# Nagarro Game Accelerator (NaGA)

nagarro

# Disclaimer

This document is intended to outline our general product direction. It is intended for information purposes only and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Nagarro's products remain at the sole discretion of Nagarro.

This document assumes that you understand various libraries used in the Nagarro game accelerator:

- **https://www.javascript.com/**
- **https://pixijs.com/**
- **https://www.npmjs.com/package/inversify**
- **https://www.npmjs.com/package/howler**


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# Introduction

The online casino games segment witnessed strong growth over the past couple of years as people took to online gambling in the backdrop of sports events getting canceled due to the lockdowns. As of December 2021, the global online gambling market was valued at $59 billion U.S. dollars, and it is expected to touch 92.9 billion U.S. dollars in 2023, estimates Statista. This translates into a significant growth of 57%. As the market size grows and becomes more attractive, each gaming company is eyeing a bigger piece of the pie. But it's easier said than done. The online casino market is highly fragmented, and organizations in the online casino sector currently face high competition and rapidly changing consumer behavior. Customers are constantly expecting new and engaging experiences. At the same time, there is an increasing threat from the rising popularity of video games. Many casino game developers are trying to bring the video game experience to online casinos. Casino game developers need to constantly innovate to develop engaging games while ensuring high functionality, versatility, and protection. These factors and the need for a quick turnaround time make the game development process significantly challenging. So, how does a game developing company grab a share of the growing market? Nagarro's game accelerator can help organizations by enabling fast game development and outlining some best practices to help the developers.

**Please note that it is not intended to be used as a full reference guide for implementing the Nagarro game accelerator framework.*


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# Decoding the online casino games segment

The rise in online gaming has created a huge global market, with hundreds of new casino games being released every year. Audiences are constantly clamoring for fresh gaming experiences forcing the companies to develop and deliver engaging and immersive games as fast as possible. However, the development process for casino games is intriguing and intricate. A few specifics outlined by customers from the sector are:

- **Games with some custom functionality on one or more features**
- **The same type of slot games, table games, i.e., with the same template and functionality**
- **New features in-game for a better player experience**
- **Multiple similar games at one go so that they can put them in their portfolio**
- **Quick and easy game development**
- **Games compatible with both desktop and mobile**
- **Game with the best optimization**
- **Games that follow good coding standards**

Due to high demand a time crunch, developers at game studios miss out on one or more factors leading to low-quality games that don't meet customer expectations. Hence a game accelerator that enables fast development times without compromising the quality of the games and delivers a highquality gaming experience is the need of the hour.


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# Features

Nagarro Game Accelerator enables developers to make games less time while ensuring that the game matches the audience's expectations. This framework can be used as a base to create any game based on the PIXI library.

Nagarro Game Accelerator comprises four core libraries.

- **Game core is the base library that uses PIXI to create root-level components or building blocks of the application.**
- **Slot core provides slot-building functionality with several workflows related to the slots.**
- **Game Supplier core provides the supplier views like the button panel and user models.**
- **This module is used for communication with the game server.**
- **Slot io provides the general io and model for the game**

All the above libraries can be used for game development. Core libs use configurations at the game

client to create and run the game.


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| Features |
| --- |
| Integration of API with game studio |
| Support for different game development library |
| Different language support |
| Currency Support |
| Game Workflow Support |

## Supporting Devices and Platforms

| | |
| --- | --- |
| **Desktop** | Apple: Safari 11.1 or higher<br><br>Windows: Chrome 32 or higher, Firefox 29 or higher, Opera 20 or higher, Microsoft Edge, Internet Explorer 10 or higher |
| **Mobile** | IOS v8 or higher, Android v4.3 or higher |


