the tech stack of Wechat mini Program

the categories of WeChat mini program (MP)

- **Individual mini app**
  - some service scope are limitied by Tencent
- **can not accept wechat payment**
- don't need a business license, only need a Chinses ID to register
- good for personal project or a MVP
- bind to wechat public account
- **Corporation mini app**
  - access to all opened service scope
  - can accept wechat payment
    - wechat payment account must be registered under a business license
  - must be registered under a business license (a legit company)
  - perfect for a real product, one mini app for all platform, cross Android and iOS
  - bind to wechat public / service account, content marketing here, get deal done in MP
    - public account can push one article every day to folloewers, lower rank, all public accounts folded together
    - service can push 4 articles in a month to followers, but with higer rank, the same level as general chats
- **other categories** include Government, Media, and Other Organizations

A corporation mp is always recommended unless you only need a MVP(minimum viable product) to test the market or don't have a business license at that time.
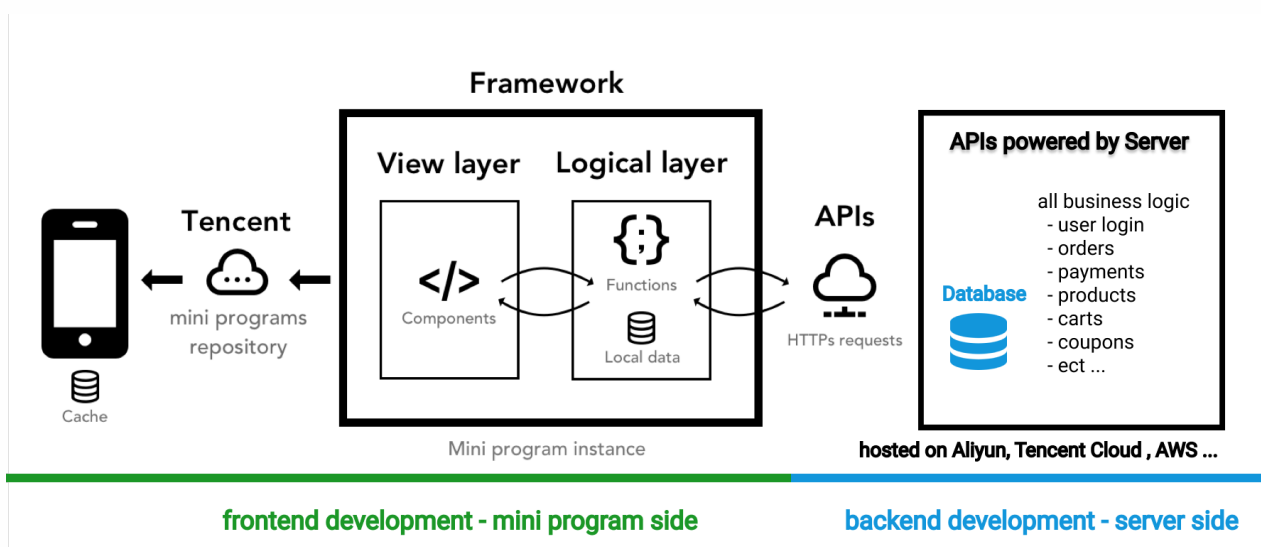
the flow to launch a mini app

- register account under a category
- basic information - name, logo, introduction, service scope
- development and test (mini app side and server side development)
- submit mini app code to Tencent and get approved
- deploy backend code to server (no Tencent here)
- release, the MP is online now, every wechat user (billions of users) have access to it

the tech stack of mini app

- **frontend - MP side development**
  - code the design

- the UI/UX
- the pages
- business login, what user can do —> such as login, browse products, add to cart, check out, payment, review orders, manage address….
- get and send data to APIs
- submit to Tencent and get approved
- **backend - server side development**
  - database architecture
  - APIs to power the MP
  - admin pannel
    - to run the business
    - manage the contents, such as add more products, update prices ...
  - implement all the business logic
    - user login
    - create orders
    - carts
    - manage products and stocks
    - take care of wechat payment (request to Wechat payment API)
    - coupons
    - etc...
- deployed to a server, hosted on Aliyun, Tencent cloud, AWS(Amazon Web Services), Digital Ocean …
  - the cost of the server based on the performance needed which depends on how many user will use the MP and the complecity of the business logic, generally the annual server cost could be 3000rmb to 10,000rmb, even more
  - at the beginning, if you dont' have too many users, the server cost is not too high. You can upgrade the server as the business grows

Framework

View layer   Logical layer

Tencent

mini programs repository

Cache

Components

Functions

Local data

Mini program instance

APIs

HTTPs requests

APIs powered by Server

all business logic
- user login
- orders
- payments
- products
- carts
- coupons
- ect ...

Database

hosted on Aliyun, Tencent Cloud , AWS ...

frontend development - mini program side   **backend development - server side**

rules of APIs

- all the APIs consumed by a MP must be under an ICP licensed domanin name due to the rules of Tencent and laws (https://mp.weixin.qq.com, this is an ICP licensed domain name)

- a business license is needed to get a domain name ICP licensed,
- normally it will takes 2 to 4 weeks to get an ICP license

A WeChat mini program (MP) without APIs just like a static website, no fancy features, user can't do too much. If you only want a MVP for testing and the business logic is really quite simple, maybe customized backend development is not mandatory, some BaaS (Backend as a service) could be used. The point is the APIs are already ICP licensed.

