

Kings Crossing

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Summary -	3
Issue:	3
Decision:.....	3
Status	3
Details -	4
Assumptions:	4
Constraints:.....	4
Positions:.....	4
Argument:	4
Implications:.....	5
Related -	5
Related Decisions:.....	5
Related Requirements:	5
Related Artifacts:	5
Related Principles:	5
Notes -	6

Architecture Decision Report: React Native & JavaScript

Summary -

Determining the optimal programming language for developing the checkers game app that synchronizes seamlessly with the chosen development framework and aligns with the team's skills.

Choosing a development framework that supports rapid development and can cater to Android devices utilizing JavaScript.

Issue:

Need for a development framework that:

- The chosen platform must provide robust support for JavaScript to leverage its vast library ecosystem and community support.
- It is imperative that the platform is suitable for mobile app development, ensuring that features and functionality are optimized for mobile use.
- The platform should support seamless deployment to Android devices, ensuring that the application can be effectively utilized by the target user base without issues related to compatibility or performance.
- Streamlining the development lifecycle is crucial to ensure that the team can work efficiently and iteratively, thereby facilitating timely project completion and agile adaptation to changes.
- Facilitating easy testing and debugging is essential to ensure the application is robust, user-friendly, and provides a seamless user experience by swiftly identifying and resolving any issues or bugs.

Decision:

- After thorough consideration of various platforms, we have adopted React Native as the development framework for our mobile app, capitalizing on its extensive library ecosystem, robust support for JavaScript, and its proficiency in streamlining the development lifecycle, thereby facilitating optimal performance and seamless deployment to Android devices.

Status

- Chosen React Native

Details -

Assumptions:

- The development team brings to the table proficiency, or at least a foundational familiarity, with JavaScript, ensuring a level of comfort and initial capability in navigating the chosen development framework.
- We also prioritize selecting a framework with sufficient community and developer support, as this is pivotal in navigating challenges, accessing a wealth of pre-built modules, and staying abreast of updates and best practices within the development ecosystem.
- Importantly, the chosen technology should be fully capable of developing dynamic and interactive user interfaces for the checkers game, ensuring an engaging and responsive user experience that enhances gameplay and user satisfaction.

Constraints:

- It is imperative that the chosen framework fully supports JavaScript, ensuring that the development team can leverage their existing skills and utilize a wide array of available libraries and resources.
- The framework should also cater effectively to the Android platform, guaranteeing that the application performs optimally and can be seamlessly deployed to our targeted user base, thereby aligning with our strategic objectives for reach and impact.

Positions:

- React Native has been chosen because it allows development using JavaScript, is backed by a large community, and offers ample libraries and tools, along with capabilities to produce natively-rendered mobile applications, not only for Android but also for iOS, ensuring a broad reach and future scalability options.
- JavaScript is universally acknowledged for web and mobile app development, and it's notably utilized for crafting dynamic and interactive applications, all while being supported by a vast library ecosystem and a robust community, providing a sturdy foundation and ample resources for our development journey.

Argument:

- React Native empowers our team by facilitating development using JavaScript, a language celebrated for its wide usage and a rich ecosystem, ensuring a versatile and dynamic approach to app creation.

- Furthermore, React Native boasts a large, active community. This translates to enhanced support, frequent updates, and ready availability of a plethora of external modules and libraries, enriching our development resources and capabilities.
- One of the salient features of React Native is its ability to produce high-performance applications with a singular codebase that caters seamlessly to both Android and iOS platforms, promising consistency and broad outreach with efficient development efforts.

Implications:

- React Native ensures rapid development by utilizing a single codebase, significantly streamlining the development process and enabling us to promptly respond to market demands and iterative feedback.
- Moreover, having a single codebase facilitates easier maintenance and updates, enhancing our agility in implementing changes, rolling out new features, and ensuring the app remains current and robust amidst evolving user expectations and technological advancements.

Related -

Related Decisions:

- Impacts the libraries and tools that will be utilized due to compatibility and support with React Native.

Related Requirements:

- Proficiency in JavaScript among team members. Team members bring to the project a substantial proficiency in JavaScript, laying a solid foundation for leveraging the language's capabilities effectively throughout the development process.
- A judiciously efficient development and testing cycle is paramount to align with and cater to the projected timelines, ensuring that each phase of the project unfolds with punctuality and adheres to predetermined milestones.

Related Artifacts:

- All coding artifacts developed and tested will be based on and within the React Native ecosystem.

Related Principles:

- Keeping the development cycle efficient and streamlined.

Notes -

- Ensuring continuous team learning and adaptation to any new updates or changes within the React Native framework.