

**8. Persona of Stakeholders**

**Stakeholder Name:**

**Demographics:**

· **Age**:

* · Primarily college students aged 18 to 24 years old. This group includes undergraduates, graduate students, and young professionals attending workshops or seminars.

· **Gender**:

* · Diverse gender representation, including male, female, and non-binary individuals. The solution should be inclusive and accessible to all.

· **Income**:

* · Generally low to moderate income, as many college students may rely on part-time jobs, parental support, or student loans to finance their education. Some may also be graduate students with varying income levels depending on their funding or employment status.

**Goals:**· **Students**:

* · **Ease of Attendance**: Students want a quick and hassle-free way to mark their presence at events without the delays associated with manual roll calls or sign-in sheets.
* **Accurate Attendance Records**: Assurance that their attendance is recorded accurately, which can be important for participation requirements or credits.
* **Real-time Feedback**: Ability to receive instant confirmation of their attendance status, improving their engagement and satisfaction with the event.

· **Event Organizers/Administrators**:

* · **Streamlined Attendance Management**: A desire for an efficient system that minimizes time spent on administrative tasks related to attendance tracking.
* **Reliable Data Analytics**: Access to detailed analytics and reports on attendance trends to help improve event planning and gauge student engagement.
* **Enhanced Security**: An interest in ensuring that attendance data is secure and accessible only to authorized personnel.

· **Educational Institutions**:

* · **Improved Student Engagement**: A goal to increase student participation in events through a user-friendly attendance system that encourages involvement.
* **Resource Optimization**: The need for a system that reduces the administrative burden on staff, allowing them to focus on more strategic tasks rather than manual data entry.
* **Integration with Existing Systems**: The interest in ensuring that CampusClick can easily integrate with other institutional systems, such as Learning Management Systems (LMS) or student information systems, to create a cohesive digital ecosystem.

**Challenges:**

**Students**

* **Lengthy Queues**: During popular events, students often face long lines to manually sign attendance sheets, which can deter them from participating or cause delays.
* **Misplacement of Records**: Manual records are prone to loss or damage, which can impact students' attendance records and participation requirements for courses or extracurricular activities.
* **Lack of Transparency**: Students may find it difficult to track their attendance status across multiple events, particularly if records are not updated promptly.

**2. College Administrators**

* **Time-Consuming Process**: Manually tracking and verifying attendance for large groups is labor-intensive, requiring hours of post-event record-keeping to ensure accuracy.
* **Human Error**: Manual processes often result in errors such as illegible signatures, duplication, or incorrect data entry, leading to inaccuracies in attendance records.
* **Data Entry Backlog**: Attendance sheets need to be digitized post-event, adding extra work and delay before data is fully available for reporting and analysis.

**Aspiration:**

· **Seamless Event Participation**: Students desire an effortless way to participate in events without the hassle of lengthy check-in processes. They want to focus on the event itself rather than worrying about attendance logistics.

· · **Real-Time Feedback and Recognition**: Students appreciate being recognized for their involvement in various activities. They would like systems that not only track attendance but also provide immediate feedback, such as earning points or certificates for participation, which can enhance their resumes or academic profiles.

· · **Access to Attendance Records**: Students want easy access to their attendance records for events they’ve attended. This transparency can help them track their involvement and ensure they meet any requirements for participation in future events or academic programs.

**Needs:**

· **Ease of Use**: The system must be user-friendly, allowing students and employees to quickly scan the QR code and mark their attendance without facing technical difficulties.

· · **Real-time Updates**: Attendance data should be updated in real time, ensuring that students receive immediate confirmation of their attendance status and administrators have access to up-to-date records.

· · **Security and Privacy**: The system must ensure that user data is secure, protecting personal information and attendance records from unauthorized access.

· · **Accessibility**: The application should be accessible on various devices (smartphones, tablets, laptops) and compatible with different operating systems to accommodate all users.

**Pain Points:**

· **Time-Consuming Attendance Processes**: Manually signing attendance sheets can be tedious, especially during busy events or lectures, leading to frustration as students wait in line to mark their presence.

· · **Errors in Attendance Recording**: Mistakes in manual attendance logging can occur, such as misspellings or missed signatures, which can lead to incorrect records. This can be particularly problematic for students who require attendance for course credits or participation records.

· · **Lack of Immediate Feedback**: After attending an event, students often have to wait for confirmation of their attendance status. This uncertainty can cause anxiety, especially if attendance is crucial for academic performance.

· · **Inconvenience in Tracking Attendance**: Students may find it challenging to keep track of their attendance across multiple events, particularly when records are managed separately by different departments or event organizers.

**13. Look for Common Themes, Behaviour Needs, and Pain Points among the Users**

Analyse the data from your affinity diagram to uncover recurring patterns among your users, helping you better understand their expectations and challenges.

**Common Themes:**

### **Efficiency and Time Savings**

* **Streamlined Processes**: Stakeholders consistently express the need for more efficient attendance tracking to save time for both attendees and organizers.
* **Immediate Updates**: Quick recording of attendance reduces the time spent on post-event administrative tasks.

### 2. **Accuracy and Reliability**

* **Minimizing Human Error**: Concerns about inaccuracies in manually recorded attendance highlight the need for a more reliable system.
* **Real-Time Data**: The ability to get instant confirmation of attendance supports accountability and better record-keeping.

### 3. **User Experience**

* **Ease of Use**: All groups emphasize the importance of a user-friendly interface, particularly for students who may not be tech-savvy.
* **Accessibility**: Ensuring the system is accessible on various devices and platforms is crucial for broad adoption.

