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Foodiestop

Background/ Introduction:

On a busy and bustling campus like on the campus of Urbana Champaign, food trucks are seen all over the campus and have become an essential part of student life on campus. This is also an important part of student campus culture because of its diverse ranges of food and selection, its convenience of quick food grabs between studying and breaks and affordable food options. However students oftentimes struggle to to locate these food trucks in real time making it hard to grab meals without walking to many different spots on campus hoping to find their favorite food trucks there. Along with the inconvenience of not being able to accurately locate the food trucks the struggle of finding out what is on the menu on these food trucks is often also a struggle. The only way of knowing is many rely on word of mouth, scattered social media posts, or a random lucky chance to discover where their favorite food trucks are parked. This lack of centralized and real time information poses challenges for both students and food truck vendors creating uncertainty around hours and availability.

Purpose:

The purpose of FoodieStop is that it provides a centralized, innovative and creative digital solution that helps students and staff on campus that allows everyone to easily discover, locate and interact with on campus food trucks. This application should be integrated with live time mapping, menu and vendor announcements. Some features for this application would be the vendors ability to post special deals and host deals such as buy one get one, two for a certain price and many other possible deals and coupons. Another feature that this application would feature would be how users are able to save their favorite food truck and receive notifications from the food truck including deals or proximity based on the users choice. Overall this application will be able to foster a more dynamic relationship between vendors and their customers, allowing an increase for accessibility and convenience.

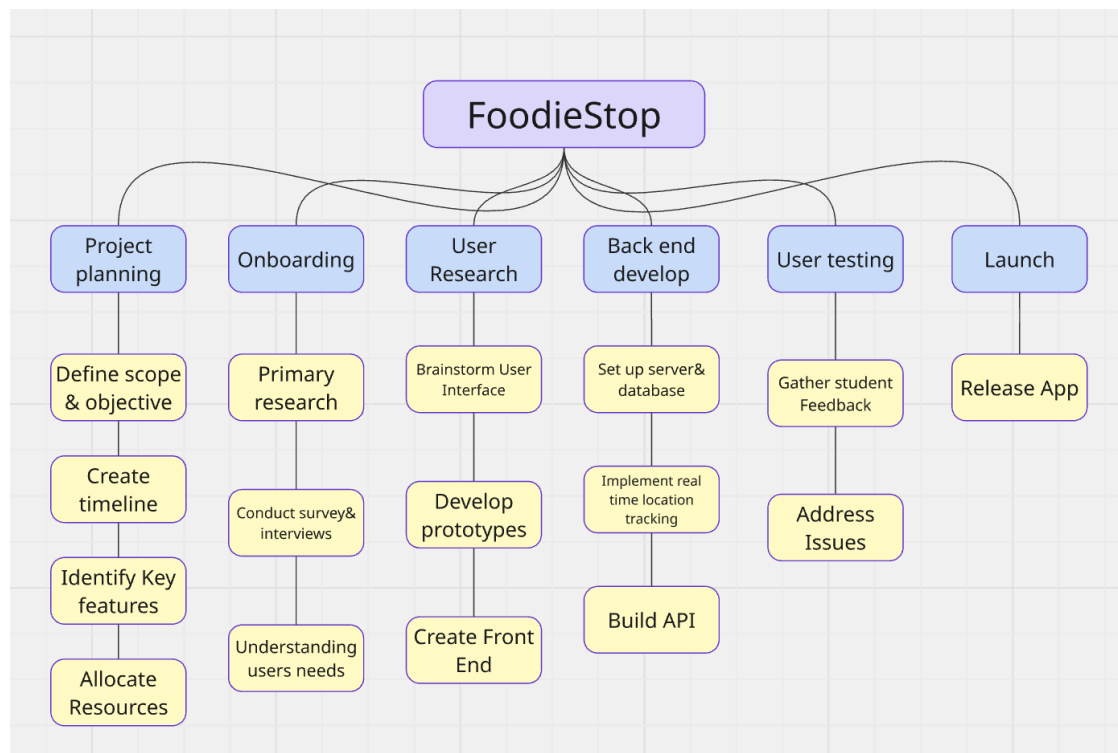
Vision Statement

FoodieStop is a live, student centered campus food discovery application that strives as the purpose of a creative and innovative solution to improve campus lifestyle. The food app provides real time location, hours, menus, and updates for UIUC's food trucks. It connects food lovers with their favorite mobile eateries while giving vendors tools to market their offerings, promotion deals, and reach many hungry college students more effectively.

Target Audience

The target audience for this application are mainly campus students who often find delicious and quick bites. The other target audience are faculty and staff at UIUC who seek convenient access to food and truck information. Food truck vendors are also a target audience as they are able to reach more customers and simplify communication. Last set of target audience are visitors, parents and prospective students who are exploring food options on campus.

Organizational Workflow



Features/ Phases:

Phase 1: Project planning (Week 1-2)

- Over the first week we define MVP features: live map, vendor profile, real time location sharing, menu, notifications, user favorites category.
- Create and develop a development roadmap and success metrics.
- Organize tasks and objectives for a successful and effective team.

Phase 2: Onboarding (Weeks 3-4)

- Assemble a team of 2 UI/UX designer and 4 developers so a total of 2 front end and 4 backend developers.
- Acquiring a full rounded team that understands the objective of this application along with effective use of tools such as Figma, GitHub, Slack, AWS, Mapbox, and potential coding program languages.

Phase 3: User Research (Week 5-6)

- Collect primary data by interviewing and surveying students on food truck discovery habits
- Conduct 50 survey from students on the UIUC campus from different locations
- Interview 5-10 food truck vendors about marketing, scheduling and current pain points as a whole.