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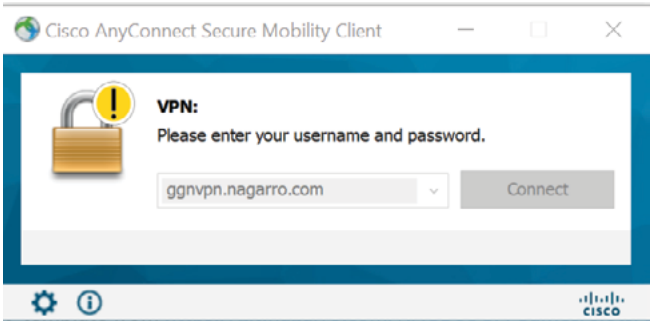
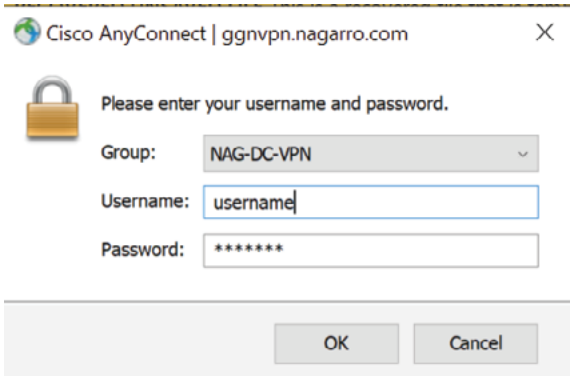
# Step By Step Guideline to Use Framework

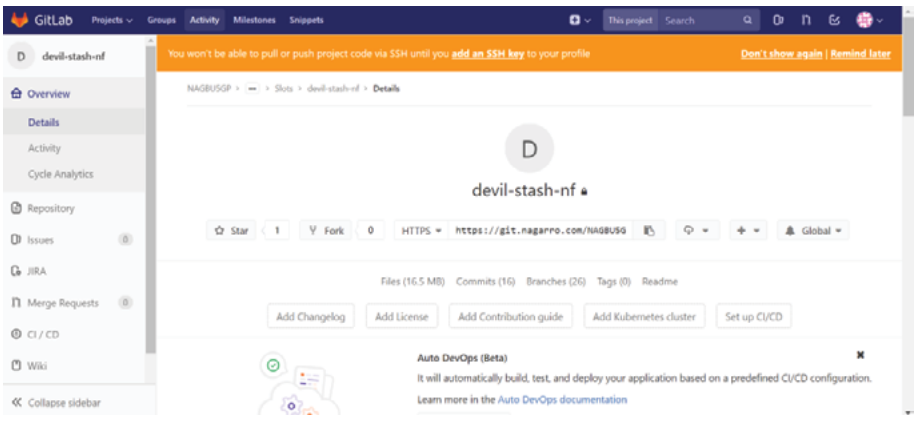
This section provides the steps to create the game using the Nagarro Game Accelerator framework.

## Installation of games

Prerequisite- NPM, GIT, YARN, VPN. Install node and yarn on your machine Connect with Nagarro VPN




