doc/showcases-beta.md

Showcases

I created several Showcases. Each showcase is a brief description of a project idea or concept that i would like to develop as a school assignment. The showcases are designed to highlight the key features and benefits of each project, and they serve as a starting point for further discussions and development.

I only need to develope one showcase, though i had difficulties finding just one project that i would like and that would be able to meet the requirements of the school. I have created four showcases, each with a different project idea. I hope that one of these showcases will be able to meet the requirements of the school.

Case 1: Personal Finance Mentor - "FinBuddy for Nibud"

"FinBuddy for Nibud," designed as my school project, is a financial management app that helps users handle their personal finances more effectively. The app connects to the user's main bank account, providing two distinct overviews: one for managing monthly expenses like rent and bills, and another for weekly expenses, primarily for groceries and daily needs.

A key feature of FinBuddy is its savings plan tool. Users can set short-term (1-year) and long-term (3-5 years) savings goals, and the app will guide them on how much to save regularly to achieve these objectives.

Additionally, the app includes a debt management function. Users can input their debts and the app will create a structured plan to pay them back. This feature simplifies the process of debt repayment by breaking down the total amount into manageable payments, and it tracks progress towards debt freedom.

"FinBuddy for Nibud" is a straightforward app designed to make managing money easier, especially for those new to financial planning. It's a practical tool for daily use, helping users learn basic financial skills. The app is not just about tracking spending but also about understanding and organizing one's finances in a simple way.

Case 2: Digital City Guide - "CityGems: The Storyteller's Path"

For my school i am planning to develop "CityGems," an app concept inspired by your friend's storytelling and city tours in Nijmegen. The app is intended to offer a new way to explore cities, particularly Nijmegen and more, through the lens of history and culture. Users can choose from different themed trails that reveal various aspects of the city's heritage and contemporary cultural scenes.

The real tours are with a guide, which plays a role. These presentations can have a place of an audio narrative or video with some textual information.

Feedback from users will be a crucial component of the app, as it will help refine and improve the tour experiences. There's also a plan to incorporate social sharing features, enabling users to share their discoveries and experiences with others, thus fostering a community of city explorers.

The core of "CityGems" is to celebrate and digitize the art of storytelling, as practiced by your friend. It's about connecting past and present, and providing an engaging way for people to discover Nijmegen. The app isn't just a guide; it's an interactive storybook, bringing the city's tales to life.

Case 3: Interactive Language Learning - "LingoPartner"

LingoPartner" is a language learning app, ideal for those preparing for the Dutch social integration exam (Inburgering), targeting A1 or A2 level proficiency. It's designed to make learning Dutch engaging, not just for families but also for friends. The app includes interactive games, aiding in learning new words and phrases, tailored for both family and friend groups.

A feature is the ability for users to invite friends to join the learning journey, fostering a supportive and fun environment. Users can compare scores and progress, adding a friendly competitive edge to the learning experience. Also obtaining a badge or diplome can be fun for a competitive learning experience.

The app adapts to individual learning paces through its progress tracking feature and offers AI-powered conversation simulations for realistic language practice. Daily life integration encourages users to use Dutch in routine activities, enhancing practical language skills.

The language exchange module connects learners with native speakers, providing an immersive experience crucial for cultural and language understanding.

In summary, "LingoPartner" is more than a learning tool; it's a platform for connecting with others, whether they are family or friends, in a shared goal of language proficiency, making the journey towards mastering Dutch interactive and enjoyable.

Case 4: Green Thumb Gardening App

"Green Thumb" is a simple app idea for anyone interested in gardening. It's designed to help you figure out what plants will grow well in your space, whether you've got a big garden or just a little balcony. You can tell the app about your garden's size, how much sun it gets, and what the weather's like where you live. Then, it gives you a list of plants that should do well there.

The app also helps with when and how to plant your chosen plants. It tells you the best time to plant them and how to take care of them, like how much water they need and what kind of soil is best.

There's also a community part of the app where you can talk to other people who like gardening. You can get advice, share your gardening wins, or even swap seeds with others.

If you need more help, there's a special feature where you can talk to a professional gardener. They can give you more detailed advice, like planning out your whole garden or dealing with tricky plants.

Overall, "Green Thumb" is meant to be a helpful, easy-to-use tool for anyone who wants to start gardening and make their outdoor space a bit greener.

Business Rules

1. FinBuddy for Nibud:

- Users must link their primary bank account to use the app. This is essential for tracking their financial activities.
- The app should provide two separate overviews for financial management. One for monthly expenses like rent, utilities, and bills. Another for weekly expenses, primarily for groceries and everyday needs.
- Users can set up savings goals in the app: Short-term savings goals (1-year). Long-term savings goals (3-5 years).
- The app will guide users on how much to save regularly to meet these goals.
- Users can input their debt information into the app. The app will then generate a structured repayment plan, breaking down the total debt into manageable payments and tracking progress toward debt freedom.
- The app is designed to be straightforward and user-friendly, targeting those new to financial planning. It aims to make managing money simpler and more accessible.

