The idea of Chinese Chow-Mien was motivated by our observation on how the young second generation Chinese at the US learn their mother tongue. Three of us, whose Chinese is our main language, decided to get together and design a useful tool to aid these children to learn Chinese.

Overview of our design process

- Literature research: Each of us did some research on the study of using multimedia design to teach children to learn second language.

- Brainstorming: We gathered each of our ideas and information collected, we also debated over whether to use chu-yin (symbolic representation of Chinese pronunciation) or han-yu-pin-yin (roman characters), and finally formulated the conceptual framework of Chinese chow-mien. (chu-yin is selected due to the background of our target audiences).

- Approach: We first conducted a survey on the parents to investigate the needs of such product. Then built quick prototypes of the key components of the product so that we can gather enough feedback from the users testing. In designing the content, we emphasized very much on scaffolding the learning from both cognitive and behaviorist perspectives. The next step of this project will be to revise the
prototypes based on the findings from the users testing. The design process will be iterative.

**Justification and reflection of our Design Process:**

**Needs:** From the parents’ survey, we noticed that there is a need of this product in the market. There is a demand from parents to acquire such learning toy so as to supplement their kids’ learning of Chinese. And as far as we know, there is no such product available in the market today.

**Approach:** Our design approach is primarily quick prototyping. In building our prototypes, we concentrate on strengthening the content and process for beginner learners of Chinese based on our experience when we learnt Chinese (many years ago!). We thought as a fluent Chinese speaker (writer as well), what we know about Chinese is sufficient to design a content for our young users.

However, from the users feedback, I realized that we overlooked the users’ background and the importance of pedagogical design in our content. The context in which this product will be used is very different from our own experience on learning Chinese. The children here lack of the environment and motivation in learning the language. Moreover, learning and teaching are two very different issues. Being able to speak and write Chinese well don’t necessarily turn us into good teachers! We reckon that getting a right informant is very important in helping us to build a sound content for the product. The pedagogical design would be greatly improved if we could get the right informant (such as teachers) to participate right at the beginning of our design process.
An alternative will be to sit in the actual classroom so as to understand how children learn Chinese in this context. In short, I suggest we should follow a mix of design approaches - informant design, learner-centered and quick prototyping.

**Benefits:** The benefit of this mixture of approaches will be useful in strengthening all the aspects of content, process and context. It will help to enrich and make the content authentic. In the drill and practice (process), it will supplement with what they’ve already learnt and know.

**Competition:** The key tradeoff of this approach is that the designers have to struggle against spending time on building prototypes rather than on the final product itself. On the other hand, since there’s no such learning tool for Chinese which targeted at this age groups, the product will be a truly innovative and original in design. But this also leads to a great challenge on:

- how to introduce it to the target audience
- spending great amount of energy in researching on users needs since there is insufficient research and study on this aspect.

**Lesson learnt:**

1. Understand the target users: don’t overlook the users needs, understand very well the behavior and the social situation in which the target users who will use this software. Ultimately, the product is to be used by the users, not the designers.
2. Timeline: It is very important to schedule time plan for working out the entire project. Each of the process can easily take up too much time before the deadline is due. In our case, most of our energy was diverted to building prototypes which leaves us practically no time to revise the design after the users testing.

3. It is important to constantly reflect on the process, as what Prof Hoadley has said, “refinement is essential in creating a tool for a rich context. A reflective design practice is required.”