Clone Game-Client template from https://git.nagarro.com/NAGBU5GP/Games/Slots/devilstash-nf.git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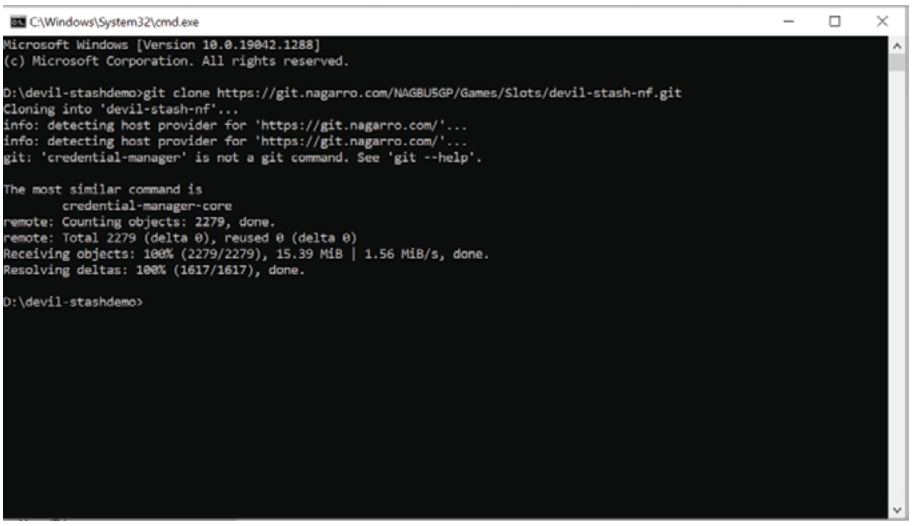
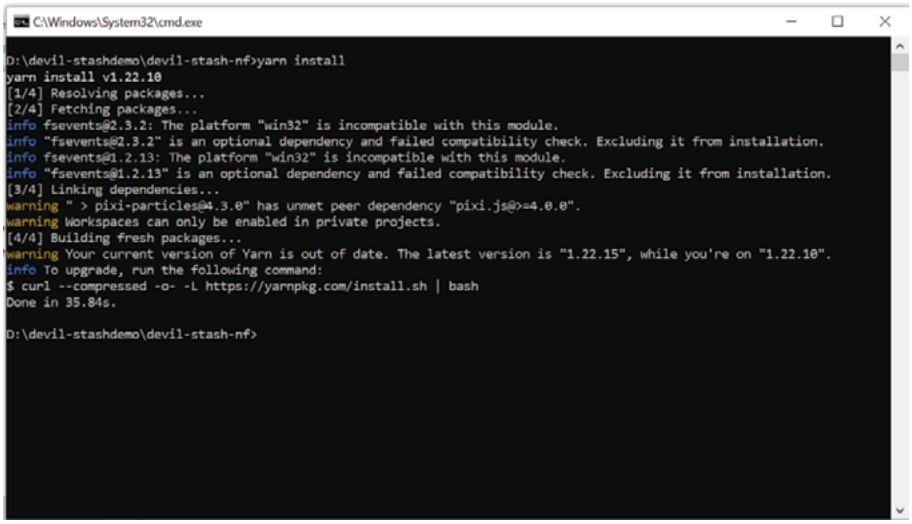



Run “yarn install” in the root directory of a game Client project.




Required Build Files will get downloaded from the private NPM registry to your machine through

Nagarro CDN.

Run “yarn start” in the root directory to launch the game in a local development environment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# Generating games with a new look and experience

- NaGA offers flexibility allowing the client to generate a new game with the custom look
- Game client view is entirely configurable. Developers can easily configure various components inside the game as per the need.
- One place change of assets can change the entire visual aspect of the game.
- Developers can leverage the NaGA framework to build games with minimal effort
- Quick release of multiple similar production-ready games with different UI

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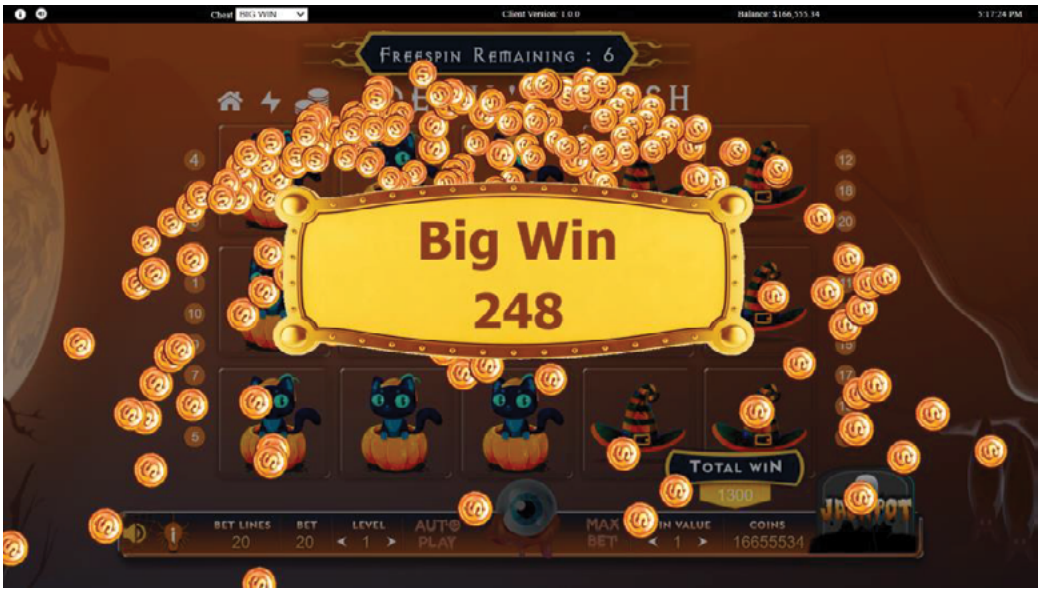
# Adding new features inside the game