Phase 4: Design and Front End Development (Weeks 7-10)

- Build an intuitive user interface for campus map, menu browsing, notifications and restaurant favoriting/ saving.
- Use React, HTML/CSS and other resources for responsive design

Phase 5: Back End Development (Weeks 9-12)

- Use programming languages such as Node.js and SQL to organize scalable user/vendor data management
- Implement real time map updates using GPS APIs and vendor dashboards
- Vendors can create accounts to update menus, hours and post promotions or different deals.

Phase 6: User Testing (Week 13-14)

- Conduct test sessions with students and vendors using version 1 of the application that was developed
- Collect feedback on ease of use, accuracy and interest in features like favorites tracking and notifications.

Phase 7: Beta Testing (Weeks 15-16)

- Partner with selected vendors to test real time features
- Finalizing adjustments before release

Phase 8 : Launch (Week 17)

- Official release to the UIUC community
- Release and market throughout the community through flyers, student organizations, social media and other promotions.

Technical Debt

The technical debt that is anticipated for this project includes incomplete API documentation for vendor dashboard, missing GPS error handling and non optimized load time for campus maps. Overtime if these issues are not properly managed this could result in performance issues. Along with that it can also result into issues such as poor user use, contributor confusion, and overall failure in gaining users for the application. Plans to mitigate technical debt includes structured documentation updates, implementation of unit and integration testing, and clear issue tracking using clear and easy applications. Scheduled inspection will include refactoring sessions especially for GPS tracking and vendor login and authentication features.

Open source Collaboration

FoodieStop is envisioned as a creative innovative and vibrant open-source project hosted on GitHub, welcoming all UIUC students, alumni, and global contributors passionate about campus technology solutions. With clear contribution guidelines, pull request templates, and code documentation will ensure consistency and quality. The project will also support community lead development by offering starter and beginner tasks and issues for beginners who want to tackle these tasks, fostering beginner learning. Additionally there is a plan to host a on campus

hackathon challenges and development meetup for all students who are interested and to also onboard new contributors and create a collaborative ecosystem.

A strong open-source feedback loop is essential to the success of FoodieStop. Community contributors ranging from developers and designers to everyday users, play a pivotal role by submitting suggestions, bug reports, and new feature ideas via GitHub. These inputs are reviewed by core maintainers and often tested in a beta environment with real users on the UIUC campus. Feedback is collected through in-app surveys, user interviews, and issue tracking. This continuous loop of contribution, testing, and iteration ensures the platform evolves based on real-world needs.

For this community we aim to build a collaborative contributor network where UI/UX designers can also submit new layout proposals for updates and other theme changing ideas. The developers can build modular extensions such as food preference filters and sustainability ratings on the food. Along with that data analyst can create reports based on user engagement and long term goals include forming a core maintainer team to review and merge pull request, upholding security standards and prioritize user focused improvements.

This open source direction also enables the application to be adapted by other university students on other university campuses. In the future this can create a scalable food discovery framework for universities nationwide. This can also allow further expansion of this application advancing it to a bigger map and locations around the world.

Challenges:

- **Vendor engagement:** Many of the food truck owners have limited time or limited digital knowledge to regularly update their profile or set up such an application. It can also be an issue in trying to set up the menu items and promotions to keep users engaged and interested. Developing an intuitive vendor dashboard, combined with optional SMS updates or push notifications reminders will be critical in maintaining accurate app data.
- **GPS accuracy:** Ensuring that the real time truck positioning is accurate and up to date is essential to if this application will work to the best of its abilities. This will require ongoing

work with GPS APIs, error handling, and map performance testing, especially in areas with poor signal conditions or low power mobile devices.

- **User retention and engagement:** This application is made to create better engagement and convenience between students and food truck vendors so an main challenge would be user retention and motivation. While students initially download the application for use when looking at long-tem engagement and usage will depend on the different content and aspects of the application feature. Having features that will keep students engaged will be essential when it comes to retention. Features such as favorite truck notifications, flash deal alerts, and review comment systems will help encourage repeated engagement. UI/UX design will also improve engagement along with the change in themes and other fun features for the application.
- **Scalability for multiple campus:** As this application can serve as a pilot for the launch of this application in many campuses starting at UIUC. As this application success at UIUC and with its success future iterations may be adopted by other universities. This introduces additional technical and design complexity around filtering, data security, and institution specific vendor validation. Maintaining modular code and data security will be necessary to support this growth.
- **Governance of open source contributions:** Without clear structures open source projects will risk fragmented development or inconsistent quality. FoodieStop will implement a tiered review process for contributors, including peer review, automated code checks, and monthly sync ups to align community direction with project vision. This way it will allow a full rounded safe and collaborative community. Contributor codes of conduct and style guides will be essential to keep contributions consistent and aligned with the long-term vision.

Conclusion

FoodieStop aims to better engage students with campus dining by centralizing the fragmented food truck experience into a user-friendly, real-time platform. The application addresses key visibility, accessibility challenges and empowering vendors to manage their digital presence with ease. Beyond UIUC, FoodieStop sets the stage for a broader movement toward customizable, open-source campus tools that promote convenience, engagement, and community. The platform offers practical benefits that extend beyond just food, it creates a stronger sense of campus connectivity.

Through consistent updates and a welcoming developer ecosystem, FoodieStop is positioned not only as a local solution but as a scalable innovation adaptable to colleges and universities nationwide. The collaborative nature of its open-source foundation ensures its ability to continuously evolve, improve, and remain relevant in a rapidly changing digital landscape. By bridging the gap between mobile food services and a tech-savvy campus audience, FoodieStop aspires to better campus life by how its shaped and improved by the very students and community it serves.

References

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