### 4. **Engagement and Participation**

* **Encouraging Attendance**: Simplifying the attendance process can lead to increased participation in events.
* **Feedback Mechanism**: Collecting feedback from users post-event can help improve future experiences and engagement.

### 5. **Data Management and Analytics**

* **Centralized Attendance Records**: Stakeholders value having a single, organized location for attendance data that can be easily accessed and analyzed.
* **Insights for Improvement**: The potential for analyzing attendance trends to inform future event planning is seen as a valuable feature.

### 6. **Security and Privacy**

* **Data Security Concerns**: Users express the need for secure handling of personal data and attendance records to maintain privacy.
* **Role-Based Access**: Ensuring that only authorized personnel can access sensitive information is crucial for user trust.

**Common behaviours:**

· **Awareness and Interest**:

* · **Initial Reaction**: Students often express frustration with manual attendance methods, recalling experiences of long queues and forgotten sign-in sheets. Upon learning about CampusClick, there is typically a positive response due to the ease and convenience it promises.
* **Curiosity**: Many students show interest in how the QR code system works, particularly its integration into events they already attend.

· **Engagement During Events**:

* · **Quick Interaction**: During events, students quickly scan the QR code, which minimizes the time spent on attendance. They appreciate the simplicity of pulling out their phones and scanning rather than signing in manually.
* **Feedback**: Users often provide immediate feedback on their experience. They may comment on the speed of the process and express satisfaction with not needing to carry physical sign-in sheets.

· **Post-Event Reflection**:

* · **Data Access**: After events, students frequently check their attendance records. Positive responses emerge when users see their attendance accurately reflected in real time, and they express relief at having a digital record they can access easily.
* **Usage Patterns**: Regular users may start to engage more with college events, as the friction of attendance tracking has been reduced. They may even advocate for the use of the system in other campus activities.

**Common Needs:**

· **Convenience and Speed**: Users desire a quick and easy way to mark their attendance without the hassle of long lines or manual sign-ins. The ability to simply scan a QR code enhances the overall user experience.

· · **Real-time Updates**: Students want instant confirmation of their attendance after scanning the QR code. Knowing their presence has been recorded helps alleviate concerns about attendance discrepancies.

· · **User-friendly Interface**: A simple, intuitive design is crucial for users, allowing them to navigate the app or web interface effortlessly. Clear instructions for scanning and accessing events are important for user satisfaction.

· · **Event Notifications and Reminders**: Many students appreciate receiving notifications about upcoming events, including reminders to attend and information about the event itself, which helps improve participation rates.

· · **Access to Attendance Records**: Students often wish to track their attendance history for their personal records or to fulfill course requirements. Providing easy access to this information can enhance accountability.

· · **Privacy and Data Security**: Users are concerned about their personal information and attendance data. Ensuring robust security measures are in place to protect user data is a significant requirement.

· · **Integration with Existing Systems**: Many students value the ability to integrate attendance tracking with existing academic systems, such as learning management systems or student portals, to streamline their experience.

· · **Feedback Mechanism**: Students want a way to provide feedback on events they attended, which can help organizers improve future events and make the attendance tracking system more user-centric.

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**Common Pain Points:**

· **Long Wait Times**: Manually signing attendance sheets can lead to long lines, causing students to miss the start of events or feel frustrated by the delays.

· · **Privacy Concerns**: Traditional attendance methods often expose students' names and signatures to others, leading to concerns about privacy and data security.

· · **Inaccurate Records**: Mistakes in manual entries (like misspellings or illegible handwriting) can result in attendance inaccuracies, affecting students' records and participation credit.

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**14. Define Needs and Insights of Your Users**

**User Needs:**· **Easy Access to Events**: Students need a straightforward way to find and access upcoming events, ideally through a user-friendly interface on the web application.

· **Quick Attendance Marking**: The QR code system must allow students to scan and mark their attendance quickly without long wait times, ensuring they can participate without delays.

· **Real-time Confirmation**: Users want instant feedback that their attendance has been successfully recorded, providing reassurance and minimizing concerns about being marked absent.

· **Event History and Attendance Records**: Students require access to their past attendance records to monitor participation in events for personal tracking or academic requirements.

**User Insights:**

· **Behaviour Patterns**:

* · **Tech-Savvy Nature**: Most students are familiar with mobile technology and comfortable using apps for various functions, including attendance tracking. They often prefer quick, convenient solutions over traditional methods.
* **Social Engagement**: Students are more likely to attend events that align with their interests or provide networking opportunities, but long wait times or complicated check-in processes can deter participation.

· **Motivations**:

* · **Desire for Efficiency**: Students value systems that save time. They are motivated to use a solution that allows them to mark attendance quickly without disrupting their schedules.
* **Academic Responsibility**: Students are keen to maintain good attendance records as they understand its impact on grades and academic performance, making an efficient attendance system crucial for their success.
* **Convenience and Accessibility**: The ability to scan a QR code easily fits into their fast-paced lifestyles, allowing them to participate in events without the hassle of manual sign-in sheets.

· **Pain Points**:

* · **Frustration with Manual Processes**: Many students find the traditional attendance-taking process cumbersome, especially in large gatherings where signing in can take a long time.
* **Lack of Immediate Feedback**: Students often feel uncertain about whether their attendance has been recorded correctly. They prefer a system that provides instant confirmation of their attendance.
* **Anxiety over Attendance Tracking**: Concerns about maintaining attendance records for eligibility in certain courses or events add pressure. A seamless attendance system would alleviate this stress.