The framework is highly flexible and scalable, allowing developers to add game-specific and new features inside a game by leveraging the game client module. All features inside the game framework are configurable. Developers can turn them on or off as per game requirements.




# Adding custom functionality for features in-game

Game developers can customize the functionality of the feature in a game by overriding the features inside the game client modules. If they want to add these customizable features inside the game framework, they can do it with the help of the game accelerator support team. The game Accelerator support team will add these features in a highly decoupled or configurable manner to be plugged in or out depending on games requirement.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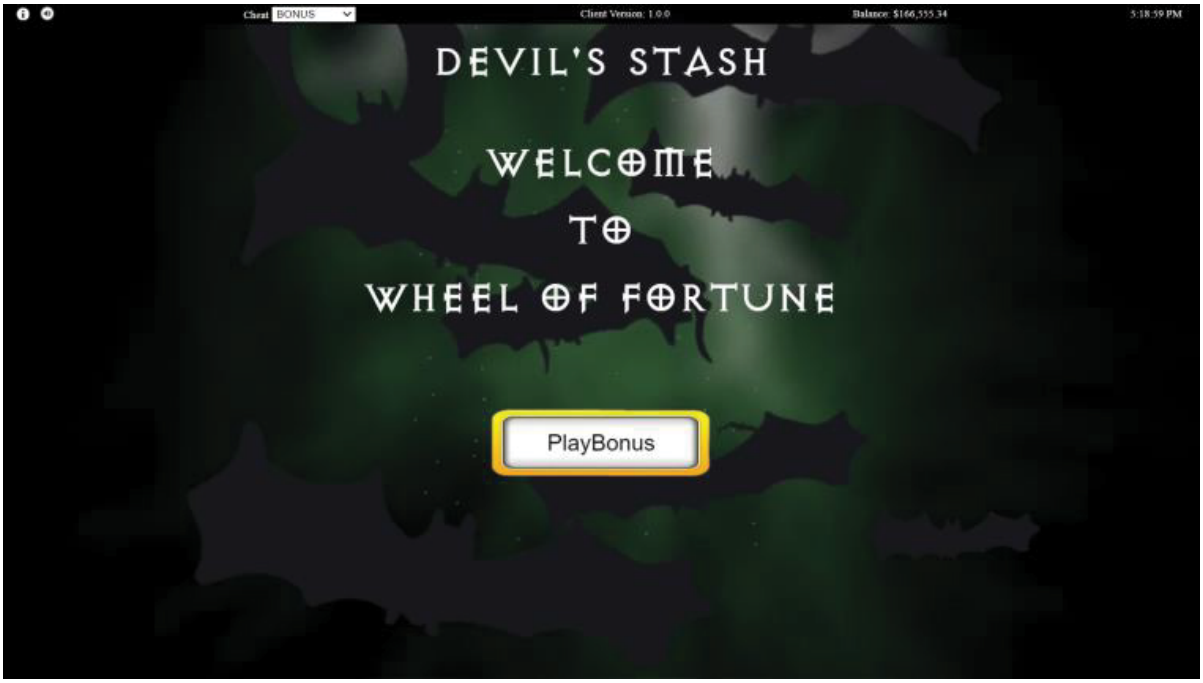
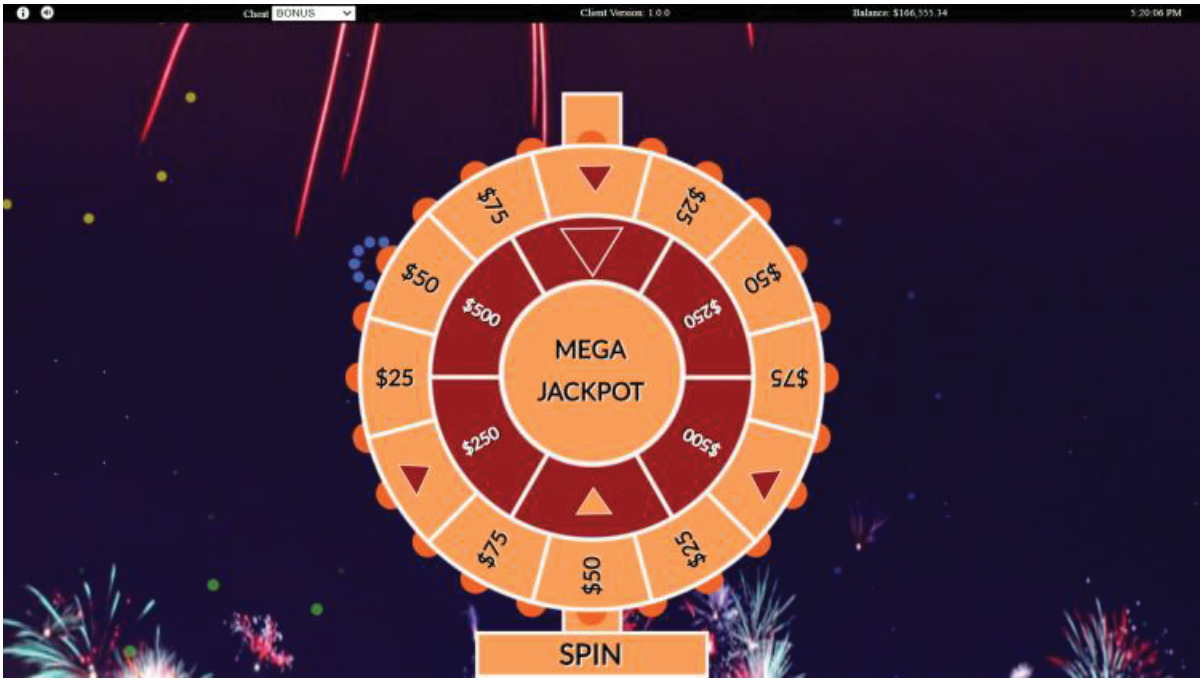
# Integrating an entire game as a feature within another game