— 2019 by Xiaohu Pei — full stack developer (frontend & backend)

微信小程序的技术架构

微信小程序类别

- 个人小程序
  - 部分服务类目不对个人小程序开放
  - 不能在小程序内使用微信支付收款
  - 仅需身份证就可以注册账号
  - 适用于个人项目和MVP产品测试
  - 可以关联微信公众号
- 公司小程序
  - 小程序的所有服务类目都开放
  - 小程序内使用微信支付接受用户付款
    - 微信支付账户必须是公司才能注册
  - 必须是公司才能注册
  - 真正的产品，一经开发，跨平台使用。很多初创企业的产品都是小程序，小程序成就了很多初创企业
  - 关联公众号/服务号进行内容营销，在小程序内成交
    - 公众号每天可以发 1 篇文章，级别不高，和其它公众号折叠在一起了
    - 服务号每个月可以发 4篇文章，级别高，和普通聊天是同一级别的
- 其它小程序类别包括：政府，媒体，组织

始终推荐注册一个公司小程序，除非你只是想要一个MVP（最小可行产品）去测试市场， 或者你还没有公司营业执照但是想先把小程序开发出来。

发布一个小程序的流程

- 注册一个小程序账号（选择合适的类别— 个人 / 公司）
- 基本信息 - 名称, logo, 介绍, 服务类目
- 开发，测试 (前端和后端开发)
- 前端代码（小程序代码）提交给腾讯审核
- 后端代码部署到服务器（与腾讯无关）
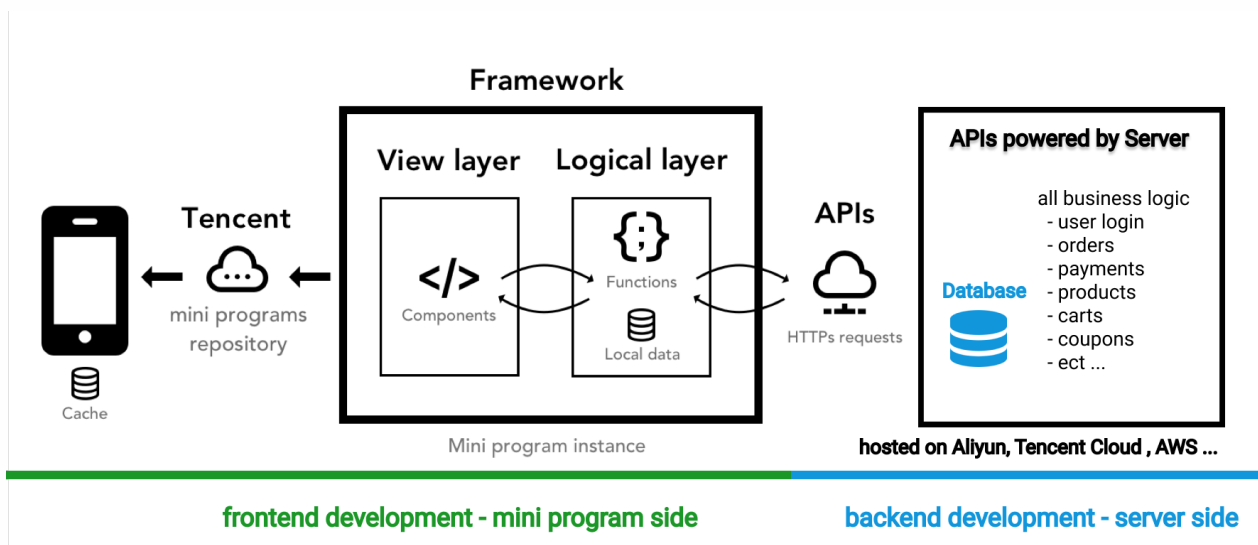- 审核通过，发布，所有的微信用户（十亿级别的用户量）都可以使用

小程序技术栈

- **前端开发 - 小程序端开发**

    - 将设计开发出来（用代码实现设计）
    - 用户界面/用户体验开发
    - 小程序页面开发
    - 小程序端业务逻辑，用户可以做什么，如 —> 用户登陆, 浏览商品, 添加到购物车, 结算, 支付, 查看订单, 管理收货地址….
    - 和 API交互，获取数据，发送数据至服务器
- **提交腾讯审核**

- **后端开发 - 服务器端开发**

    - 数据库架构

    - 开发API支持小程序

    - 管理员控制面板

        - 运营你的业务
        - 管理内容，比如上架商品，更新价格等
    - 实现所有的业务逻辑

        - 用户登陆
        - 创建订单
        - 购物车
        - 管理商品和库存
        - 处理微信支付 (请求微信支付API)
        - 优惠券
        - etc...
- 部署到服务器，一般都是购买云服务器，如阿里云，腾讯云, AWS(亚马逊), Digital Ocean …

    - 服务器的配置根据小程序的用户规模和业务逻辑的复杂程度来决定，配置决定价格，一般来说服务器的年度费用在3000～10000人民币
    - 开始的时候用户少，使用低配置服务器。随着业务的发展，可以随时升级服务器

API的规则

- 小程序使用的API域名必须是经过ICP备案的
- 域名备案需要公司营业执照

- 备案周期大概是2个星期到一个月

小程序不使用API就像是一个静态网页，不能实现高级功能，用户除了浏览什么都不能做。如果你只是想要一个MVP测试市场，而且业务逻辑很简单，并不一定需要定制化的后端开发，可以使用*后端服务*。*后端服务*的好处是，API已经是ICP备案过的了。

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