2. CityGems: The Storyteller's Path:

- The app offers various themed trails for exploring cities, with a focus on Nijmegen's history and culture. Users can select trails that highlight different aspects of the city's heritage and contemporary cultural scenes.
- The app provides audio narratives, video's and textual information to make historical and cultural stories interactive and immersive.
- User feedback is an essential component, used to refine and improve tour experiences continually.

- Social sharing features are included to allow users to share their discoveries and experiences, promoting a community of city explorers.
- "CityGems" aims to digitize the art of storytelling, providing an engaging way for users to explore and learn about Nijmegen and other cities.
- The app serves as an interactive guide and storybook, bringing the city's tales to life through engaging narratives and descriptions.

3. LingoPartner:

- The app is designed for A1 and A2 Dutch language learning, suitable for families and friends.
- Users can invite friends to join and compare scores for a competitive learning experience.
- The app includes interactive games and AI-powered conversation simulations.
- Daily life integration tasks are included to encourage practical use of the language.
- A language exchange module connects learners with native Dutch speakers for immersive practice.

4. Green Thumb Gardening App:

- Users input details about their gardening space, including size, sunlight, and climate, to receive plant recommendations.
- The app provides guidance on planting schedules and care instructions for each plant.
- A community forum allows users to share gardening tips, successes, and trade plants.
- A premium feature offers virtual consultations with professional gardeners for personalized advice.
- The app aims to make gardening accessible and enjoyable for users with varying levels of experience.

Learning Outcomes

1. FinBuddy for Nibud:

- **Functional Design**: The app's design includes user-friendly features for financial management, like linking bank accounts and setting savings goals, aligning with the requirement to document user needs and system specifications.
- **Technical Design**: Translating the functional design into technical specifications, like the debt management feature, can be documented using UML diagrams.
- **Implimentation**: The robust and maintainable nature of the app, especially in handling financial data, demonstrates OO principles.
- **Algorithmics**: Algorithmic complexity is evident in the app's financial analysis and savings plan calculations.
- **Quality**: Continuous improvement can be shown through iterative development and testing of financial management features.
- **Professional skills**: Collaboration and communication can be demonstrated through the app's development process and user feedback integration.

2. CityGems: The Storyteller's Path:

- **Functional Design**: "CityGems" aligns with this outcome by documenting user requirements for exploring cities through themed trails. It includes user preferences for various aspects of the city's heritage and culture. The app's concept is to offer an engaging way to learn about Nijmegen, focusing on storytelling and interactive elements.
- **Technical Design**: Translating the functional design into a technical plan, "CityGems" would involve designing the logic for thematic trail selection and user feedback integration. This could be documented with UML diagrams, software architecture designs, and interface specifications.
- **Implementation**: Implementing "CityGems" based on its design involves coding the features that allow users to explore different trails, integrating a feedback mechanism, and social sharing features. This aligns with using OO principles and patterns in software development.
- **Algorithmics**: The app could use algorithms to recommend trails based on user preferences and feedback. This involves computational challenges like data filtering and user interaction logic, showcasing algorithmic complexity.

- **Quality**: The development process of "CityGems" will include iterative work, unit testing, and acceptance testing to ensure that the app is robust and functions as intended.
- **Professional Skills**: Developing "CityGems" requires collaboration, clear communication, and basing decisions on feedback, which aligns with professional skills outcomes.

3. LingoPartner:

- **Functional Design**: The app's design for language learning at A1/A2 level and interactive features meet user needs and system specifications.
- **Technical Design**: Converting functional designs into technical specifications, especially for language exchange and AI simulations, can be achieved.
- **Implimentation**: The implementation of AI for language learning and user interaction follows OO principles.
- **Algorithmics**: The app's AI algorithms for language learning represent algorithmic complexity.
- **Quality**: Iterative development and testing of language learning modules demonstrate continuous quality improvement.
- **Professional skills**: Collaboration in developing language learning content and user interface design is key.

4. Green Thumb Gardening App:

- **Functional Design**: User requirements for gardening space analysis and plant care advice are well documented.
- **Technical Design**: Technical designs can include the app's plant recommendation algorithms and community forum features.
- **Implimentation**: The development of gardening space analysis and community features will employ OO principles.
- **Algorithmics**: Algorithmic complexity is present in the app's plant recommendation system.
- **Quality**: The app's quality is shown through iterative testing and user feedback incorporation.
- **Professional skills**: Teamwork in app design and user experience, and effective communication during development, are crucial.