Game developers usually integrate the base game with another game e.g., integrating slot games with bonus games. It helps them to attract more customers. To make the flow of the game from the base game to other games or vice versa and direct the workflow of the game, we need to set up the state configuration of the game inside the game client module for directing the workflow of the game. Since the game accelerator is the built-in highly decoupled manner, we can integrate any game with another game with minimal effort. And since the game is highly configurable, we can inject the module of an entirely new game inside the game client.





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# Takeaways

- Nagarro Game Accelerator framework is a high-performance and tested engineered solution designed to provide users with optimized functionality for faster game development.
- It provides an integrated development environment to enable the simplified, rapid development of games.
- It allows the platform abstraction, allowing the same game to run on different platforms with minimal changes in the code.
- These abstractions make it an easy-to-learn solution that optimizes the process of game development by reusing/adapting the components and reducing the development efforts by 40%-50%.


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# About the authors

## Mukesh Kholiya

Mukesh has more than 13 years of experience in areas like Project Management, People Management, Application & Product Development and support, Client/Vendor management. He has worked in the casino gaming industry for almost eight years and has handled different online gaming clients and managed many end-to-end game and platform development life cycle projects. His experience in the field equips him to address industry problems effectively.

## Rahul Barthwal

Rahul has more than ten years of experience in the software industry. He is an experienced HTML5 games development professional and has been involved in the development of web-based casino applications using the latest technologies such as HTML5, JavaScript, TypeScript, CreateJS, Pixi, Angular, ReactJS, Vue, etc. He has experience in designing the system infrastructure and overseeing programs to ensure that proper architecture is implemented. He has proven skills in developing a prototype for mobile and desktop devices to achieve business goals and a good user experience


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